National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
**White Sands Test Facility**
P.O. Box 20
Las Cruces, NM 88004-0020

June 29, 2015

Reply to Attn of: RE-15-070

Mr. John E. Kieling, Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Subject: NASA WSTF 200 Area Phase II Investigation Report

NASA initially submitted the results in the 200 Area Phase I Status Report on January 30, 2013. On May 8, 2013, NMED issued a disapproval and requested that NASA respond to 16 comments and submit a revised report. NASA submitted the revised Phase I report on August 6, 2013. The revised report was approved by NMED on October 22, 2013. NASA subsequently submitted the 200 Area Phase II IWP to NMED on October 30, 2013, which was approved by NMED on January 22, 2014.

This submittal provides the 200 Area Phase II Investigation Report (IR) that documents the subsurface investigation of two 200 Area Closures designated as Hazardous Waste Management Units and five Solid Waste Management Units identified in the NMED Hazardous Waste Permit, five areas of interest (AOIs) identified by the 200 Area Phase I investigation, and additional locations specified by the NMED NOD for the original Phase I Interim Status Report. The 200 Area Phase II IR describes the installation and sampling of 18 soil borings to the bedrock surface, the installation and sampling of two boreholes installed into the local aquifer, and the installation of 15 multiport soil vapor monitoring wells and two soil vapor and groundwater monitoring wells to complete the comprehensive phased investigation of the 200 Area vadose zone. The Executive Summary is included as Enclosure 1, a bound paper copy of the main body of the report (pages i-Appendix I) as Enclosure 2, and a CD-ROM containing the entire report and including all appendices as Enclosure 3.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

If you have any questions or comments concerning this submittal, please contact me at 575–524–5024.

Timothy J. Davis
Chief, Environmental Office

3 Enclosures

cc:
Ms. Vicky Baca
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

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## Executive Summary

NASA is required by the Hazardous Waste Permit (Permit; NMED, 2009) issued by the New Mexico Environment Department (NMED) to develop and submit investigation reports (IRs) for closed hazardous waste management units (HWMUs; or closures), solid waste management units (SWMUs), and other areas of interest (AOIs) identified at the Johnson Space Center (JSC) White Sands Test Facility (WSTF). The 200 Area Phase II IR presents the results of the second phase of the 200 Area investigation that comprised vadose zone soil boring installation and soil sampling activities, fractured bedrock rock core evaluation and sampling, multi-port soil vapor monitoring (MSVM) and multi-port soil vapor and groundwater monitoring (MSVGM) well installation, and comprehensive soil vapor and groundwater sampling activities conducted within the 200 Area and adjacent areas.

The Phase I investigation performed in June 2012 through January 2013 was an expansive evaluation that used relatively non-invasive techniques (geophysical surveys and a shallow soil vapor sampling grid) to evaluate the Permit-identified sites and all other potential discharge sites identified in a 200 Area Historical Information Summary (HIS; NASA, 2012a). The investigation incorporated the entire 200 Area and parts of the adjacent 100, 600, and 800 Areas. The results of Phase I were used to confirm the existing Permit-defined targets and identify additional AOIs for the subsurface Phase II investigation performed in June 2014 through January 2015. A total of 18 soil borings were installed at the following locations:

- Two Permit-listed HWMUs; the former Clean Room (West Closure) and Chemistry Lab (East Closure) underground storage tanks (USTs). Two soil borings were installed adjacent to the West Closure (200-SB-05 and 200-SB-06). The boring at 200-SB-06 was subsequently advanced as a borehole in bedrock to below the water table. Two soil borings were installed through the East Closure (200-SB-07 and 200-SB-08). The boring at 200-SB-07 was also advanced as a borehole in bedrock to below the water table.

- Five Permit-listed SWMUs consisting of historical 200 Area discharge pipes at the Clean Room [SWMU 4], Scape Room [SWMU 5], Building 203 [SWMU 6], South Highbay [SWMU 7], and 200 Area main burn pit [SWMU 9]). Five soil borings were installed, with one located at each of the SWMUs (200-SB-09 through 200-SB-13). Historical data exist for four of these five SWMUs from soil borings drilled and sampled in 1996 (NASA, 1996).

- Five adjacent Phase I investigation-defined AOIs that NASA identified in the vicinity of the 200 Area. Eight soil borings were located at the five AOIs (200-SB-14 through 200-SB-21). These soil borings include the areas identified through the evaluation of Phase I geophysical features and isoconcentration maps developed from the shallow soil vapor survey, and three additional soil boring targets requested by NMED within their Notice of Disapproval (NOD; NMED, 2013[a])

- One additional location at the former gaseous oxygen (GOx) Impact Area burn pit. One soil boring (200-SB-GOx) was installed specifically for the evaluation of perfluorocarbons at the request of NMED (NMED, 2013a).

With the exception of 200-SB-GOx, all soil borings were advanced from ground surface to the alluvium-bedrock interface using an air rotary casing hammer rig. Following the collection of soil samples and NMED approval of well designs, MSVM wells were installed in 15 of the soil borings. One soil boring at the East Closure and one at the West Closure were continued through fractured limestone bedrock to the groundwater table and MSVGM wells were completed in each following NMED well design approval. MSVM wells (200-SV-05 and 200-SV-08 through 200-SV-21) were installed within the corresponding

soil boring and designed with between one and three soil vapor sampling ports located at depths as proximal to the soil sample locations as possible. The two MSVGM wells (200-LV-150 and 200-KV-150) were installed in the boreholes at 200-SB-06 and 200-SB-07, respectively. There was not a requirement for a well in soil boring 200-SB-GOx. Results for the Phase II investigation are presented sequentially for four media that were evaluated in the following order: soil; fractured bedrock; soil vapor; and, groundwater.

Bedrock depths in the soil borings ranged from 8 feet (ft; 2.4 m) below ground surface (bgs) in 200-SB-14 to 146 ft (44.5 m) bgs in 200-SB-17. Soil chemical and geotechnical samples were attempted within each soil boring in accordance with a Sampling and Analysis Plan provided in the Phase II IWP (NASA, 2013e). As has been experienced with previous subsurface investigations in the 200 Area, difficulties were encountered in the field with the recovery of coarse alluvial gravel soil samples. Frequent attempts were made to achieve the required number of soil samples at each soil boring, and a total of 36 of 53 projected soil samples (68%) were successfully collected. Soil chemical samples were analyzed for the suite of required contaminants of concern (COCs) including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs, including N-nitrosodimethylamine [NDMA]), hydrazines, and metals (including hexavalent chromium in selected borings). Soil geotechnical samples were collected to characterize soil physical parameters. In addition to soil samples, continuous core bedrock samples were collected at HWMU boreholes 200-SB-06 and 200-SB-07 both installed to depths of 202 ft (61.6 m) bgs into the local water table as part of a matrix diffusion study which was as a voluntary supplemental evaluation beyond the scope of the Phase II IWP.

Soil chemical samples were used to evaluate the range of concentrations for organic and inorganic compounds that characterize the alluvial soils of the 200 Area. Chemical soil sample VOC detections attributable to in-situ contamination were limited to traces of toluene at orders of magnitude below the equivalent New Mexico residential soil screening levels (SSLs). The random horizontal and vertical distribution of toluene, and trace concentrations do not support a vadose zone source. The results for perfluorooctanoic acid and perfluorooctane sulfonate were non-detect (ND) at the former GOx Impact Area burn pit location within the soil boring drilled to 12 ft (3.7 m) bgs. The range of concentrations for soil inorganic analytes evaluated for the 200 Area Phase II soil samples were compatible with the range for historic and recent background soil samples collected at WSTF and with regional soil background study soil samples (NASA, 2014a). Soil geotechnical testing classified the soils primarily as gravels. The soils were dry throughout with low moisture, moderate density, and high porosity.

Bedrock matrix core samples were collected from boreholes installed adjacent to the former Clean Room tank HWMU (200-SB-06) and through the former Chemistry Lab tanks (200-SB-07) between the bedrock surface at 20 ft (6.1 m) bgs in 200-SB-06 and 53 ft (16.2 m) bgs in 200-SB-07 to the total depth in both boreholes at 202 ft (61.6 m) bgs. The core samples were analyzed for physical properties and used in conjunction with VOC data for phase partitioning calculations to estimate rock pore water concentrations. Ten VOCs were identified with more than one detection over the cored borehole intervals: trichlorofluoromethane (Freon 11), chloromethane, 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113), 2-butanone, benzene, trichloroethene (TCE), toluene, 1,1,2-trichloroethane, tetrochloroethene (PCE), and m,p,-xylenes. Detections were inconsistent and associated with specific individual fractures and fracture zones in limestone, and most frequently in samples from below the water table. The majority of VOCs were identified within the former Clean Room tank borehole 200-SB-06. Average pore water concentrations for the identified contaminants exceeded current maximum concentrations in 200 Area groundwater for detected VOCs with the exception of Freon 113.

Following the installation of the Phase II MSVM and MSVGM wells, a comprehensive evaluation of soil vapor collected from a network of 32 new and existing soil vapor wells within the 100, 200, and 600 Areas was performed. Groundwater samples were collected in conjunction with the soil vapor samples from 22 wells; seven MSVGM wells and 15 existing groundwater monitoring wells located within the 200 Area and surrounding terrain.

Available New Mexico regulatory cleanup standards applicable to soil (residential SSLs; NMED, 2014d) and groundwater (NMED-approved Groundwater Monitoring Plan [GMP]; NASA, 2013b) were applied to Phase II Investigation results. WSTF-proposed risk-based concentrations (RBCs; NASA, 2012b), which have not been approved by NMED and the recently published NMED vapor intrusion screening levels (VISLs; NMED, 2014d) were used to evaluate the soil vapor data to assist in delineating areas of concern.

No significant contamination was observed within the vadose zone soils. Concentrations for soil samples were reported at orders of magnitude lower than the equivalent residential NMED SSLs where available. The maximum inorganic analysis for Arsenic provided the only exception with the concentration of 14.9 mg/kg exceeding the residential SSL (4.25 mg/kg) within soil boring 200-SB-15 located 1,500 ft (457 m) southwest of the industrialized area; however, the maximum Phase II concentration is below the maximum upgradient soil background study concentration of 45.7 mg/kg. Arsenic occurs commonly in sulfide-bearing mineral deposits and within volcanic rocks of rhyolitic composition, both of which have been identified immediately upgradient of the 200 Area. The results from soil chemical samples collected during the 200 Area Phase II investigation were used to obtain a "No Longer Contained-In Determination" (NLCID) from the NMED for soil cuttings Investigation-Derived Waste (IDW) generated during the installation of soil borings (NASA, 2014d).

A total of 10 VOCs were identified within the bedrock matrix and equivalent pore water through the analysis of rock core samples. VOCs were detected in discreet fractures within bedrock above the water table that stabilized at approximately 154 ft (46.9 m) bgs at the former Clean Room and Chemistry Lab tank HWMUs. The primary location of contaminants based on frequency of detection was soil boring 200-SB-06 at the former Clean Room tanks. Drilling mud IDW generated during installation of boreholes was also used to obtain a NLCID from the NMED. Because the VOC concentrations for pore water in the rock matrix are mostly higher than the current concentrations for fracture-controlled groundwater, contaminant mass can potentially diffuse out of the matrix into the groundwater of adjacent fractures. This diffusion from the pore water to the adjacent groundwater is not considered significant.

Although soil vapor concentrations in WSTF source areas including the 200 Area are relatively widespread, concentrations have been declining since the inception of soil vapor monitoring at WSTF in 2000. Concentrations of the same contaminants in groundwater are also declining. The maximum soil vapor concentrations measured during the comprehensive evaluation were observed to decrease from the newly installed Phase II wells, to the southwest through the area covered by existing 100 Area and 200 wells, and into the 600 Area Closure, which represents the down gradient path for groundwater contamination relative to the 200 Area HWMUs and SWMUs.

TCE, the primary soil vapor COC, was the only compound that exceeded the equivalent WSTF RBC within three locations for the comprehensive sampling event: the west side of the former 200 Area Evaporation Tank Unit (ETU) near the former 200 Area Burn Pit SWMU; the 200-D well cluster area immediately surrounding groundwater monitoring wells 200-D-109 and 200-D-240 (wells 200-SV-19, 200-SG-1, and 200-SG-4); and, the former Clean Room Tank HWMU and surrounding area located adjacent to Apollo Boulevard on the northwest side of the Building 200 Clean Room (wells 200-SV-05, 200-LV-150, and 200-SV-09). Of these three locations, vapor concentrations at the former Clean Room tank location are of potential concern due to the proximity to Building 200. TCE concentrations at this location also significantly exceed the NMED VISL (98.3 $\mu g/m^3$) within the upper 10 ft (3.1 m) of vadose zone (soil boring 200-SB-05, TCE in soil vapor at 47,000 µg/m3 at a depth of 9 ft [2.7 m] bgs). Adjacent soil boring 200-SB-06 (200-LV-150) contained TCE at 380,000 µg/m3 at a depth of 64 ft (19.5 m) bgs, which can be assumed to exceed the VISL at 10 ft (3.1 m) bgs.

Groundwater concentrations for newly installed wells 200-KV-150 and 200-LV-150 were within the range of concentrations identified for the existing groundwater monitoring well network in the 200 Area. TCE is the primary groundwater COC in the 200 Area based on health risk concerns and was reported

with a concentration of 1.2 ug/L in 200-LV-150 and 0.77 ug/L in 200-KV-150, below the equivalent GMP cleanup level of 2.6 µg/L.

Groundwater contamination in the 200 Area will be evaluated and managed based on samples collected from the existing groundwater monitoring network. The monitoring zones in these wells correspond to the most productive intervals in the wells (secondary porosity fracture and bedding plane pathways) that are associated with contaminant transport. Maximum contaminant concentrations within the 200 Area groundwater monitoring well network have been decreasing since the mid-1990s. Potential diffusion-driven chemical mass transfer may occur between the rock matrix pore water and the groundwater, but this is not expected to inhibit the declining trend observed in groundwater concentrations.

Recommendations for the 200 Area Phase II investigation report are as follows:

- No further investigative or corrective action for 200 Area vadose zone soils based on the analytical results and conclusions presented in this study.

- No further investigative action for 200 Area bedrock through the evaluation of matrix diffusion. The most important assessment tool will be the continued monitoring of the declining groundwater VOC concentrations within secondary porosity pathways targeted by monitoring wells in accordance with WSTF GMP guidance.

- In order for NMED and NASA to have the ability to define and bound the soil vapor plume and delineate areas of concern for additional soil vapor evaluations, NASA recommends that NMED perform a supplemental review and provide a formal response to the document "*Development of Site-specific Risk-based Regulatory Criteria for Soil Vapor at the NASA White Sands Test Facility (WSTF)*" (NASA, 2012b). Established RBCs will allow the delineation of targets and development of the criteria required to determine when any remedial activities are completed.

- In accordance with NMED guidance (NMED, 2014d; Section 2.5.2.3), NASA should perform a quantitative assessment of the complete vapor intrusion pathway in the WSTF 200 Area adjacent to the Building 200 foundation near the location of the former Clean Room tank following the steps outlined in this report.

- Continue ongoing containment and treatment of the groundwater plume through operation of the WSTF Mid-plume Interception and Treatment System and Plume Front Treatment System.

National Aeronautics and
Space Administration

# 200 Area Phase II Investigation Report

June 2015

NM8800019434
NASA Johnson Space Center White Sands Test Facility
12600 NASA Road Las Cruces, New Mexico 88012

# 200 Area Phase II Investigation Report

June 2015

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Timothy J. Davis
Chief, NASA Environmental Office

6/29/15
Date

## Executive Summary

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MSVM wells (200-SV-05 and 200-SV-08 through 200-SV-21) were installed within the corresponding soil boring and designed with between one and three soil vapor sampling ports located at depths as proximal to the soil sample locations as possible. The two MSVGM wells (200-LV-150 and 200-KV-150) were installed in the boreholes at 200-SB-06 and 200-SB-07, respectively. There was not a requirement for a well in soil boring 200-SB-GOx. Results for the Phase II investigation are presented sequentially for four media that were evaluated in the following order: soil; fractured bedrock; soil vapor; and, groundwater.

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Soil chemical samples were used to evaluate the range of concentrations for organic and inorganic compounds that characterize the alluvial soils of the 200 Area. Chemical soil sample VOC detections attributable to in-situ contamination were limited to traces of toluene at orders of magnitude below the equivalent New Mexico residential soil screening levels (SSLs). The random horizontal and vertical distribution of toluene, and trace concentrations do not support a vadose zone source. The results for perfluorooctanoic acid and perfluorooctane sulfonate were non-detect (ND) at the former GOx Impact Area burn pit location within the soil boring drilled to 12 ft (3.7 m) bgs. The range of concentrations for soil inorganic analytes evaluated for the 200 Area Phase II soil samples were compatible with the range for historic and recent background soil samples collected at WSTF and with regional soil background study soil samples (NASA, 2014a). Soil geotechnical testing classified the soils primarily as gravels. The soils were dry throughout with low moisture, moderate density, and high porosity.

Bedrock matrix core samples were collected from boreholes installed adjacent to the former Clean Room tank HWMU (200-SB-06) and through the former Chemistry Lab tanks (200-SB-07) between the bedrock surface at 20 ft (6.1 m) bgs in 200-SB-06 and 53 ft (16.2 m) bgs in 200-SB-07 to the total depth in both boreholes at 202 ft (61.6 m) bgs. The core samples were analyzed for physical properties and used in conjunction with VOC data for phase partitioning calculations to estimate rock pore water concentrations. Ten VOCs were identified with more than one detection over the cored borehole intervals: trichlorofluoromethane (Freon 11), chloromethane, 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113), 2-butanone, benzene, trichloroethene (TCE), toluene, 1,1,2-trichloroethane, tetrochloroethene (PCE), and m,p,-xylenes. Detections were inconsistent and associated with specific individual fractures and fracture zones in limestone, and most frequently in samples from below the water table. The majority of VOCs were identified within the former Clean Room tank borehole 200-SB-06. Average pore water concentrations for the identified contaminants exceeded current maximum concentrations in 200 Area groundwater for detected VOCs with the exception of Freon 113.

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Following the installation of the Phase II MSVM and MSVGM wells, a comprehensive evaluation of soil vapor collected from a network of 32 new and existing soil vapor wells within the 100, 200, and 600 Areas was performed. Groundwater samples were collected in conjunction with the soil vapor samples from 22 wells; seven MSVGM wells and 15 existing groundwater monitoring wells located within the 200 Area and surrounding terrain.

Available New Mexico regulatory cleanup standards applicable to soil (residential SSLs; NMED, 2014d) and groundwater (NMED-approved Groundwater Monitoring Plan [GMP]; NASA, 2013b) were applied to Phase II Investigation results. WSTF-proposed risk-based concentrations (RBCs; NASA, 2012b), which have not been approved by NMED and the recently published NMED vapor intrusion screening levels (VISLs; NMED, 2014d) were used to evaluate the soil vapor data to assist in delineating areas of concern.

No significant contamination was observed within the vadose zone soils. Concentrations for soil samples were reported at orders of magnitude lower than the equivalent residential NMED SSLs where available. The maximum inorganic analysis for Arsenic provided the only exception with the concentration of 14.9 mg/kg exceeding the residential SSL (4.25 mg/kg) within soil boring 200-SB-15 located 1,500 ft (457 m) southwest of the industrialized area; however, the maximum Phase II concentration is below the maximum upgradient soil background study concentration of 45.7 mg/kg. Arsenic occurs commonly in sulfide-bearing mineral deposits and within volcanic rocks of rhyolitic composition, both of which have been identified immediately upgradient of the 200 Area. The results from soil chemical samples collected during the 200 Area Phase II investigation were used to obtain a “No Longer Contained-In Determination” (NLCID) from the NMED for soil cuttings Investigation-Derived Waste (IDW) generated during the installation of soil borings (NASA, 2014d).

A total of 10 VOCs were identified within the bedrock matrix and equivalent pore water through the analysis of rock core samples. VOCs were detected in discreet fractures within bedrock above the water table that stabilized at approximately 154 ft (46.9 m) bgs at the former Clean Room and Chemistry Lab tank HWMUs. The primary location of contaminants based on frequency of detection was soil boring 200-SB-06 at the former Clean Room tanks. Drilling mud IDW generated during installation of boreholes was also used to obtain a NLCID from the NMED. Because the VOC concentrations for pore water in the rock matrix are mostly higher than the current concentrations for fracture-controlled groundwater, contaminant mass can potentially diffuse out of the matrix into the groundwater of adjacent fractures. This diffusion from the pore water to the adjacent groundwater is not considered significant.

Although soil vapor concentrations in WSTF source areas including the 200 Area are relatively widespread, concentrations have been declining since the inception of soil vapor monitoring at WSTF in 2000. Concentrations of the same contaminants in groundwater are also declining. The maximum soil vapor concentrations measured during the comprehensive evaluation were observed to decrease from the newly installed Phase II wells, to the southwest through the area covered by existing 100 Area and 200 wells, and into the 600 Area Closure, which represents the down gradient path for groundwater contamination relative to the 200 Area HWMUs and SWMUs.

TCE, the primary soil vapor COC, was the only compound that exceeded the equivalent WSTF RBC within three locations for the comprehensive sampling event: the west side of the former 200 Area Evaporation Tank Unit (ETU) near the former 200 Area Burn Pit SWMU; the 200-D well cluster area immediately surrounding groundwater monitoring wells 200-D-109 and 200-D-240 (wells 200-SV-19, 200-SG-1, and 200-SG-4); and, the former Clean Room Tank HWMU and surrounding area located adjacent to Apollo Boulevard on the northwest side of the Building 200 Clean Room (wells 200-SV-05, 200-LV-150, and 200-SV-09). Of these three locations, vapor concentrations at the former Clean Room

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tank location are of potential concern due to the proximity to Building 200. TCE concentrations at this location also significantly exceed the NMED VISL (98.3 µg/m$^3$) within the upper 10 ft (3.1 m) of vadose zone (soil boring 200-SB-05, TCE in soil vapor at 47,000 µg/m3 at a depth of 9 ft [2.7 m] bgs). Adjacent soil boring 200-SB-06 (200-LV-150) contained TCE at 380,000 µg/m3 at a depth of 64 ft (19.5 m) bgs, which can be assumed to exceed the VISL at 10 ft (3.1 m) bgs.

Groundwater concentrations for newly installed wells 200-KV-150 and 200-LV-150 were within the range of concentrations identified for the existing groundwater monitoring well network in the 200 Area. TCE is the primary groundwater COC in the 200 Area based on health risk concerns and was reported with a concentration of 1.2 ug/L in 200-LV-150 and 0.77 ug/L in 200-KV-150, below the equivalent GMP cleanup level of 2.6 µg/L.

Groundwater contamination in the 200 Area will be evaluated and managed based on samples collected from the existing groundwater monitoring network. The monitoring zones in these wells correspond to the most productive intervals in the wells (secondary porosity fracture and bedding plane pathways) that are associated with contaminant transport. Maximum contaminant concentrations within the 200 Area groundwater monitoring well network have been decreasing since the mid-1990s. Potential diffusion-driven chemical mass transfer may occur between the rock matrix pore water and the groundwater, but this is not expected to inhibit the declining trend observed in groundwater concentrations.

Recommendations for the 200 Area Phase II investigation report are as follows:

- No further investigative or corrective action for 200 Area vadose zone soils based on the analytical results and conclusions presented in this study.

- No further investigative action for 200 Area bedrock through the evaluation of matrix diffusion. The most important assessment tool will be the continued monitoring of the declining groundwater VOC concentrations within secondary porosity pathways targeted by monitoring wells in accordance with WSTF GMP guidance.

- In order for NMED and NASA to have the ability to define and bound the soil vapor plume and delineate areas of concern for additional soil vapor evaluations, NASA recommends that NMED perform a supplemental review and provide a formal response to the document "*Development of Site-specific Risk-based Regulatory Criteria for Soil Vapor at the NASA White Sands Test Facility (WSTF)*" (NASA, 2012b). Established RBCs will allow the delineation of targets and development of the criteria required to determine when any remedial activities are completed.

- In accordance with NMED guidance (NMED, 2014d; Section 2.5.2.3), NASA should perform a quantitative assessment of the complete vapor intrusion pathway in the WSTF 200 Area adjacent to the Building 200 foundation near the location of the former Clean Room tank following the steps outlined in this report.

- Continue ongoing containment and treatment of the groundwater plume through operation of the WSTF Mid-plume Interception and Treatment System and Plume Front Treatment System.

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| | |
|---|---|
| µg | Microgram |
| µm | Micrometer |
| ALS | ALS Environmental Laboratory |
| AOI | Area of interest |
| ARCH | Air-Rotary Casing Hammer |
| bgs | Below ground surface |
| BLM | Bureau of Land Management |
| CAP | Corrective Action Process |
| CFR | Code of Federal Regulations |
| CMS | Corrective Measures Study |
| CoC | Chain-of-custody |
| COC | Contaminant of concern |
| COPC | Contaminant of potential concern |
| DBS&A | Daniel B. Stephens and Associates |
| DOT | Department of Transportation |
| DQO | Data Quality Objective |
| EB | Equipment blanks |
| EPA | Environmental Protection Agency |
| ETU | Evaporation Tank Unit |
| FD | Field duplicates |
| ft | Feet |
| GCL | Geoscience Consultants, Ltd. |
| GMP | Groundwater Monitoring Plan |
| GOx | Gaseous oxygen |
| GPS | Global Positioning System |
| GSA | Garnder Spring Arroyo |
| HIS | Historical Information Summary |
| HSA | Hollow Stem Auger |
| HWMU | Hazardous Waste Management Unit |
| ID | Identification |
| IDW | Investigation Derived Waste |
| IWP | Investigation Work Plan |
| IR | Investigation Report |
| JSC | Johnson Space Center |
| kg | Kilogram |
| L | Liter |
| MB | Methanol blank |
| MDR | Matrix diffusion report |
| mg | Milligram |
| mm | Millimeter |
| MPITS | Mid-Plume Interception and Treatment System |
| MS/MSD | Matrix spike/Matrix spike duplicate |
| MSVGM | Multi-port Soil Vapor and Groundwater Monitoring |
| MSVM | Multi-port Soil Vapor Monitoring |
| NASA | National Aeronautics and Space Administration |
| ND | Not Detected |
| NDMA | N-nitrosodimethylamine |
| NLCID | No longer contained-in determination |
| NMED | New Mexico Environment Department |

| | |
|---|---|
| NMEID | New Mexico Environmental Improvement Division |
| NMOSE | New Mexico Office of the State Engineer |
| NOD | Notice of Disapproval |
| PCC | Post Closure Care |
| PCE | Tetrachloroethene |
| PFTS | Plume Front Treatment System |
| PI | Plasticity index |
| PMR | Periodic Monitoring Report |
| PPE | Personal Protective Equipment |
| PSVE | Passive soil vapor extraction |
| PVC | Polyvinyl chloride |
| RBC | Risk-based concentrations |
| RCRA | Resource Conservation and Recovery Act |
| RFI | RCRA Facility Investigation |
| RL | Reporting limits |
| RQD | Rock Quality Determination |
| SAM | San Andres Mountains |
| SOP | Standard Operation Procedure |
| SSL | Soil Screening Level |
| SVOC | Semi-volatile Organic Compound |
| SWMU | Solid Waste Management Unit |
| TBs | Trip blanks |
| T-C | Time – Concentration |
| TCE | Trichloroethene |
| TD | Total depth |
| TOC | Total organic carbon |
| USCS | United Soil Classification System |
| USDA SCS | United States Department of Agriculture Soil Classification System |
| UST | Underground storage tank |
| VISL | Vapor Intrusion Screening Levels |
| VOC | Volatile organic compounds |
| WB | Wash blank |
| WSTF | White Sands Test Facility |

## 1.0 Introduction

The National Aeronautics and Space Administration (NASA) Johnson Space Center White Sands Test Facility (WSTF; Environmental Protection Agency [EPA] Identification [ID] Number NM8800019434) has supported testing of space flight equipment and hazardous materials since 1964. The facility contains five closed hazardous waste management units (HWMUs) that are under post-closure care (PCC) and 37 solid waste management units (SWMUs) within the 200, 300, 400, and 600 Areas. PCC requirements are specified by the NASA WSTF Hazardous Waste Permit (Permit) issued by the New Mexico Environment Department (NMED) in 2009 (NMED, 2009). The Permit requires investigations to assess historical releases of hazardous waste or hazardous constituents to the subsurface, and to determine whether the soils beneath the closed HWMUs and SWMUs are continuing sources of groundwater contamination. This report specifically addresses the WSTF 200 Area, in which two HWMUs and five SWMUs are located.

The 200 Area Closure Investigation Work Plan (IWP; NASA, 2012a; NASA 2012c) was prepared in accordance with the Permit (NMED, 2009) Section V.B.6. The Work Plan was designed to provide a comprehensive investigation of the entire 200 Area and adjacent parts of the 100 and 800 areas, and involved a phased investigation approach whereby the results of Phase I were used to guide the investigation for Phase II. As part of the report review, NMED requested that NASA report Phase I investigation results separately prior to implementing Phase II (NMED, 2012a), and subsequently approved a Phase I Work Plan (NMED, 2012b). Field investigation and laboratory testing activities for the Phase I investigation were conducted from September 2012 through January 2013. NASA submitted the results in the 200 Area Phase I Status Report on January 30, 2013 (NASA, 2013a). Following a NMED review (NMED, 2013a), NASA submitted a revised Phase I report on August 6, 2013 (NASA, 2013d). The revised report was approved by NMED on October 22, 2013 (NMED, 2013c). NASA subsequently submitted a 200 Area Phase II IWP to NMED on October 30, 2013 (NASA, 2013e), which was approved by NMED on January 22, 2014 (NMED, 2014a).

This report summarizes the Phase II field investigation and laboratory testing activities performed between June and November 2014, presents the analytical results of the Phase II investigation, and provides interpretation of results, as well as conclusions and recommendations based on the results.

### 1.1 Location and Description

WSTF is located in Doña Ana County, New Mexico, 18 miles northeast of Las Cruces, New Mexico, and 65 miles north of El Paso, Texas (Figure 1.1). The site was strategically constructed in a remote location adjacent to the San Andres Mountains (SAM). The land occupied by WSTF is owned by the Department of the Army (Army), and is used by NASA under a land use agreement with the Army. Access to the site is provided by a paved road that intersects U.S. Highway 70, one mile west of Organ, New Mexico.

The 200 Area Phase II field investigation was conducted within and in the areas surrounding the 200 Area Laboratories located within the WSTF industrial area in Section 35 of T.20.S, R.3.E. and Section 2 of T.21.S, R.3.E. Access to the 200 Area is via Apollo Boulevard, the main road through WSTF. The primary activites conducted in the 200 Area are; laboratory analyses; precision cleaning; hardware fabrication; and materials, oxygen, detonation, and hypervelocity impact testing.

The two closed HWMUs in the 200 Area are referred to as the 200 Area East and 200 Area West Closures (Figure 1.2). The 200 Area East Closure corresponds to the former location of the historical steel Chemistry Laboratory underground storage tank (UST) and the historical concrete Chemistry Laboratory Acid UST or sump. The 200 Area West Closure is located under the current extension of Building 200 (referred to as LabCon), which was constructed in 1989-1990 over the Closure cap of the two former

Clean Room USTs. Refer to the 200 Area Historical Information Summary (HIS) for further details of the 200 Area USTs and their subsequent closures (NASA, 2012a).

The five SWMUs within the 200 Area identified in the Permit and addressed in this investigation are: the Clean Room discharge pipe (SWMU 4); the Scape Room discharge pipe (SWMU 5); the Building 203 discharge pipes (SWMU 6); the South Highbay discharge pipe (SWMU 7); and, the 200 Area main burn pit (SWMU 9). The pipes were located at buildings 200, 201, and 203, and the 200 Area main burn pit was located southwest of the South Highbay (Figure 1.2).

## 1.2 Regulatory Requirements

As part of the Resource Conservation and Recovery Act (RCRA) corrective action process (CAP), the Permit (NMED, 2009) requires that NASA investigate and address historical releases of hazardous waste and hazardous constituents that may have occurred at sites throughout WSTF. The CAP consists of investigation, characterization, and, if necessary, cleanup. NASA is currently implementing interim corrective measures to address groundwater contamination and is conducting RCRA Facility Investigations (RFIs) for specific HWMUs, SWMUs, and any other areas of concern or interest in the WSTF industrial areas.

## 1.3 Purpose and Scope

The overall objective of the 200 Area Phase I and Phase II investigations was to determine the nature and extent of contamination in the 200 Area vadose zone and adjacent areas. The investigation focused on the identification of potential migration pathways that could transport contaminants released at the surface and subsurface through the vadose zone to the groundwater. The objective of Phase I was to refine the interpretation of the bedrock surface topography, fracture networks, and groundwater migration controls using a geophysical investigation and to perform a comprehensive shallow soil vapor survey across the 200 Area to identify potential volatile organic compound (VOC) targets in the vadose zone. Phase I included an extensive initial investigation across the entire 200 Area and adjacent areas that included 23,581 line ft (7,187 m) of geophysical electromagnetic induction, electrical resistivity, and seismic refraction surveys. The shallow soil vapor survey was performed over an area of 1,800 ft (549 m) by 4,500 ft (1,372 m) with grid points located on 250 ft (76.2 m) centers using a square grid pattern. The 200 Area results from Phase I were presented in the 200 Phase I Status Report (NASA, 2013d).

The objective of the Phase II investigation was to evaluate the vadose zone at specified targets; the two closures and five SWMUs listed in the Permit, the five areas of interest (AOIs) identified during the Phase I shallow soil vapor survey, and two additional targets specified by NMED (NMED, 2013a). The scope of the Phase II investigation was limited to the 18 locations (Figure 1.2) identified in the 200 Area Phase II IWP (NASA, 2013e) as follows:

Two soil borings were installed to bedrock adjacent to the former Clean Room Tanks HWMU (West Closure), 200-SB-05 and 200-SB-06. Soil boring 200-SB-06 was subsequently cored through bedrock to the water table. Multi-port soil vapor monitoring (MSVM) well 200-SV-05 was installed in 200-SB-05 and multi-port soil vapor and groundwater monitoring (MSVGM) well 200-LV-150 was installed in 200-SB-06.

Two soil borings were installed to bedrock through the former Chemistry Lab Tanks HWMU (East Closure), 200-SB-07 and 200-SB-08. Soil boring 200-SB-07 was subsequently cored through bedrock to the water table. MSVGM well 200-KV-150 was installed in 200-SB-07 and MSVM well 200-SV-08 was installed in 200-SB-08.

Five soil borings were drilled to bedrock at each of the five SWMU locations, and MSVM wells were installed in each of the borings. Soil boring 200-SB-09 (MSVM well 200-SV-09) was installed at the Clean Room discharge pipe location (SWMU 4); soil boring 200-SB-10 (MSVM well 200-SV-10) was installed at the Scape Room discharge pipe location (SWMU 5); soil boring 200-SB-11 (MSVM well 200-SV-11) was installed at the Building 203 discharge pipe location (SWMU 6); soil boring 200-SB-12 (MSVM well 200-SV-12) was installed at the South Highbay discharge pipe location (SWMU 7); and soil boring 200-SB-13 (MSVM well 200-SV-13) was installed at the 200 Area main burn pit location (SWMU 9).

Seven soil borings were drilled to bedrock at the five AOIs identified by the 200 Area Phase I Status Report. Soil boring 200-SB-14 (MSVM well 200-SV-14) was installed within AOI I. Soil borings 200-SB-15, 200-SB-16, and 200-SB-18 (MSVM wells 200-SV-15, 200-SV-16, and 200-SV-18) were installed within AOI II. Soil boring 200-SB-19 (MSVM well 200-SV-19) was installed within AOI III. Soil boring 200-SB-20 (MSVM well 200-SV-20) was installed within AOI IV. Soil boring 200-SB-21 (MSVM well 200-SV-21) was installed within AOI V.

One soil boring (200-SB-17) was drilled at the NMED-requested location within an arroyo northwest of the study area. MSVM well 200-SV-17 was installed at this location.

As requested by NMED, one soil boring (200-SB-GOx [gaseous oxygen]) was also drilled through a former historical burn pit on the southeast side of the 200 Area to investigate the potential for the presence of residual perfluorocarbons. A monitoring well was not required at this location.

## 1.4 Types of Results

The types of results presented in the report include the following:

- Soil boring alluvial lithologic logs containing borehole identification information, descriptions of soil types/conditions, soil sampling locations, depth of bedrock interception, and the total depth drilled for each soil boring.
- Bedrock lithologic logs and fracture analysis for cored boreholes to the water table as part of a bedrock matrix diffusion study.
- MSVM and MSVGM well completion diagrams illustrating well construction and completion materials, soil vapor sampling zones, and groundwater sampling zones.
- Chemical analytical results for vadose zone soil samples and laboratory results from geotechnical soil sampling.
- Chemical analytical results for vadose zone and sub-vadose zone samples collected from fractured rock during bedrock core sampling.
- Chemical analytical results for soil vapor and groundwater samples collected from new MSVM and MSVGM wells completed for the Phase II investigation.
- Chemical analytical results for soil vapor and groundwater samples collected from existing MSVM, MSVGM, and groundwater monitoring wells within the 200 Area.

## 2.0 Background Information

Much of the background information for WSTF and specifically the 200 Area has been described in several reports submitted to and approved by NMED. These include the 200 Area IWP and 200 Area HIS (NASA, 2012a), Revised 200 Area Phase I Status Report (NASA, 2013d), and the 200 Area Phase II IWP (NASA 2013e). A summary of background information is presented within the following sections and the relavent report(s) referenced for further detail. Figure 2.1 provides the location of the 200 Area Closures, SWMUs, previous soil borings installed, and existing wells.

### 2.1 Historical Operations

The 200 Area operated as a test article preparation and laboratory area in support of the propulsion test areas, housed the WSTF Clean Room for precision cleaning of tools, sample collection devices, packages, and related materials, and evaluations of the flammability and toxicity characteristics of materials used in the Apollo spacecraft in the 1960's (NASA, 2012a, HIS, Section 5.0). During the 1970's, materials testing capability included oxygen and propellant-exposure environments and expanded rapidly to include all facets of materials characterization, compatibility, and component verification in support of Skylab, the Space Shuttle, the Space Station, and a variety of other programs for government and industry. As materials' testing programs expanded over time, separate testing facilities were established (Figure 2.1); the Chemistry and Metallurgical Laboratories (200 Area), the High-Flow Components Facility (250 Area), Hazardous Hypervelocity and Detonation Facilities (270 and 272 Areas), and the Materials Test Facility (800 Area).

### 2.2 Current and Former Structures

There are three distinct areas within the 200 Area: the 200 laboratory and test preparation complex; the 250 Area; and the 270 Area (Figure 2.1). The laboratory and test preparation complex consists of Buildings 200 and 201 (including the North and South Highbays), Building 203, and surrounding support buildings and structures. Building 200 currently contains offices, the Clean Room and Pre-Clean Room, the Scape Room, the Photography Laboratory, a valve shop, and various laboratories, including a fuel laboratory, an oxidizer laboratory, the chemistry laboratory, and gas and spectroscopy laboratories (NASA, 2012a, HIS, Section 3.0). The North Highbay currently includes two clean rooms, a component test facility, engine/parts assembly/disassembly room, and a decontamination area for fuel and oxidizer. Building 201 currently contains offices and support areas for the laboratories. Building 203 currently contains offices and various laboratories including a metallurgy laboratory, a molecular desorption analytical laboratory, an x-ray room, vacuum laboratories, and various calibration laboratories. The South Highbay is used for storage, preparation, modification, and examination of large test articles.

The 250 Area is located west of the laboratory and test preparation complex across Apollo Boulevard. This area contains the Gaseous Oxygen High Temperature and Flow Test Facility (Building 250), the 200 Materials Processing Facility (Building 255), and various support structures. Liquid hydrogen and liquid oxygen area stored for use in the area.

The 270 Area is located southeast of the 200 laboratory complex. This area consists of the Hypervelocity Impact Building 272, a detonation test facility (Building 270), neutron non-destructive evaluation laboratory (Building 270A), and various support structures. The area also contains three septic tanks near Building 272.

### 2.3 Nature of Contamination

The Clean Room USTs, Chemistry Lab USTs, discharge pipes, and a burn pit were used for waste disposal at the 200 Area. These features have been described in previous sections of this report, the 200

Area HIS (NASA, 2012a), and the Phase II IWP (NASA, 2013e). The following text is summarized from the 200 Area HIS (Section 5.0) and presents the possible/probable sources of contamination.

Clean Room wastes were discharged regularly into the Clean Room USTs. The capacities of the USTs were exceeded, which resulted in tank overflow and releases to the surrounding environment. Wastes were also discharged regularly from the laboratories complex into the concrete Chemistry Laboratory acid UST, and later, the steel Chemistry Laboratory UST that was installed to increase hazardous waste storage capacity. Following installation of the steel UST, the concrete Chemistry Laboratory acid UST was used as a sump and overflow tank for the steel UST. A discharge pipe located towards the top of the steel UST discharged wastes to grade when the tank neared capacity.

In the late 1960s, the 200 Area Clean Room and Laboratory USTs were only used as temporary storage. Wastes were pumped out and transported to the 600 Area surface impoundments for disposal. Interviews with personnel indicated that all tanks breached occasionally and released waste to the environment. In the late 1970s, the Clean Room UST was abandoned in place and a second UST was installed and placed into operation. By the mid-1980s, as part of pollution prevention efforts, use of all the 200 Area USTs were discontinued. All 200 Area wastes were then briefly diverted to a hazardous waste drain line that discharged into the 600 Area impoundments over a period of approximately one month. When the 600 Area impoundments were decommissioned, wastes were contained in temporary above-ground tanks prior to shipment off site for disposal. By August 1988, wastes were disposed of in the 200 Area aboveground evaporation tank unit (ETU) located immediately south of the 200 Area South Highbay. Upon permanent removal of the USTs in 1986, it was discovered that the original Clean Room tank was severly corroded, the second Clean Room UST contained several breaches, the steel Chemistry Laboratory tank contained one small breach, and the concrete Chemistry Laboratory acid tank contained a discharge pipe, thus confirming compromised integrity and/or environmental releases from each tank.

200 Area wastes were discharged or managed at the following locations:

- The Clean Room discharge pipe (SWMU 4) directed wastes that were not discharged into the hazardous waste drain line into a northeast-southwest trending ditch west of Building 200. Discharges to grade occurred from 1964 to 1989 when the area was modified during construction of the LabCon facility. At that time, wastes formerly discharged from the pipe began being discharged to the ETU.

- The Scape Room discharge pipe (SWMU 5) originated in the North Highbay of the 200 Area laboratories complex and discharged soft goods decontamination water, containing trace amounts of oxidizer or fuel, to a drainage ditch located approximately 125 ft (38.1 m) southeast of the North Highbay. Discharges to grade occurred from 1964 to 1989 when the pipe was connected to the hazardous waste drain line system that discharged to the ETU.

- Drains/piping from several rooms within Building 203 (SWMU 6) collected wastewaters that potentially contained solids, oils, and any chemicals used in the areas. The pipes discharged these wastes to grade into a northeast-southwest trending ditch approximately 70 ft (21.3 m) southeast of the south corner of Building 203 from 1964 to 1991 and were still used for cooling water discharge in 1996 (NASA, 1996). Long-term WSTF employees stated that use of these pipes ceased altogether in the mid-1990s.

- The South Highbay was used for preparing and decontaminating 400 Area test articles. Decontamination water generated in either the South Highbay or Room 136 in Building 201 was either transferred to the Clean Room or discharged to grade approximately 125 ft (38.2 m) southeast of the Sough Highbay through the South Highbay discharge pipe (SWMU 7). Discharge to grade through this pipe was discontinued in June 1987, when the pipe was altered and a 1,000-

gallon capacity galvanized steel stock tank was installed at the pipe terminus in order to contain any discharged fluids. It was reported that the stock tank occasionally overflowed to grade. The pipe was used from 1964 until 1991 when it was routed to the 200 Area wastewater lagoons.

- The 200 Area burn pit (SWMU 9) was an earthen, unlined pit used to burn then extinguish mostly liquid materials in order to train WSTF Fire Department personnel in extinguishing fires. Water was added prior to introducing any chemicals/substances into the pit. According to long-term WSTF employees, burning was conducted at this pit location once per month where up to 20 55-gallon barrels of chemicals were burned for fire training during each burning event. A wide variety of solvents, fuels, oils, and potentially construction waste was burned within the pit. According to long-term WSTF personnel, the 200 Area burn pit was used from 1964 to 1969.

The 200 Area Phase II IWP presented a comprehensive list of contaminants of potential concern (COPCs) for the 200 Area (NASA, 2013e). This list was developed based on the operational history of the 200 Area (NASA, 2012a), the results of previous site investigations (NASA, 2013d), and the results from ongoing groundwater monitoring evaluations documented in WSTF Periodic Monitoring Reports (NASA, 2014b, 2014e; PMRs). Releases of hazardous waste from 200 Area operations have traveled through the porous vadose zone alluvial soils and entered groundwater beneath the area. This investigation focuses exclusively on the nature and extent of potential residual contamination in the vadose zone beneath the 200 Area.

## 2.4 Decommissioning and Closures

NASA began contamination assessments and closure activities for both the Clean Room and Chemistry Laboratory USTs in 1986 (NASA, 2012a). The USTs were drained of hazardous waste, excavated, and the tanks and potentially contaminated soils from the tank excavations were shipped off site for disposal. The excavations were backfilled with clean low permeability soil and capped with clay. Closure and Post-Closure plans for the 200 Area UST areas were submitted to the New Mexico Environmental Improvement Division (NMEID) in 1987, and NMEID approved the closure plan in 1988. In 1989, NASA completed construction of more permanent closure caps, and the closures were approved by NMEID as interim landfills (NMEID, 1989).

## 2.5 Previous Investigations and Post-Closure Monitoring

Previous subsurface vadose zone investigations in the 200 Area have specifically targeted all known historical contaminant release locations in the vicinity of the HWMUs and SWMUs that are listed in the Permit. These studies included a seismic reflection survey (summarized in NASA, 1987b), a shallow soil vapor investigation (GCL, 1986), shallow soil boring investigations (Phase I - 1986 – 1987; NASA, 1987a; Phase II – 1994-1995; NASA, 1996), and the installation of soil vapor wells 200-SG-1, 200-SG-2, 200-SG-3, and 200-SG-4 in 1997 (NASA, 2004). The two HWMUs and five SWMUs identified by the Permit were previously investigated through the installation of soil borings and collection of soil samples during investigations completed in 1988 and 1996. No significant vadose zone contamination was identified during these investigations (NASA, 1996, 2012a).

Conventional groundwater monitoring wells 200-B-240, 200-D-109, and 200-D-240 and Westbay®[1] multi-port groundwater monitoring wells 200-F, 200-G, 200-H, and 200-I were also installed in the 200 Area between 1988 and 1997 as part of WSTF's groundwater and PCC monitoring programs. MSVGM wells 100-HG-139 and 200-JG-110 were installed in 2011 to assist with investigation of the vadose zone and shallow aquifer in the Gardner Spring Arroyo (GSA) between the WSTF 200 and 600 Areas (NASA,

[1] Westbay® is a registered trademark of Schlumberger Water Services.

2013d). The location of soil borings and monitoring wells installed as part of previous investigations are included in Figure 2.1.

Previous 200 Area vadose zone shallow soil vapor, shallow soil boring, and MSVGM well investigations were performed in order to:

- Collect the data required to evaluate the integrity of the 200 Area East and West Closures and investigate the vadose zone surrounding the tanks.
- Investigate the vadose zone in the area surrounding SWMUs 4 through 7.
- Investigate the vadose zone and upper aquifer within GSA, particularly around the Well 200-D cluster, where the highest historical concentrations of trichloroethene (TCE) in groundwater have been reported.
- Support the investigation of the vadose zone and shallow aquifer between the WSTF 200 and 600 Areas.

A detailed description of the results of the historical shallow soil vapor and shallow soil boring investigations performed in the area were provided in the Draft RFI (NASA, 1996). A description of the Well 200-D vadose zone investigation and analytical results were provided in the Well 200-D Area Vadose Zone Investigation Report (NASA, 2004). Results from MSVGM wells 100-HG-139 and 200-JG-110 were included in the latest 200/600 Area semi-annual soil vapor and groundwater data summary (NASA, 2013c). A summary of the location, construction, and analytical results from conventional and Westbay wells installed in the area between 1995 and 2009 were provided in annual PCC reports (NASA, 2009). Appendix A of the 200 Area Phase I IWP (NASA, 2012a) also provides a summary of each of the individual investigations along with data summary tables.

In addition to the Permit-identified HWMUs and SWMUs in the 200 Area, several additional historical targets that were identified in the 200 Area HIS were evaluated as part of the 200 Area IWP (NASA, 2012a). These targets included a third discharge pipe from Building 203, a discharge pipe from the Chemistry Laboratory Acid UST, the historical Chemical Storage Building 253 Area, the 270 Area Military Transport Vehicle Fire Suppression Test Area, two additional burn pits located in the 200 Area, and a septic tank drainage source in the 250 Area. These targets were investigated in conjuction with the 200 Area Phase I shallow soil gas grid and were used to support the definition of five additional AOIs (Figure 1.2). These additional targets were discussed in the revised 200 Area Phase I Status Report (NASA, 2013d), and used to establish soil boring locations in the 200 Area Phase II IWP (NASA, 2013e).

## 2.6 Site Conceptual Model

Figure 2.2 identifies the location of a cross-section across the 200 Area and Figure 2.3 provides an east to west cross-section profile across the 200 Area to support discussion of the site conceptual model. The cross-section incorporates monitoring wells 200-B-240 (installed in 1988), 200-F (1994), and 200-H (1994). Variable thicknesses of the Quaternary Camp Rice Formation piedmont slope alluvial fan deposits overlie the Permian Hueco limestone bedrock surface in the 200 Area. These deposits are derived from erosion of the SAM located less than one mile to the east of the 200 Area. The 200 Area buildings are situated on an elevated horst block where depths to bedrock are as shallow as 17 ft (5.2 m) below ground surface (bgs) in well 200-F and 18 ft (5.5 m) bgs in soil boring 200-SB-06. Bedrock is faulted at depth along half-graben normal faults on both the east (GSA) and west (200-B-240 Arroyo) sides of the central horst block, where the depth to bedrock increases to greater than 100 ft (30.5 m) bgs.

Liquid VOCs discharged to the shallow subsurface from the Chemistry Laboratory tanks (200-SB-07) on the east side of the 200 Area infiltrated porous alluvial soils (typically 20 to 50% porosity), migrated downward through the vadose zone, and contacted fractured bedrock matrices. Migration rates in the vadose zone depend in part on contaminant volume, terrain slope, soil lithology, and soil geotechnical parameters. Contaminants are interpreted to have migrated southeast along the relatively low-permeability bedrock surface into secondary bedrock porosity pathways formed by southwest trending faults and fractures, and bedding plane solution channels that also strike southwest in the GSA area.

From the Clean Room tank (200-SB-06) on the west side of the 200 Area, contaminants migrated downward through a relatively thin veneer of alluvium and subsequently west along the bedrock surface toward well 200-F. Secondary porosity pathways including the Apollo Boulevard fault and bedding plane solution channels in the limestone that both strike to the southwest likely had a strong influence on contaminant migration. These pathways enhanced the relatively rapid downgradient movement within the fractured bedrock groundwater aquifer that is under the influence of a steep hydraulic gradient of 0.05 (1 ft [0.3 m] vertical per 20 ft [6.1 m] horizontal).

The fractured Hueco limestone bedrock within the 200 Area is well-bedded, with individual beds typically between 6 inches (in) and 4 ft (1.2 m) in thickness. Limestone outcrops at the surface and in the subsurface in the 200 Area strike northeast and dips to the southwest at approximately 22 to 28 degrees. Camera logs of open boreholes performed prior to the installation of groundwater monitoring wells 200-F, 200-G, and 200-H demonstrate the relationship between high conductivity bedding plane solution channels and highly turbid flow. Abundant fractures with a variety of orientations within the limestone are also evident in these camera logs (NASA, 1995).

Relatively high hydraulic conductivities calculated for the 200 Area limestone bedrock ($2.45 \times 10^{-8}$ ft/sec to $2.03 \times 10^{-4}$ ft/sec) decreasing in contaminant concentrations over time for all groundwater monitoring wells in the area support the interpretation of contaminated groundwater movement out of the 200 Area and west (downgradient) toward the WSTF Mid-plume Interception and Treatment System (MPITS) and Plume Front Treatment System (PFTS; NASA, 1995). The inferred movement of TCE through the alluvial vadose zone, bedrock vadose zone, and below the water table in fractured rock is shown in Figure 2.3; residual traces of potential VOCs within the rock matrix (primary porosity) and along fractures and bedding planes (secondary porosity) within the vadose zone are also identified.

VOCs that subsequently migrated through the 200 Area alluvial soils and limestone bedrock reached the water table and resulted in the formation of a dissolved phase VOC groundwater plume which has been monitored since the mid-1980s using a comprehensive network of groundwater monitoring wells. The 200 Area historically contained the highest groundwater concentration of TCE on site (2,600 ppb for well 200-D-109 in 1994). All 200 Area wells have continuously shown declining trends for VOCs in groundwater over the last 20 years (NASA, 2014e). The current maximum TCE concentration is 460 ppb for the same well in 2014. The latest concentrations for TCE for monitoring wells located on the line of cross-section in Figure 2.2 are provided in Figure 2.3 with a maximum concentration of 26 ppb in the upper zone of Westbay multi-port well 200-F at 225 ft (68.6 m) bgs. TCE contamination in multi-port wells 200-F and 200-H has not been identified at depths below the uppermost ports, placing a vertical constraint on the depth of contamination.

Migration rates for the groundwater plume within the fractured limestone aquifer is relatively high compared to the widespread volcanic aquifer bedrock lithologies at WSTF, based on high flow velocity calculations in PCC Reports (NASA, 1995) and significant declines in groundwater contaminant concentrations in the 200 Area. Declines in soil vapor contaminant concentrations have also been observed within 200 Area MSVM well ports for samples collected semi-annually between August 2010 and March 2013 (NASA, 2013c). The declining trends in groundwater and soil vapor concentrations are inferred to be related (NASA, 2013d).

## 3.0 Scope of Activities

The activities performed during the 200 Area Phase II investigation were developed based on project data quality objectives (DQOs) and other requirements of Permit Attachment 17 that were presented in the Phase II IWP (NASA, 2013e). The DQOs and field activities were followed during this investigation as closely as possible. Deviations from the DQOs and field activities are identified in Section 4.5 of this Report. The following sections describe the field investigation activities that were conducted in the 200 Area between June and October 2014.

### 3.1 Background Information Research

A pre-investigation 200 Area HIS (NASA, 2012a) was prepared and submitted by NASA and approved by NMED (NMED, 2012b). The HIS contains a complete account of the background information research conducted for the 200 Area.

### 3.2 Implemented Health and Safety Measures

Beyond the federal, state, and site required health and safety measures that were proposed in the 200 Area Phase II IWP (NASA, 2013e), and followed during the field investigation, daily field activities involved rigoruous communication and coordination efforts between 200 Area field and office personnel. Daily communiques were sent to key personnel informing them of completed work, next steps, and included updated maps of the active and projected work locations. A light-emitting diode sign located on Apollo Boulevard at the entrance to the WSTF industrial area contained information regarding the ongoing fieldwork for the local workforce and messages were placed in electronic site information bulletins. Best attempts were made to conduct field investigation activites near 200 Area building during the weekends and the more remote locations during the work week. Roads were closed to traffic or traffic was directed in order to ensure safe operations and protect 200 Area personnel as necessary.

### 3.3 Field Data Collection

NASA Environmental Department personnel including geologists, compliance personnel, and sampling technicians recorded day-by-day accounts of field activities in field logbooks and any investigation data collected was recorded either in logbooks or on project-required forms. The required contents of the logbook and the required forms for data collection were provided in the 200 Area Phase II IWP (NASA, 2013e) and noted in the sections below.

### 3.4 Soil Boring Installation in Alluvial Soils

Soil borings 200-SB-05 through 200-SB-21 (Figure 1.2) were installed at the sites of the HWMUs, SWMUs, AOIs, and NMED-requested locations (NMED, 2013c). The soil borings were advanced using the air-rotary casing hammer (ARCH) drilling method. One boring, 200-SB-GOx, located at one of the two smaller 200 Area burn pits on the east side of Building 203 (200 Area HIS; NASA, 2012a) was advanced using the hollow-stem auger (HSA) method per NMED request. All drilling equipment and associated downhole tools and rigging were decontaminated with a heated high pressure wash prior to drilling and between soil boring locations at a decontamination pad located adjacent to Building 637 in the 600 Area. While drilling with the ARCH rig, 9 $^{5}/_{8}$-in (0.24 m) diameter outer drive casing was advanced behind the bit to prevent borehole collapse. Compressed air was used to clean the boring of cuttings during bit advancement, and small amounts of non-chlorinated water were added to the cyclone discharge at the surface when needed for dust suppression. ARCH-drilled boreholes were advanced until the fractured limestone bedrock surface was intercepted. The HSA-drilled borehole was advanced to 12 ft (3.7 m) into the alluvium. The challenges encountered during soil boring installation were increased drilling and sampling times due to a high percentage of cobbles and boulders (up to several feet in

diameter) and a well cemented alluvial horizon immediately above the bedrock surface. Activities and observations made during the installation of all boreholes were recorded in the field logbooks and on the borehole lithologic logs. The drilling subcontractor provided daily drilling activity reports to NASA. Figure 1.2 provides a map of the soil boring locations and Appendix A contains the completed soil boring lithologic logs.

### 3.5 Soil Chemical Sampling

Soil chemical samples were collected at discrete intervals during the advancement of soil boreholes. The sampling approach presented in the 200 Area Phase II IWP (NASA, 2013e) was to collect soil chemical samples at the shallow surface (upper 10 ft [3.1 m] bgs), an intermediate depth within the soil boring; and at depth in the soil boring near the boring total depth (TD). The specific sample locations were influenced by the depth of the soil borings. Diligent attempts were made to sample at these intervals; however, unfavorable drilling and borehole conditions encountered during the investigation and poor sample recovery ultimately directed the sampling regime. The coarse-grained alluvium was not conducive to sampling barrel advancement or sample recovery. The primary reasons for the poor soil sample recovery rate were as follows:

- Inability to attempt soil samples at discreet but more conducive sampling horizons (finer-grained soils) often occurred due to the need to advance the outer casing to an available sampling location at the end of the lengths of 5-ft (1.5 m) or 10-ft (3.1 m) drive casing. The sampling tool configuration could only be advanced at specific locations relative to the position of the outer drive casing. Lengths of 5-ft (1.5 m) were used wherever possible to provide the greatest number of sampling options.

- Split-spoon and core barrel refusal within the coarse and dry gravelly alluvial soils.

- Loss of alluvial samples during retraction of the sampling tool from the soil boring.

- Limited amount of sample due to obstruction of the 3-in (0.08 m) diameter core barrel by a large alluvial clast of equal or greater diameter than the core barrel sampler.

Because the identification and delineation of vadose zone contamination was the primary objective for the investigation, soil chemical sample collection was given priority over soil geotechnical sample collection when sample recovery was insufficient to collect both. A total of 36 of the 53 soil chemical samples (68%) originally planned for this investigation were successfully collected. Soil samples frequently required several attempts at different intervals and could not be collected for soil borings 200-SB-12, 200-SB-14, and 200-SB-18 due to repeated problems related to sample recovery. The ability to perform several successive sampling attempts in the soil borings in order to collect a sample was inhibited where bedrock was shallow, or intercepted earlier than anticipated. Table 3.1 summarizes the soil sampling locations proposed in the work plan and the soil sampling accomplished during the field investigation.

Sampling was performed by driving the 3-in (0.08 m) diameter by 5 ft (1.5 m) core barrel approximately 2 ft (0.6 m) into the undisturbed formation at the bottom of the open boring using a pneumatic driver head or drop hammer advanced by the ARCH rig. If soil sample refusal occurred as a result of the inability to advance the core barrel sampler, a second attempt was made to collect the sample at the next adjacent location within the soil boring (directly below the original sample). The sampling barrel was retrieved from the borehole and soil was extruded from the core barrel into a polyvinyl chloride (PVC) liner using vibration gernerated by the ARCH rig. The liner was then moved to the sample staging area and subsequently discharged carefully into a decontaminated stainless steel bowl. Soil characteristics were described and recorded on forms and/or in the field logbook by the on-site geologist. Sample technicians

placed soil in lab-specified containers, labeled the containers, completed chain-of-custody (CoC) forms, and recorded the sampling activity in a separate field logbook.

The analytical parameters selected for soil chemical sampling (in order of collection priority) were VOCs, hydrazines, N-nitrosodimethylamine (NDMA), semi-volatile organic compounds (SVOCs), bromacil, dioxins/furans, hexavalent chromium, metals (total), nitrate/nitrite, cyanide, perchlorate, chloride, and soil pH. All samples collected for this investigation were handled in a manner that maintained their integrity and followed laboratory and WSTF site-specific protocols. Table 3.1 summarizes the sampling that occurred for the investigation and includes borehole identification number (ID) and TD, target sampling depths, actual sampling depths, type of samples collected, sample analytical methods, and relevant comments. The soil chemical sampling analytical results are presented in Section 4.0.

### 3.6 Soil Geotechnical Sampling

The 200 Area Phase II IWP (NASA, 2013e) indicated that a minimum of one and a maximum of three soil geotechnical sample would be collected for each significant change in soil lithology, where feasible. As was the case for soil chemical samples, the ability to collect geotechnical soil samples at discreet lithological boundaries was impeded by the limited occurrence of soil that was sufficiently fine-grained to be retained in the sampling device, the need to advance the outer drive casing to the end of the 5 ft (1.5 m) or 10 ft (3.1 m) drive casing lengths prior to the ability to attempt a sample, and the poor soil sample recovery. The gravel-rich formation hindered consistent sampling barrel advancement and sample retention. Relatively finer-grained lithological horizons were identified in compromised samples discharged from the rig cyclone and driller's observations regarding rate of advancement and degree of bit chatter. Following identification, several attempts were made to collect a sample using the core sample barrel at the completion of the casing length. Discreet finer-grained horizons had frequently been penetrated before soil sample collection could be attempted.

If small soil volumes were retrieved from the sample barrel, chemical analysis samples were collected first, then, if sufficient soil volume remained, geotechnical samples second. A total of 20 samples were collected for geotechnical analysis from the 18 soil borings installed during this investigation. A summary of the soil boring locations, depths, dates, and geotechnical analyses performed on geotechnical samples is provided in Table 3.2. Either a limited soil boring TD, insufficient soil sample volume, or sample refusal precluded the collection of geotechnical samples at soil borings 200-SB-13, 200-SB-14, and 200-SB-GOx.

Soil samples were extruded from the sampling core barrel on the ARCH rig to the PVC liners that were used to preserve the sample during transport from the rig to the soil sample processing area. Because the soil samples were agitated and partially compromised during extrusion from the core barrel, it was impossible to retrieve a geotechnical sample that was fully representative of in situ conditions. Samples for the suite of geotechnical analyses (with the exception of particle size analysis) were collected in 3-in (0.08 m) diameter x 6-in (0.15 m) length stainless steel sleeves. These sleeves were pushed directly into the soil recovered from the core barrel whenever sufficient sample was available. Soil samples for particle size analysis were collected in 12-in (0.30 m) square zip top plastic bags. In cases where a significant gravel (or larger) fraction was observed, as much soil material was retained for the geotechnical sample as possible.

Geotechnical samples were logged by WSTF Environmental Department geologists and transferred to sampling containers by Environmental Department sampling technicians. When the technicians pushed the stainless steel sleeve into the soil sample, any void space at the ends of the sleeve were manually packed with a tamping tool to simulate native soil conditions and eliminate sample movement during shipment. The ends of the sleeve were sealed using PVC end caps and secured with Calpico polyvinyl tape. There were no sample preservation or holding time requirements for the geotechnical samples.

Samples were held in storage (in a temperature controlled building) until several samples could be shipped together. Shipments were sent from the WSTF shipping facility to the geotechnical laboratory at Daniel B. Stephens and Associates (DBS&A; Albuquerque, NM) via overnight carrier for analysis.

Soil geotechnical samples were collected for the analysis of physical and hydraulic properties. Physical properties included particle size characteristics, Atterberg limits testing, and mass/volume relationships including moisture content, bulk density, and porosity. Hydraulic properties included saturated hydraulic conductivity and unsaturated hydraulic parameters. Samples were analyzed for physical and hydraulic properties using the methods listed in Table 3.2. The soil geotechnical analytical results are presented in Section 4.0.

### 3.7 Borehole Installion in Fractured Bedrock

Following the completion of soil boring installation and soil sampling at 200-SB-06 (West Closure) and 200-SB-07 (East Closure), PQ®[2]-sized (5-in [0.13 m] diameter) steel surface casing was installed from surface and set approximately 2 ft (0.6 m) into the top of the competent bedrock at depths of 20 ft (6.1 m) and 55 ft (16.8 m) bgs, respectively. The surface casing allowed stabilization of the downhole PQ coring equipment in the existing soil borings and was of sufficient diameter to allow the installation of MSVGM wells following drilling. The ARCH rig was then replaced with a coring rig set up to collect core samples from the top of bedrock to below the groundwater table in support of a matrix diffusion study conducted as part of the 200 Area Phase II Investigation. The core rig was used to advance the boreholes to a satisfactory depth below the water table that allowed the installation of a MSVGM well for both soil vapor and groundwater sampling. Both boreholes were drilled to a total depth of 202 ft (61.6 m) bgs. Groundwater encountered in the boreholes subsequently stabilized at approximately 156 ft (47.6 m) bgs in 200-SB-06 and 154 ft (46.9 m) bgs in 200-SB-07. The lithologic logs for the bedrock boreholes are presented in Appendix A of the Matrix Diffusion Report (MDR), which is provided as Appendix B of this IR.

### 3.8 Bedrock Matrix Sampling

The information that follows is a summary of the bedrock matrix sampling activities taken from the MDR provided in Appendix B. Matrix diffusion was evaluated using CORE$^{DFN}$ (characterization of rock environments discreet fracture network approach; Parker, 2007), a specific technical method for investigating contamination in fractured, porous bedrock aquifers. The CORE$^{DFN}$ approach includes specialized techniques for sampling, extracting, and analyzing contaminants present within the rock matrix to assess the effects of contaminant diffusion from fractures into the rock matrix. Core drilling, rock sample collection, and sample processing (crushing rock samples and placement in high-grade methanol) were performed at WSTF during Phase II investigation fieldwork. PQ-sized cores had a diameter of 3-in (0.08 m). Sample extraction in the field was performed by Stone Environmental (Stone) personnel and the analysis of the crushed rock VOC samples was performed at the Stone Laboratory in Barre, Vermont. Samples were extracted into methanol for analysis by SOP SEI-10.17.1: *Microwave assisted Extration (MAE) of Volatile Organic Compounds of Rock Samples*. The methanol extracts were analyzed via SW846 USEPA Method 8260C for 20 target VOCs: chloromethane, 1,1,2-trichloro-1,2,2-trifluoroethane (Freon®[3] 113), 1,1-dichloroethene, methylene chloride, t-butyl-methyl ether, chloroform, 1,1,1-trichloroethane, benzene, 1,2-dichloroethane, TCE, bromodichloromethane, 1,1,2-trichloroethane, tetrachloroethene (PCE), dibromochloromethane, chlorobenzene, m,p-xylenes, bromoform, trichlorofluoromethane (Freon 11), toluene, and 2-butanone. Physical rock properties (porosity, bulk

[2] PQ® is a registered trademark of Boart Longyear TM, Inc.

[3] The trade name Freon® is a registered trademark of E.I. du Pont de Nemours & Company Corporation (DuPont).

density, percent moisture, specific gravity, and total organic carbon [TOC]) were evaluated by Golder Associates in Ontario, Canada. Table 3.3 provides a summary of rock core samples collected for the MDR.

Rock sampling was conducted using decontaminated triple tube core barrels that allowed the collection of continuous rock core from the bedrock surface to the water table. Excellent recovery rates were achieved in fractured limestone bedrock, with a total of 178.1 linear ft (54.3 linear m) of rock core recovered from 182 ft (55.5 m) of core from 200-SB-06 and 147 linear ft (44.8 linear m) recovered from 146.5 ft (44.7 m) of core from 200-SB-07. The discrepancy in recovery versus rock cored is due to minor differences related to measuring the coring intervals at the rig and measuring the recovered once it was extruded from the core barrel. The high percentage of core recoveryprovided an accurate picture of fractured portions of the bedrock.

Core samples were carefully handled to maintain their integrity. Decontamination procedures were performed between individual sample collection locations to prevent the contamination of samples and cross-contamination between samples. Immediately following retrieval, the core was removed from the triple tube core barrels, placed in PVC trays, and moved to an adjacent covered staging area where the core was examined and specific sample locations selected. Samples were collected both from fracture surfaces and from the intervening unfractured rock matrix and prepared for analysis according to Stone and quality control protocols. The samples were then packaged for storage and transport, stored in a temperature-verified freezer, then shipped under CoC to the Stone laboratory in Barre, Vermont.

A total of 268 samples were collected for VOC analysis from 325.1 ft (99.1 m) of rock core retrieved. Approximately 20% of the samples were collected for Stone quality assurance/quality control protocol, including; 12 field duplicates (FDs), 13 matrix spike/matrix spike duplicate (MS/MSD) sample pairs, and 12 trip blanks (TBs) that were packed with each shipment. Twelve methanol blanks (MBs), collected from the six bottles of methanol used in sample preparation, were stored and shipped separately from all other samples. MBs are used to determine possible contamination in the methanol used to preserve and extract samples. Two wash blanks (WBs) were prepared from the methanol used for decontamination of equipment. Fifteen intact core samples were collected on approximately 20 ft (6.1 m) intervals for analysis of physical properties. Physical property samples were not collected until after VOC sample collection was completed for each applicable run. The bedrock matrix analytical results are presented in Section 4.0.

### 3.9 Well Construction

Fifteen MSVM wells (200-SV-05 and 200-SV-08 through 200-SV-21), two MSVGM wells (200-KV-150 and 200-LV-150), and all associated annular materials were emplaced according to well diagrams prepared in the field immediately following soil boring completion and approved by NMED. All well completion diagrams are provided in Appendix C.

Each individual soil vapor port consisted of narrow ($^{1}/_{4}$-in nominal) diameter stainless steel tubing attached to a 12-in length (0.3 m) soil vapor implant/filter. MSVM wells were installed in soil borings that were drilled to the bedrock surface. Stainless steel hose clamps placed every 5 ft (3.1 m) secured each individual port and tubing to the outside of a $^{5}/_{16}$-in stainless steel cable guideline with a stainless steel weight at the bottom. The end of each length of tubing was secured at the specified monitoring port depth and attached to the 12-in (0.3 m) implant using a Swagelok®[4] stainless steel fitting. Each port and cable guideline was installed individually, and subsequently labeled at the surface with the appropriate port

[4] Swagelok® is a registered trademark of the Swagelok Company.

depth information. The surface connection for each sampling port is a ¼-inch Swagelok stainless steel union.

MSVGM wells 200-LV-150 and 200-KV-150 were installed in boreholes 200-SB-06 and 200-SB-07 respectively, and were also constructed according to well diagrams prepared in the field and approved by NMED. Individual soil gas ports were secured to the outside of a nominal 2-in diameter Schedule 80 PVC groundwater monitoring well using stainless hose clamps. The groundwater monitoring zone at the bottom of each well consisted of a 20 ft (6.10 m) length of 0.02-in-slot screen set above a 5 ft (1.5 m) sump and surrounded by 10/20 Colorado silica sand annular fill.

The volume of each boring was calculated and the requisite volume of annular materials was installed in stages using tremie pipe to prevent bridging. The outer Stratex over-ride casing was retracted from the soil boring or borehole in conjunction with gradual emplacement of the annular materials to prevent boring collapse and potential compromise of the MSVM and MSVGM well ports. The depth bgs of the annular materials was sounded continuously during emplacement and the pertinent footages recorded on the well construction diagram.

Hydrated bentonite chips were placed in the bottom of the boring below the deepest port. Annular materials installed at each subsequent soil vapor monitoring zone consisted of approximately 5 ft (1.5 m) of 10/20 mesh Colorado silica sand centered on each soil vapor sampling port. Approximately 10 ft (3.1 m) of hydrated bentonite was installed above and below the sand between monitoring zones. The thickness of hydrated bentonite was modified depending on the depth of bedrock and vertical interval available for annular completions within the boring. A slurry of Portland Type II cement and bentonite powder was installed through the tremie pipe to separate the bentonite layers and create the final seal between sampling zones. Above the shallow soil vapor monitoring port, a maximum of 10 ft (3.1 m) of hydrated bentonite was installed to approximately 2 ft (0.6 m) bgs. The thickness of this plug was determined by the depth of the top soil vapor sampling port. Cement was then completed to the surface.

Following MSVM well and annular material installation, a protective outer steel wellhead was installed at surface to protect the multi-port well materials. The wellheads outside industrialized areas subject to vehicular traffic and within more remote locations peripheral to the 200 Area were each centered on 4 ft-square (1.2 $m^2$) cement pad with a surface that slopes away from the center. The pads were completed at either ground surface in the industrialized areas subject to traffic, or 4 in above ground surface within more remote areas, and surrounded at the four corners by bollards, where required. The wellheads were completed within a below-grade vault and capped with a protective wellhead. A brass cap was installed at each well.

MSVM well soil vapor ports, MSVGM well soil vapor ports, and groundwater monitoring zones were developed according to the appropriate WSTF well installation guidance documents following the installation of the last project well. The Phase II MSVM and MSVGM wells will be designated for plugging and abandonment at a future date, contingent upon NMED approval.

### 3.10 Soil Vapor Sampling

The MSVM and MSVGM well vapor ports were developed by removing the volume equivalent of three boreholes of soil vapor using an electric pump. The wells were allowed to equilibrate to ambient vadose zone conditions for approximately four to six weeks prior to soil vapor sampling. Soil vapor sampling was conducted following established site procedures, and critical information describing the sampling event was recorded in the technicians sampling field logbook. Soil vapor samples were collected in 1-liter stainless steel electropolished passivated vessels (SUMMA cannisters) certified as clean and provided by the laboratory.

Immediately prior to sampling, the ambient barometric pressure was recorded and vacuum conditions within the SUMMA cannisters were verified. After attaching the sampling assembly to the MSVM or MSVGM wellhead, three tubing volumes of air were purged from the sampling port and stainless steel tubing using a LANDTEC GEM2000+™[5] monitor to ensure the removal of stagnant air. The purging was also monitored using a methane, oxygen, and carbon dioxide gas. Satisfactory purging of the well was confirmed once the concentrations of these gases stabilized. A laboratory-evacuated SUMMA cannister was then attached to the sampling port, opened, and filled to capacity. Samples, including those for quality control such as duplicates, FBs, and TBs, were managed according to established site procedures that included labeling, CoC documentation, storage, packing, and expedited shipment to the laboratory.

The samples were shipped to the analytical laboratory by overnight carrier for analysis. A total of 36 accessible vapor ports were sampled within the 17 multi-port wells. Soil vapor samples were analyzed using EPA Method TO-15 that determines VOCs in air (vapor) using gas chromatography/mass spectrometry. A summary of the soil vapor sampling is provided in Table 3.4 and soil vapor analytical results are presented in Section 4.0.

### 3.11 Groundwater Sampling

The two MSVGM wells installed as part of this investigation (200-KV-150 and 200-LV-150) were developed, purged, and allowed to equilibrate for approximately two weeks. Soil vapor samples were collected, then the wells were re-purged and groundwater samples collected to directly compare groundwater and soil vapor concentrations within the same well. Groundwater monitoring zones were purged as effectively as possible pursuant to procedures outlined in the NMED-approved WSTF Groundwater Monitoring Plan (GMP; NASA, 2013b). Groundwater samples were also collected specifically to support the 200 Area Phase II comprehensive soil vapor sampling event from five other existing MSVGM wells in the WSTF 100 and 200 Areas: 100-HG-139; 200-JG-110; 200-SG-1; 200-SG-2; and 200-SG-3 to allow as direct a comparison between soil vapor and groundwater concentrations as possible.

Groundwater samples from the seven MSVGM wells were evaluated in conjunction with groundwater samples from 15 other conventional and multi-port groundwater monitoring wells (for a total of 22 wells with 36 conventional and multi-port groundwater monitoring zones) located in the vicinity of the 200 Area and 600 Area Closure. Groundwater samples were analyzed for VOCs using SW-846 Method 8260C. The most recent analytical data available from the 15 supplemental groundwater monitoring wells (samples collected between August 2013 and August 2014) were used for comparison. Groundwater samples were collected in laboratory-provided containers following site-specific procedural documentation and submitted to the analytical laboratory following requirements of the GMP (NASA, 2013b).

### 3.12 Survey Data

A brass cap was installed on the north side of the cement well pad at each MSVM and MSVGM well. The brass caps and the top of the well casing for the subgrade 200 Area Phase II well casing were surveyed using in-house Trimble laser transit and data collector Global Positioning System (GPS) surveying equipment. No well completion record is required for MSVM wells by the New Mexico Office of the State Engineer (NMOSE). Well completion records were submitted to the NMOSE for the two MSVGM wells that include groundwater monitoring zones. The well coordinates and elevation were recorded in the applicable well files.

[5] GEM2000+™ is a registered trademark of LANDTEC North America.

## 3.13 Investigation Derived Waste Management

An Investigation-Derived Waste (IDW) Plan for the 200 Area Phase II fieldwork was provided in the 200 Area Phase II IWP (NASA, 2014e) as required in Permit Attachment 20 (Section 20.2.13). The IDW Plan described the potential wastes that would be generated from the 200 Area investigation as well as procedures for waste management, waste characterization, and waste disposition. IDW was accumulated, containerized, and managed in accordance with the IDW Plan and WSTF standard protocol that incorporates 40 CFR Part 262.34. Procedures included, but were not limited to: container content labels; accumulation start dates; hazardous waste labels; and, Department of Transportation (DOT) container specifications. The accumulation start date for all IDW was the date the waste was generated or when the decision was made to discard contaminated debris (materials that are no longer usable).

Two less-than-90-day waste management units were established within the perimeter of the 200 Area to manage IDW in the field; one was located immediately south of the 200 Area wastewater lagoons near 200-SB-18, and the other was located on the west side of Apollo Blvd. between 200-SB-20 and 200-SB-21. Per 40 CFR § 264.1080(b)(5), subpart CC standards do not apply to waste management units that are used solely for on-site storage of hazardous waste placed in the unit as a result of implementing remedial activities required under the RCRA corrective action authorities

### 3.13.1 IDW Generated

The following IDW was accumulated and managed in the 200 Area:

- Used personal protective equipment (PPE), plastic sheeting, and other debris were containerized in DOT compliant drums.
- Soils, cuttings, and returns generated during drilling and sampling were containerized in Super Sack®[6] bulk containers. Any liquid present in Super Sacks® was decanted into DOT compliant drums.
- Decontamination fluids or muddy water was containerized in DOT compliant drums.
- Wastes associated with equipment maintenance (e.g., grease, contaminated rags, oil, WD-40®[7], diesel, soil contaminated with hydraulic fluids, etc.) was managed as a hazardous waste or recycleable fluids.

A small amount of dust generated during soil boring drilling activities was not managed as waste. A cyclone separator with water misting located on the side of the ARCH rig was used to minimize exposure of project field personnel to physical dust hazards. Provisions for worker respiratory protection were provided according to the Health and Safety Plan and 29 CFR 1910.120e.

### 3.13.2 No Longer Contained-In Determination and IDW Disposal

Final waste characterization for the IDW was completed in accordance with Permit Attachment 12: Waste Analysis Plan (NMED, 2009) incorporating the 200 Area IWP and the 200 Area Investigation Sampling and Analysis Plan. For environmental media that are identified as containing listed wastes per 40 CFR Part 261 Subpart D, requests for a no longer contained-in determination (NLCID) were submitted to the NMED Hazardous Waste Bureau (63 FR 28622). To perform the NLCID, the analytical data generated

[6] Super Sack® is a registered trademark of Better Agricultural Goals Corporation DBA/ B.A.G. Corp.

[7] WD-40® is a registered trademark of WD-40 Manufacturing Company.

from borehole sampling was compared to the applicable 40 CFR Part 268 Treatment Standards and NMED residential soil screening levels (SSLs; NMED, 2014d).

Contaminant concentrations in soil cuttings and drilling mud from the installation of boreholes in bedrock did not pose an unacceptable risk to human health or the environment. NMED determined that the wastes could be managed as no-longer containing listed wastes and provided written approval of NASA's request for a NLCID in two communications (NMED 2014b, 2014c).

Soil samples sent to the analytical laboratories were disposed of by the laboratories as environmental samples in accordance with the individual laboratory's procedure. Upon receipt of the NMED NLCIDs, soil cuttings and drilling mud were spread on the ground at the well pads in the vicinity of the corresponding soil borings, in areas that were not readily accessible to routine traffic or easily subject to runoff. Soil cuttings generated at a location within the industrialized area (200-SB-20) were spread on the ground at an adjacent well pad.

IDW groundwater from MSVGM wells was treated at the MPITS in accordance with the Permit. IDW debris that was determined to be non-hazardous waste was disposed of as solid waste.

## 4.0 Field Investigation Results

The following sections present the analytical results from soil, rock, soil vapor, and groundwater samples collected during the investigation. All investigation sample CoC forms are provided in Appendix D.

### 4.1 Soil

A lithologic log, prepared for each soil boring, described the soil characteristics from surface to bedrock (Appendix A). All the boreholes were terminated at the bedrock surface with the exception of 200-SB-06 and 200-SB-07, which were drilled to the water table using the core rig. Conditions of the bedrock penetrated during the installation of these two boreholes are described in Section 4.2. The third exception was 200-SB-GOx, which was drilled to a depth of 12 ft bgs.

The 200 Area surface and subsurface soil conditions are well known as a result of previous subsurface investigations performed in the area that are described in more detail in the 200 Area Phase II IWP (NASA, 2014e). Soils in the 200 Area are classified as Tencee-Nickel Association Gently Sloping and Steep units by the United States Department of Agriculture, Soil Conservation Service (USDA SCS, 1976). The Tencee Series is comprised of shallow, well-drained soils which formed in calcareous gravelly loamy alluvial sediments on old alluvial fans. The Nickel series soils comprise deep, well-drained soils on old alluvial fans. They are typically medium textured alluvial sediments containing up to 50% gravel. The 200 Area alluvium is an unconsolidated to locally cemented, poorly sorted, polygenetic pebble to boulder conglomerate containing shallow caliche horizons and deeper interbeds of sandy to clayey gravels, sandy silt and silty clays. Clast lithologies primarily include varieties of Pennsylvanian (Panther Seep Formation) to Permian (Abo Formation) limestones, Permian siltstones and sandstones (Panther Seep formation), and Tertiary volcanics (rhyoloite, andesite, and granite).

The lithologic logs for 200 Area Phase II soil borings are provided in Appendix A. Silty to sandy gravels typical of the piedmont slope facies of the Camp Rice Formation (Seager, 1981) predominate throughout the shallow soil sections that overlie limestone bedrock. These poorly indurated gravelly alluvial deposits represent the youngest Pleistocene deposits of the Camp Rice Formation. Soil borings installed adjacent to arroyos showed some characteristics of younger piedmont slope alluvium, unconsolidated and finer-grained deposits transported along surface arroyos.

On a localized scale, gravelly silts (ML) were common in the uppermost surficial soil horizons and extended from surface to depths typically between 2 and 10 ft (0.6 – 3.1 m) bgs. Sitly sandy gravels (GM) were predominant throughout the majority of the soil sections, with intermittent silty (ML) or sandy (SM) horizons. Indurated gravelly alluvium (GM) with increasing hardness and caliche content was commonly encountered within the 2 to 5 ft (0.6 – 1.5 m) of alluvial soil that overlies bedrock. The range of soil types and vertical distributions are available on the soil boring lithologic logs provided in Appendix A. A summary of the soil types based on particle size analysis are provided with the geotechnical results summarized in Section 4.1.2 of this report. Soil units between individual soil borings were not correlated due to the difficulty of correlating identifying individual horizons. The chaotic nature of the stacked coalescent alluvial fans is typical of alluvial deposits located proximal to the mountain front, and has precluded the correlation of soil units in the 200 Area for previous investigations.

### 4.1.1 Soil Chemical Analytical Results

A total of 36 chemical samples were collected from the 18 Phase II soil borings. These samples were used to document the range of concentrations for organic and inorganic compounds that characterize the alluvial soils of the 200 Area. Complete soil chemical sample analytical results are provided in Appendix E of this report. A summary of the detected inorganic soil sample results is presented in Table 4.1, and a summary of detected organic soil sample results is presented in Table 4.2. A description of the location, depth, types of chemical samples collected, and laboratory analyses performed for the 200 Area Phase II investigation is provided in Section 3.5 and on soil boring logs in Appendix A.

Due to the time constraint for soil cuttings storage within a 90-day IDW area, the 200 Area Phase II soil chemical data was initially reviewed and evaluated for the purpose of requesting NLCIDs for the soil cuttings IDW stream. This evaluation indicated no constituent concentrations that exhibited characteristics of hazardous waste per 40 CFR Part 261 Subpart C, no hazardous constituents as defined in Part 268.2(i) in excess of 40 CFR Part 268.40 or 268.48 regulatory limits, and no F001 or F002 listed hazardous waste constituents above the 40 CFR Part 268.40 concentration based treatment standards.

#### 4.1.1.1 Inorganic Data

Chemical analytical data for 34 inorganic analytes were evaluated in soil samples from the 18 soil borings as part of the 200 Area Phase II investigation. Table 4.1 summarizes the range of concentrations reported for each of the analytes and compares them to: 1) the range established for the WSTF soil background study (NASA, 2014a); 2) ranges identified in background samples from the 1987 and 1995 soil boring investigations in the 200 Area (NASA, 1996); 3) the range of concentrations reported for the analytes in soils from a regional background perspective (Shacklette and Boerngen, 1984); and, 4) NMED residential SSLs (NMED, 2014d).

Analytical results from 200 Area soil samples were compared to results from samples collected in WSTF "Soil Background Study Area #3," located approximately 2,000 ft (609.6 m) to the east of the 200 Area. This area is located topographically upgradient from the 200 Area Phase II investigation near a firebreak road at the foothills of the southern SAM (Figure 2.1). A total of 12 soil samples were collected for the background study from shallow depths of up to 10 ft (3.1 m) bgs, which is approximately 35% of the soil chemical sample size collected for the Phase II investigation. The range of concentrations for all analytes evaluated for the 200 Area Phase II soil samples is comparable to the range for soil background study soil samples (Table 4.1). The maximum concentration for 29 of the 34 inorganic analytes was below the maximum concentration in soil background study samples. The five exceptions were for the following analytes:

- cadmium (0.95 mg/kg maximum from Phase II, 0.63 mg/kg maximum from background);

- chromium (49.7 mg/kg maximum from Phase II, 9.2 mg/kg maximum from background);
- cyanide (0.19 mg/kg maximum from Phase II, 0.16 mg/kg maximum from background);
- nitrate/nitrite (11.1 mg/kg maximum from Phase II, 3.5 mg/kg maximum from background); and,
- potassium (3,560 mg/kg maximum from Phase II, 3,510 mg/kg maximum from background).

These maximum concentrations for the five analytes exceeded (but remained comparable in magnitude to) the background sample concentrations. Higher concentrations for selected analytes are not unexpected, given that the number of Phase II samples (34) significantly exceeds the number of background samples (12).

Of these five inorganic analytes detected above background concentrations, the maximum value for chromium (49.7 mg/kg) appears to be significantly higher in the Phase II soil sample suite than the background soil sample (9.2 mg/kg). However, the chromium concentration does fall within the range for regional background (Shacklette and Boerngen, 1984). This concentration was identified at a depth of 88 ft (26.8 m) bgs within soil boring 200-SB-17. This peripheral 200 Area boring is located approximately 1,500 ft (457 m) west of the industrialized 200 Area at an undeveloped location. Chromium is typically found in association with copper, which has been reported in abundance in the mineral deposits of the southern SAM located adjacent and east of WSTF. This area is the primary source for alluvial fan materials of the 200 Area.

The ranges of soil sample RCRA metal results for the 200 Area Phase II soil samples were also compared to the ranges obtained for historic background soil samples collected in 1987 and 1995 for the RFI (NASA, 1996; Table 4.1). The concentration ranges for the eight RCRA metals common to the two separate datasets were found to be compatible. The one exception in the datasets is the unusually high concentration of lead of 2,420 mg/kg obtained from a 1995 background soil boring sample, which significantly exceeds the 200 Area Phase II maximum concentration of 14.1 mg/kg. Elevated concentrations of lead are common throughout soils adjacent to the southern SAM. Lead occurs as a product of intrusive metamorphism within the area, and the “outer lead zone” includes the Bear Canyon area to the east of WSTFthat sources much of the alluvial fan deposits of the 200 Area (Seager, 1981).

The 200 Area Phase II inorganic analyte concentration ranges were also compared to regional concentrations ranges in the conterminous United States (Schackette and Boerngen, 1984; Table 4.1). Concentration ranges for 25 of the analytes evaluated for the 200 Area Phase II investigation are presented in mg/kg (parts per million) for samples across the United States, with the greatest abundance and highest concentrations for heavy metals occuring within surface materials from the Western United States. All 25 of the analytes evaluated for the 200 Area Phase II investigation fall well within the regional concentration ranges for the surficial soil materials.

#### 4.1.1.2 Volatile Organic Compound Data

A summary of the VOC detections in 200 Area Phase II soil samples is provided in Table 4.2. Detections within the soil samples were limited to four compounds. The detections were below NMED construction worker, industrial/occupational, and residential (the most conservative) SSLs, where available, for the four compounds (NMED, 2014d).

- Acetone: detected in 14 soil samples at concentrations between 0.54 and 15 µg/kg (0.00054 – 0.015 mg/kg). The NMED residential SSL is 66,300 mg/kg.

- Toluene: detected in 13 soil samples at concentrations between 1 and 3.4 µg/kg (0.0001 – 0.0034 mg/kg). The NMED residential SSL is 5,230 mg/kg.

- Chloromethane: detected in one soil sample at a concentration of 0.54 µg/kg (0.00054 mg/kg). The NMED residential SSL is 41.1 mg/kg.

- Dichloromethane (methylene chloride): detected in one soil sample at concentration of 0.75 µg/kg (0.00075 mg/kg). The NMED residential SSL is 409 mg/kg.

#### 4.1.1.3 Perfluorocarbon Data

The former GOx Impact Area burn pit location on the east side of Building 203 was investigated with the installation of soil boring 200-SB-GOx. Two soil samples were collected using HSA drilling equipment at depths of 5 to 7 ft (1.5 – 2.1 m) and 10 to 12 ft (3.1 – 3.7 m) bgs. A soil sampling depth of slightly over 10 ft (3.1 m) was deemed acceptable by NMED (NMED, 2013a). The samples were analyzed for perfluorocarbons using EPA Method 3550B. Perfluorooctanoic acid and perfluorooctane sulfonate were not detected (ND) above the method detection limits of 0.2 ng/g and 0.06 ng/g, respectively (Appendix E).

### 4.1.2 Soil Geotechnical Analytical Results

The following sections describe the analytical results for geotechnical tests conducted on 20 soil samples collected during the investigation. Appendix F presents two DBS&A laboratory reports, dated August 20, 2014 and November 14, 2014, which provide sample notes, geotechnical tests and methods utilized, and a detailed presentation of all geotechnical results generated from the analyses. A summary of the geotechnical soil sample results is provided in Table 4.3. Soil geotechnical parameters are of value in identifying any soil characteristics that indicate the potential for retention of contaminants within the vadose zone.

#### 4.1.2.1 Size Characteristics and Soil Classification

Twenty samples were analyzed for particle size distribution. The results of the Atterberg limits testing were combined with the particle size analysis results to obtain Unified Soil Classification System (USCS) classifications. With the exception of the sample from 200-SB-21 (32 to 33 ft [9.8 – 10.1 m]), all samples were subjected to Atterberg limits (liquid limit and plastic limit) testing used to classify fine textured soils that exhibit plastic behavior.

Soil samples were classified using the USCS. Particle size distribution data are summarized in Table 4.3, with the percentage of each soil that falls within a USCS size category (gravel, sand, silt, and clay) listed. The $d_{10}$, $d_{50}$, and $d_{60}$ values are the particle diameters that are larger than 10, 50, and 60 percent of the weight of the sample, respectively. The coefficient of uniformity and coefficient of curvature parameters are calculated from the d# values and are used in the USCS system for assigning a clean gravel or sand to a group based on the degree of grading of the soil (well graded or poorly graded). A particle-size distribution curve for each soil sample is located in Appendix F.

Based on assignment of soil samples to USCS Groups, the 20 soil samples characterized in order from coarse to fine texture are:

- Various poorly-graded to well-graded gravels with a finer grained matrix (GW-GM, GP-GM, GW-GC, GP-GC, GC, GM, and GP) with between 47.1 and 89.4 percent gravel = 14 samples.

- Various poorly-graded to well-graded sands with lesser amounts of gravels, silt and clay in the matrix (SP-SM, SC-SM, SM, and SW) with between 34.7 and 78.7 percent sand = 4 samples.

- Silt to sandy silt with lesser amounts of gravel, sand, and clay with between 60.0 and 64.7 percent silt = 2 samples.

The majority of the soil samples that were collected were extremely coarse and classified primarily as gravels. This classification supports the lithologic field observations and explains the difficulties described regarding the recovery of coarse-grained gravel samples. The coarse grained and generally unsorted nature of the soil samples also results in significant porosity within the samples, which is conducive to the infiltration of contaminants in solute form through the vadose zone. The soil lab report (Appendix F) included classification of the soil samples using the USDA SCS in addition to the USCS classification. The USDA SCS applies only to the soil fraction finer than 2 millimeters (mm) and corresponds to the medium sand and finer fraction in the USCS classification scheme. Of the 20 samples analyzed, all but two had a significant coarse fraction. Given the relatively large coarse-grained fraction, the USDA SCS was not particularly applicable to these soils.

Atterberg limits were determined for four samples that were relatively fine-textured and exhibited plastic behavior: 200-SB-07 (47 to 49 ft [14.3 – 14.9 m]); 200-SB-10 (16 to 18 ft [4.9 – 5.5 m]); 200-SB-18 (48-to-50 ft [14.6 – 15.2 m]); and, 200-SB-18 (88-to-90 ft [26.8 – 27.4 m]). The remaining samples were coarse-textured (gravel and sand) with a fine (silt) component. Based on visual-manual classification in the laboratory, the fine fraction of these samples was determined to be non-plastic, and the fine fraction could be classified without measuring Atterberg limits. The plasticity index (PI) is a measure of the plasticity of a soil and is the difference between the liquid limit and the plastic limit. The two samples with the highest PIs were 200-SB-18 (48 to 50 ft [14.6 – 15.2 m]; PI = 10) and 200-SB-18 (88-to-90 ft [26.8 – 27.4 m]; PI = 17) and displayed the greatest characteristics of a clay.

#### 4.1.2.2 Moisture Content, Density, and Porosity

Fifteen of the geotechnical samples were analyzed for mass/volume relationships (gravimetric and volumetric moisture, dry and wet bulk density, and porosity). These samples were primarily coarse textured (gravel and sand) with a fine (silt) component. The five remaining samples, from 200-SB-12 (8 to 10 ft [2.4 – 3.1 m]), 200-SB-15 (66-to-68 ft [20.1 – 20.7 m]), 200-SB-15 (98-to-100 ft [29.9 – 30.5 m]), 200-SB-18 (48-to-50 ft [14.6 – 15.2 m]), and 200-SB-18 (58-to-60 ft [17.7 – 18.3 m]) were not analyzed for mass/volume relationships or hydraulic properties, as not enough material was present for the laboratory to perform a remold of these bagged samples.

The gravimetric and volumetric moisture content, dry and wet bulk density, and porosity parameters are summarized in Table 4.3. With the exception of the relatively fine-textured samples from 200-SB-15 (8 to 10 ft [2.4 – 3.1 m]) and 200-SB-16 (18 to 20 ft [5.5 – 6.1 m]), there was relatively little variation in these parameter values between samples. The fine-textured samples were slightly moister, and had a lower bulk density and higher porosity than the coarser-textured samples. Coarse-texture samples at other locations may be biased low as a result of drying due to elevated temperatures generated during sample collection.

Gravimetric moisture contents ranged from 1.2 to 9.9 percent, and volumetric moisture contents from 2.0 to 19.6 percent. The highest moisture values were identified in the sample at 200-SB-10 (16 to 18 ft [4.9 – 5.5 m]). This soil boring was located within the unlined drainage ditch adjacent to Building 803 and was subject to increased runoff and infiltration during precipitation events that occurred during the June 2014 fieldwork. Dry bulk density ranged from 1.35 to 1.98 g/cm$^3$ and wet bulk density from 1.44 to 2.17 g/cm$^3$; the maximum values were again associated with the sample located at 100-SB-10 (16 to 18 ft [4.9 – 5.5 m]). The calculated porosities were high and ranged from 25.3 to 49.0 percent. The highest porosity

values were associated with the finer-grained sandy silt (ML) at 200-SB-15 (8 to 10 ft [2.4 – 3.1 m]; 48.3 percent) and silt with sand (ML) at 200-SB-16 (18 to 20 ft [5.5 – 6.1 m]; 49.0%).

#### 4.1.2.3 Saturated Hydraulic Conductivity

Fifteen of the geotechnical samples were analyzed for hydraulic properties (saturated hydraulic conductivity, unsaturated hydraulic conductivity, and moisture retention), and the results are summarized in Table 4.3. Saturated hydraulic conductivity for the samples ranged from 2.9 $E^{-5}$ to 2.9 $E^{-1}$ cm/s for the coarse textured samples. The lowest saturated hydraulic conductivity was for the sample at 200-SB-18 (88-to-90 ft [26.8 – 27.4 m]), classified as a clayey gravel with sand (GC). The presence of a relatively high clay fraction (15.7%) in this sample demonstrates the limiting effect that the fine fraction of a soil has on hydraulic conductivity.

#### 4.1.2.4 Unsaturated Hydraulic Conductivity

The unsaturated hydraulic conductivity properties as a function of water content was calculated for each sample (Table 4.3) using the values of volumetric water content at saturation (θs) and at residual water content (θr), curve-fitting parameters, α and n, and a relationship developed by van Genuchten (1980). Results of these calculations for each sample is provided in the soil laboratory reports in Appendix F. A complete description of unsaturated hydraulic conductivity determination, and plots of unsaturated hydraulic conductivity and relative hydraulic conductivity as a function of moisture content and pressure are also provided in the reports.

## 4.2 Bedrock Matrix

All core sample depths and the data related to the rock core analytical results recorded within fractured bedrock are provided in the 200 Area Matrix Diffusion Data Report (Appendix B). This report includes a separate report provided by Stone, the subcontractor who managed all activities related to the CORE$^{DFN}$ process, which documented the evaluation of bedrock cores from individual sample collection through laboratory analyses.

The concentrations of the analytes extracted from core samples into methanol were measured using gas chromatography/mass spectrometry (SW-846 Method 8260C) and reported as µg/L in methanol. The analyte concentrations in the bulk rock sample were then calculated in µg/kg using the analysis of the methanol extract, mass of crushed rock in sample, and the volume of methanol. Reporting limits (RLs) were calculated for each sample by setting the concentration of analytes extracted into methanol to the respective values for each analyte. For samples where analyte concentrations are between the method detection limit and the RL, an estimated value was assigned and the results flagged with a “J” flag. The bulk rock VOC concentrations were then converted to matrix pore water concentrations in µg/L using the wet rock bulk density in g/cm$^3$; the dry rock bulk density in g/cm$^3$; matrix porosity, a unitless factor; and the soil-water partitioning coefficient in mL/g (Appendix B). The data acquired during the CORE$^{DFN}$ process included VOC concentrations in rock core samples (in µg/kg), estimates of pore water concentrations (in µg/L), results for equipment blanks (EBs), TBs, WBs and MBs, and results for FD samples and their corresponding parent samples.

### 4.2.1 Physical Property Samples

The values for porosity, bulk density, and fraction of organic carbon used to estimate matrix pore water concentrations are based on the nearest physical property sample, or the one that most closely reflected the lithology of the VOC sample. Fifteen intact core samples from boreholes installed adjacent to the former Clean Room tank HWMU (200-SB-06) and through the former Chemistry Lab tanks (200-SB-07) were analyzed for physical properties (bulk density, porosity, and organic carbon content) and were used

in conjunction with VOC data for phase partitioning calculations to estimate rock pore water concentrations. The bedrock encountered in the two boreholes (200-SB-06 and 200-SB-07) was predominantly Permian Hueco limestone and shaley limestone with intercalated zones of Abo Formation mudstone, which was most predominant in the upper portion of borehole 200-SB-07. The physical properties sample results obtained for boreholes 200-SB-06 and 200-SB-07 are within the anticipated range for limestone, silty limestone, and siltstone lithologies. Fracturing in both boreholes varied from narrow hairline (<0.01 in) fractures to wider brecciated zones up to several inches thick. A summary of the physical properties analyses are presented in Appendix B.

Total porosity is the ratio of the pore volume to the total volume of the representative sample. Porosity is a dimensionless quantity and can be reported as a decimal fraction or percentage. The average porosity for core samples was 0.06 or 6%, which falls within the range of the porosity used for limestone in groundwater modeling at WSTF. The water content (average 2.16%), wet bulk density (average 2.63 g/cm3), dry bulk density (average 2.58 g/cm3), specific gravity (average 2.75), and TOC content (average 0.15%) were all within normal ranges for limestone.

Physical properties sample results (wet rock bulk density, dry rock bulk density, matrix porosity, and TOC) were input parameters to the phase partitioning equation for the estimated pore water concentration calculations (Appendix B). Matrix porosity (or primary porosity) was assumed to be 100% saturated. The physical property values used to estimate pore water concentrations were based on the nearest physical sample collected.

### 4.2.2 VOC Samples

Following the field collection of rock cores, the core samples were photographed and logged by recording information about the features observed in the rock, particularly the location and orientation (angle) of individual fractures, rubble, friable zones, and fracture zones. This information is useful when evaluating whether VOC concentrations were associated with zones of relative fracture abundance, and provides an understanding of the relationship between VOC concentrations and lithological features.

Plots showing the estimated pore water concentrations for four VOCs (Freon 113, PCE, TCE, and Freon 11) and information about lithological features, recovery, and rock quality determination (RQD) were plotted against depth, for boreholes 200-SB-06 and 200-SB-07 (Appendix B). The approximate depth to water observed within MSVGM wells installed within the boreholes following the study is also provided on the plots.

### 4.2.3 Field Blank and Duplicate Samples

Blank and duplicate results, including EBs, MBs, WBs, and TBs, are provided in Appendix B. Comparisons were made for 12 field samples (six each from 200-SB-06 and 200-SB-07) with corresponding FD samples. Variability within these samples can be attributed to the difficulty in collecting true duplicates, given the spatial variability in concentrations and rock matrix properties expected at the scale of subsampling. Field duplicates also test and reflect the repeatability of the entire sample process, extraction and analytical procedures, and thus are expected to show more variability than lab duplicates.

### 4.2.4 Bedrock Matrix Analytical Results

The results of the 200 Area matrix diffusion study were used to evaluate the nature and distribution of residual VOC contamination within the fractured limestone bedrock vadose zone. The analytical results for VOC concentrations from the 268 rock core samples are provided in Appendix B. A summary of the detected VOC concentrations are provided in Table 4.4. A total of 20 VOCs were evaluated in bedrock,

though the following 10 were either ND or were detected only once within the entire sample suite from both boreholes:

- 1,1-dichloroethene
- methylene chloride
- t-butyl-methyl ether
- chloroform
- 1,1,1,-trichloroethane
- 1,2-dichloroethane
- bromodichloromethane
- dibromochloromethane
- chlorobenzene, and;
- bromoform.

Ten VOCs (all of which were presented on the list of COPCs provided in the matrix diffusion IWP [NASA, 2014c]) were detected more than once (Table 4.4). Detections were identified on an irregular basis throughout the core section in association with selected individual fractures and fracture zones within the limestone bedrock. The majority of VOC detections were identified from the former Clean Room tank borehole 200-SB-06. For both boreholes, maximum VOC detections were observed from locations adjacent to or below the water table. In the absence of any regulatory cleanup standards for VOCs in fractured rock, residential NMED SSLs are listed in Table 4.4 for reference, although direct comparisons between the two diferent types of media have limited value (Seth Pitkin [Stone Environmental, Inc.], personal communication, November 14, 2014). Rock core concentrations for all detected VOCs were typically orders of magnitude below the corresponding New Mexico SSLs.

#### 4.2.4.1 Freon 11

Freon 11 was reportedly discharged in the 200 Area (NASA, 2012a) and is the only contaminant that was more abundant in borehole 200-SB-07 at the Chemistry Laboratory tanks (10.9% of samples) than in 200-SB-06 at the Clean Room tanks (1.4% of samples; Table 4.4). Occurrences were corresponded with fracture locations, were variable in magnitude, and almost entirely observed at a depth below the static water table and vadose zone. The maximum concentrations for Freon 11 (107 µg/kg in 200-SB-06 at 187.4 ft [57.1 m] bgs and 960 µg/kg in 200-SB-07 at 143.9 ft bgs [43.9 m]) both occurred near or below the estimated depth to the capillary fringe/water table during drilling, and could potentially have a groundwater source. The average detected concentrations for Freon 11 in the two boreholes were 77.0 µg/kg in 200-SB-06 and 139.4 µg/kg in 200-SB-07.

#### 4.2.4.2 Chloromethane

Chloromethane was detected in a large number of rock core samples compared to the other VOCs; 58.3% of samples in 200-SB-06 and 9.3% of samples in 200-SB-07 (Table 4.4). Concentrations consistently occurred within a relatively narrow range; 67.7 µg/kg maximum and 28.8 µg/kg average in 200-SB-06 and 56.7 µg/kg maximum and 29.7 µg/kg average in 200-SB-07. Chloromethane was also detected

regularly (18 times) in TBs and EBs (Appendix B), and is commonly encountered as a laboratory contaminant.

#### 4.2.4.3 Freon 113

Freon 113 is known to have been discharged in the 200 Area and is one of the most common contaminants present within the WSTF groundwater contaminant plume. It is more abundant in core from borehole 200-SB-06 adjacent to the former Clean Room tanks and was detected in 36.0% of samples as opposed to only 14.7% of samples in core from 200-SB-07 (Table 4.4). Occurrences were irregular in location and concentration. The maximum concentrations for Freon 113 in each borehole (4,270 µg/kg in 200-SB-06 at 158.0 ft [41.2 m] bgs and 2,480 µg/kg in 200-SB-07 at 143.9 ft [43.9 m] bgs) were both reported at locations proximal to the estimated depth of the water table (which can fluctuate by up to several ft in depth based on seasonal variations) and could have a groundwater source. The average detected concentrations for Freon 113 in the two boreholes were an order of magnitude below the maximum value for each borehole.

#### 4.2.4.4 2-Butanone

2-Butanone was detected in a relatively small number of samples in both boreholes (5.8% in 200-SB-06 and 4.7% in 200-SB-07; Table 4.4). The number of detections, maximum concentrations (554 µg/kg at 76.1 ft [23.2 m] bgs in 200-SB-06 and 475 µg/kg at 67.6 ft [20.6 m] bgs in 200-SB-07), average concentrations (294.6 µg/kg in 200-SB-06 and 234.2 µg/kg in 200-SB-07), and maximum concentration detection locations were similar for both boreholes, and lacked any of the irregularity seen with the more historically prevalent VOCs identified in the rock matrix. 2-Butanone was detected in two of the WBs for methanol used for the decontamination of crushing equipment.

#### 4.2.4.5 Benzene

Benzene was predominantly detected in 200-SB-06 (36.0% of samples) as opposed to 10.1% of samples in 200-SB-07 (Table 4.4). Benzene concentrations were also correspondingly higher in 200-SB-06 (8,330 µg/kg maximum and 249.1 µg/kg average) than in 200-SB-07 (118 µg/kg maximum and 19.1 µg/kg average).

#### 4.2.4.6 TCE

TCE is one of the primary COCs associated with the 200 Area and displayed historical highs in WSTF groundwater at the 200-D well cluster in the early to mid-1990s. It was reported more frequently in 200-SB-06 (41.0% of samples) than 200-SB-07 (6.2% of samples; Table 4.4). The maximum measured value of TCE was 2,350 µg/kg at 108.5 ft (33.1 m) bgs in 200-SB-06 (Appendix B; Figure 12). TCE was found at significantly lower concentrations in 200-SB-07 (maximum 35.5 µg/kg, 25.7 µg/kg average). Occurrences were irregular in depth and highly variable in magnitude, and the maximum detection was within the same order of magnitude as the residential NMED SSL of 6,770 µg/kg (6.77 mg/kg). The maximum concentrations for TCE occurred at a location above the water table in 200-SB-06, which suggests potential residual TCE contamination in the fractured bedrock vadose zone.

#### 4.2.4.7 Toluene

Toluene was detected in 200-SB-06 in 20.8% of samples and at 200-SB-07 in 16.0% of samples. Toluene concentrations were also correspondingly higher in 200-SB-06 (2,180 µg/kg maximum and 203.7 µg/kg average) than in 200-SB-07 (218 µg/kg maximum and 37.4 µg/kg average). The irregular occurrence and concentrations for toluene frequently coincided with benzene, and the detection of maximum concentrations for both compounds were from the same fractures (174.1 ft [53.1 m] bgs in 200-SB-06 and

115.8 ft [35.3 m] bgs in 200-SB-07). This trend is believed to represent the release of the two individual solvents at the same locations based on information presented in the HIS (NASA, 2012a). The presence of these aromatics may serve to facilitate the degradation of TCE and PCE.

#### 4.2.4.8 1,1,2-Trichloroethane

1,1,2-Trichloroethane was detected in relatively few samples; 3.6% in 200-SB-06 and 0.8% in 200-SB-07 (Table 4.4). Concentrations were higher in 200-SB-06 (290 µg/kg maximum, 133.1 µg/kg average) than 200-SB-07 (only one detection at 35.1 µg/kg). The maximum concentrations were detected at locations below the water table within both boreholes (Table 4.4). Given the limited occurrence of this contaminant and the maximum concentrations below the water table, a groundwater source is probable.

#### 4.2.4.9 PCE

PCE was also used relatively frequently in the 200 Area, but was only detected in boring 200-SB-06 (adjacent to the former Clean Room tanks) in 13.6% of samples (Table 4.4). Concentrations were relatively low (91.5 µg/kg maximum and 50.4 µg/kg average). The maximum concentration was detected at a relatively shallow depth bgs (55.7 ft [17.0 m] bgs) indicating residual concentrations in the vadose zone.

#### 4.2.4.10 m,p,-Xylenes

The most commonly detected VOC was m,p,-xylenes (69.1% of the samples in 200-SB-06 and 39.5% of the samples in 200-SB-07, Table 4.4). Concentrations were consistent, but relatively low (199 µg/kg maximum and 17.0 µg/kg average in 200-SB-6 and 74.4 µg/kg maximum and 11.5 µg/kg average in 200-SB-07). The distribution of m,p,-xylenes was significantly more widespread than benzene and toluene, and m,p,-xylenes were also identified in one EB and two TBs. The m,p,-xylenes may be related in part to solvent releases in the 200 Area parking lots and/or possibly to the CORE$^{DFN}$ process.

### 4.2.5 Porewater Analytical Results

Estimated pore water concentrations were calculated for all rock core samples collected as part of the matrix diffusion study (Appendix B). Maximum and average equivalent pore water sample concentrations presented in µg/L were compared to the current maximum 200 Area groundwater concentrations for the 10 detected VOCs (Table 4.5).

Average concentrations for pore water exceeded the current maximum concentrations in 200 Area groundwater for all of the detected VOCs with the exception of Freon 113 in 200-SB-06 (average concentration 1,181 µg/L, maximum in groundwater 1,400 µg/L). Pore water is essentially immobile and will not flow directly into groundwater. Direct comparison to groundwater cleanup levels does not provide a valid comparison (Seth Pitkin [Stone Environmental, Inc.], personal communication, November 14, 2014). Groundwater cleanup levels should only apply to groundwater in fractures, where water is mobile. However, should groundwater in fractures somehow come in contact with this higher concentration pore water, there is the potential for some back diffusion from the rock matrix to the groundwater.

Logs that present the estimated pore water concentrations, sample position and features, angle of the feature from the horizontal, recovery, RQD (a quantitative measurement of the rock mass fractured state expressed as a percentage), and lithology were plotted against depth bgs for four of the primary COCs known to be present in the 200 Area. RQDs were important in determining the degree of bedrock fracturing. A lower RQD percentage reflects greater fracturing and fracture-related secondary porosity within the rock. A summary of these plots are provided in the following sections.

#### 4.2.5.1 Freon 11 Data Plots

Freon 11 data plots for 200-SB-06 and 200-SB-07 are provided in the matrix diffusion study report (Appendix B), within Stone Report (sub-Appendix A; Figure 4 and Figure 8, respectively). Freon 11 was detected in borehole 200-SB-06 in only two samples (1.4% of samples). Both detections were below the the water table, with the maximum pore water concentration of 150 µg/L identified in the sample from 158 ft (48.2 m) bgs. The discreet fracture is oriented at 40 degrees from the horizontal within a section of competent core with an RQD of 90% at a depth bgs approximately coincident with the water table.

Borehole 200-SB-07 showed detections of Freon 11 in 10.9% of samples. The detections were irregular and primarily located in the interval between 105 and 165 ft (32.0 – 50.3 m) bgs. Detections typically occurred along fractures with angles of 10 to 45 degrees from the horizontal. The maximum pore water concentration was 43,000 µg/L at 143.9 ft (43.9 m) bgs, identified along a rubble zone with a fracture angle of 30 degrees, and located near the capillary fringe area of the vadose zone. The RQD in this area was reduced to 80%, in accordance with the rubble observed within the sample.

#### 4.2.5.2 Freon 113 Data Plots

Freon 113 data plots for 200-SB-06 and 200-SB-07 are provided in the matrix diffusion study report (Appendix B; sub-Appendix A; Figure 1 and Figure 5, respectively). Freon 113 was detected in 36.0% of samples in borehole 200-SB-06, primarily located above the water table in the interval between 55 and 114 ft (16.8 – 34.8 m) bgs. Sample locations corresponded to visible fractures, series of fractures, or rubble zones logged in the limestone section. Fracture angles were variable, and most commonly 15 to 45 degrees from the horizontal. The maximum pore water concentration of 4,700 µg/L was identified in a sample from 73.1 ft (22.3 m) bgs along a single fracture just below a rubble zone. This sample was from a core run with a moderate RQD of 60%.

Freon 113 was detected in 14.7% of samples from borehole 200-SB-07; located primarily in the interval between 105 and 172 ft (32.0 – 52.4 m) bgs. Detections typically occurred along fractures with angles of 10 to 40 degrees from the horizontal. The maximum pore water concentration was 52,000 µg/L at 143.9 ft (43.9 m) bgs, identified along a rubble zone with a fracture angle of 30 degrees, and located in the vicinity of the groundwater table. The distribution of Freon 113 and Freon 11 and occurrence of the maximum concentrations within the same sample suggest a common source for the two contaminants.

#### 4.2.5.3 TCE Data Plots

Comparison of TCE data plots for 200-SB-06 and 200-SB-07 (Appendix B; sub-Appendix A, Figure 3 and Figure 7, respectively) indicate that TCE is more prevalent in 200-SB-06, where it was detected in 41.0% of rock core samples. Detections were primarily located within the shallow vadose zone between 20 and 76 ft (6.1 – 23.2 m) bgs, and continued irregularly to a depth of 127 ft (38.7 m) bgs. Sample locations corresponded to visible fractures, series of fractures, or rubble zones within the limestone section. Fracture angles were variable, and most commonly 20 to 40 degrees from the horizontal. The maximum pore water concentration was identified within a fracture at 108.5 ft (33.1 m) bgs (Appendix B; Figure 12). This concentration was associated with an isolated 30 degree fracture in a competent core run with an RQD of 90%.

Borehole 200-SB-07 showed detections of TCE in 6.2% of samples. These occurred sporadically in the interval between 62 and 150 ft (18.9 – 45.7 m) bgs. The majority of detections occurred within shallowly dipping rubble zones. The maximum pore water concentration of 1,800 µg/L at 149.9 ft (45.7 m) bgs was identified within a rubble zone approximately coincident with the capillary fringe above the water table. The reported RQD for the corresponding core run was relatively low at 50%.

#### 4.2.5.4 PCE Data Plots

Comparison of PCE data plots for 200-SB-06 and 200-SB-07 (Appendix B; sub-Appendix A, Figure 2 and Figure 6, respectively) show that PCE was detected only within borehole 200-SB-06 in 13.6% of rock core samples and is associated exclusively with the former Clean Room tanks. Similar to TCE, PCE detections were primarily located in the shallow vadose zone between 26 and 68 ft (7.9 – 20.7 m) bgs. PCE detections only occurred in samples collected from rock matrix that was located adjacent to a fracture. Fracture angles were variable, and most commonly 20 to 40 degrees from the horizontal. The maximum pore water concentration of 360 µg/L was identified within a rubble zone at 35.8 ft (10.9 m) bgs. The rubble zone was reported as a near vertical (90 degrees from horizontal) feature within a moderate quality core run with an RQD of 70%.

## 4.3 Soil Vapor

The 200 Area Phase II IWP (NASA, 2013e) required a comprehensive soil vapor evaluation for all new and existing soil vapor wells within and surrounding the 200 Area following the installation of the 200 Area Phase II investigation wells. Soil vapor grab samples were collected from all accessible ports from in MSVM and MSVGM wells in the 100, 200, and 600 Areas, and groundwater samples were collected from all MSVGM wells and selected groundwater monitoring wells. These samples were compared to 1) the calculated concentration for soil vapor in equilibrium with groundwater; 2) NASA proposed site-specific regulatory criteria for soil vapor based on contaminant concentrations, attenuation factors, and potential receptors (NASA, 2012b); and, 3) previous soil vapor sampling events for the existing wells.

A list of the existing MSVM and MSVGM wells in the 100 and 200 Areas and at the 600 Area Closure that are sampled according to previous semi-annual soil vapor monitoring events are provided in the 200/600 Area Semi-annual Soil Vapor and Groundwater Data Summary (NASA, 2013c). The comprehensive sampling event was performed approximately eight weeks after completion of the Phase II investigation soil vapor well installations to allow time for initial well development and equilibration of the vapor ports with ambient vadose zone conditions. A total of 32 wells were sampled during the comprehensive soil vapor sampling event as follows (Table 4.6):

- Seventeen new 200 Area wells (MSVM wells 200-SV-05, 200-SV-08 through 200-SV-21, and MSVGM wells 200-LV-150 (formerly 200-SB-06) 200-KV-150 (formerly 200-SB-07);
- Six previously installed MSVGM wells located within GSA in the 200 Area (200-SG-1, 200-SG-2, 200-SG-3, and 200-SG-4) and between the 200 Area and 600 Area Closure (100-HG-139, and 200-JG-110); and,
- Nine previously installed MSVM wells located in the vicinity of the 600 Area Closure (600-SGW-1 through 600-SGW-9).

Two soil vapor ports within the new 200 Area Phase II MSVGM wells were blocked and unavailable for sampling during initial port development activities (Table 4.6). These ports were located in well 200-KV-150 at 89 ft (27.1 m) and well 200-LV-150 at 34 ft (10.4 m).

### 4.3.1 Analytical Data Collection

Soil vapor samples were collected from the soil vapor monitoring well network between October 7 and October 9, 2014 in laboratory-evacuated 1-liter Summa canisters according to WSTF site-specific soil

vapor sampling procedures. MSVM and MSVGM soil vapor well sample ports were purged immediately prior to sampling using a LANDTEC GEM2000+™[8] monitor.

A total of 87 soil vapor ports were sampled within the 32 MSVM and MSVGM wells (Table 4.7). Thirty-six soil vapor ports were sampled for VOCs in the 17 new 200 Area Phase II wells located on HWMUs, SWMUs, and AOIs. Sixteen existing soil vapor ports were sampled from six wells in the GSA area and between the 200 Area and 600 Area Closure. Thirty-five soil vapor ports were sampled from the nine wells at the 600 Area Closure (600-SGW-1 through 600-SGW-9). The samples were shipped to the ALS Environmental Laboratory (ALS) in Simi Valley, CA on October 15, 2014 by overnight carrier for the analysis of VOCs by EPA Method TO-15. Upon receipt of the samples, the ALS laboratory rejected two of the vapor samples; one sample canister had leaked (600-SGW-9-40'), and one sample was filled incorrectly and showed a negative pressure reading (200-KV-150-59').

Groundwater samples from MSVGM wells in the area were collected specifically for the 200 Area Phase II investigation. Seven MSVGM wells (100-HG-139; 200-JG-110; 200-KV-150; 200-LV-150; 200-SG-1; 200-SG-2; 200-SG-3; and, 200-JG-110) were sampled in conjunction with the soil vapor samples: to allow a relatively direct (contemporaneous) comparison between soil vapor and groundwater (Table 4.7).

### 4.3.2 Soil Vapor Analytical Results

Soil vapor chemical analytical results are provided in Appendix G. Samples collected included quality control samples in the form of duplicates, FBs, and TBs. A list of the soil vapor analytes evaluated using EPA Method TO-15 and the range of concentrations for detected VOCs reported for the comprehensive sampling event is presented in Table 4.8. A total of 64 VOCs were evaluated, with detections reported for 23 of the compounds.

Concentrations for soil vapor exceeded 1 x $10^2$ µg/kg for 15 VOCs: toluene; hexane; PCE; 2,2,4-trimethylpentane; 2-Propanol; acetone; chloroform; benzene; methylene chloride; carbon disulfide; Freon 11; Freon 12; Freon 113; and TCE. The majority of these compounds are included on the list of COPCs provided in the 200 Area Phase II IWP (NASA, 2013e). With the exception of chloroform and TCE, detections of these VOCs were also found in sample blanks, generally at much lower concentrations.

Four VOCs from the list were selected for detailed evaluation (Freon 11 (maximum detection - 30,000 µg/kg), Freon 113 (maximum detection - 6,600,000 µg/kg), TCE (maximum detection - 380,000 µg/kg), and PCE (maximum detection - 42,000 µg/kg); based on their documented release reported in the 200 Area HIS (NASA 2012a), widespread occurrence in WSTF groundwater, and relatively elevated concentrations reported for the comprehensive soil vapor sampling event. These four VOCs also represent the contaminants analyzed in detail for the matrix diffusion sections of the 200 Area Phase II investigation. TCE is of particular interest due to the increased health-risk concern associated with this contaminant.

A summary of soil vapor analytical results for Freon 11, Freon 113, TCE, and PCE for the soil vapor samples collected from the 32 MSVM and MSVGM wells in the 100, 200, and 600 Areas is provided in Table 4.9. The soil vapor results are discussed below by well group and installation date as follows: 200 Area Phase II wells (installed 2014); existing 100 Area and 200 Area wells (installed 1997 - 2011); and, 600 Area Closure wells (installed 2009). VOC concentrations in soil vapor and groundwater for all wells within and surrounding the 200 Area in Table 4.9 were compared for this investigation using Henry's Law to calculate the soil vapor concentrations for each constituent that would be in equilibrium with measured groundwater concentrations. The Henry's Law calculation was performed by multiplying the groundwater concentration in units of µg/L by 1,000 to convert to units of µg/$m^3$, and then

[8] GEM2000+™ is a registered trademark of LANDTEC North America.

multiplying by the Henry's Law coefficient for that compound to yield a vapor phase concentration in units of µg/m$^3$. The Henry's Law coefficients utilized for the calculations were taken from the latest NMED risk assessment guidance (NMED, 2014d).

#### 4.3.2.1 200 Area Phase II Wells

Soil vapor concentrations were elevated within the 200 Area Phase II wells compared to the other wells sampled as part of the comprehensive soil vapor sampling event. Because two or more soil vapor ports were accessible and sampled within 13 of the 17 wells, a generalized vertical delineation of soil vapor was evident. Of the 13 wells where vertical delineation could be assessed, nine (or approximately 70%) showed the highest concentrations of soil vapor in the deepest (and most proximal to the groundwater table) vapor port.

Freon 11 was detected in 15 of the 17 wells at concentrations between 22 and 30,000 µg/kg. The maximum concentration was reported at 200-SV-16 (99 ft [30.2 m]) within the deepest port. Freon 113 is widespread and was identified in all of the soil vapor wells at concentrations between 750 and 6,600,000 µg/kg. The maximum Freon 113 concentration was identified in 200-LV-150 (64 ft [19.5 m]) below the location of the former Clean Room Tank HWMU (200 Area West Closure), where the highest concentrations for three of the four focus compounds evaluated as part of the comprehensive soil vapor sampling event were located. TCE was identified in 16 of the 17 wells at concentrations between 20 and 380,000 µg/kg. The maximum TCE concentration was identified in well 200-LV-150 (64 ft [19.5 m]) in the same port as the Freon 113 concentration. PCE was identified in 11 of the 17 wells at concentrations between 3.1 and 42,000 µg/kg. The maximum concentration was again identified at 200-LV-150, but within the deeper (84 ft [25.6 m]) of the two ports sampled.

#### 4.3.2.2 Existing 100 Area and 200 Area Wells

Soil vapor concentrations within six existing 100 and 200 Area wells located between the 200 Area and 600 Area Closure were lower than concentrations in the new 200 Area Phase II wells, and higher than concentrations in the 600 Area Closure wells (Table 4.9). The existing 100 and 200 Area wells lie downgradient of the 200 Area and upgradient of the 600 Area Closure relative to the conceptualized groundwater flow regime. The range of VOC concentrations reported for the existing 100 and 200 Area wells are within the range previously reported for the same wells (NASA, 2013c). Five of the six wells contained more than one accessible vapor port and provided a generalized vertical delineation of soil vapor. The five wells available for vertical delineation contained the highest vapor concentrations either within the deepest vapor port (relatively proximal to the groundwater table), or the port directly above the deepest port.

Freon 11 was identified within five of the six wells at concentrations between 10 and 9,200 µg/kg. The maximum concentration was reported at the deepest port in 200-SG-1 (122 ft [37.2 m]). MSVGM well 200-SG-1 is located within the well cluster that has historically shown some of the highest Freon and TCE groundwater concentrations at WSTF. Soil vapor and groundwater concentrations for these contaminants have been declining since the mid-1990s (NASA, 2013c). Freon 113 is widespread and was identified within all six of the soil vapor wells at concentrations between 2,200 and 4,400,000 µg/kg. The maximum concentration was identified in 200-SG-3 (90 ft [27.4 m]) located south of the South Highbay, where a surface Freon 113 discharge was observed by a WSTF employee in the early 1980s (HIS; NASA, 2012a). TCE was identified in all six wells at concentrations between 38 and 140,000 µg/kg. The maximum TCE concentration was also detected in well 200-SG-1 (90 ft [27.4 m]). PCE was identified in all six wells at concentrations between 9.2 and 12,000 µg/kg, with the maximum concentration again identified at 200-SG-1 (90 ft [27.4 m]).

#### 4.3.2.3 600 Area Closure Wells

Soil vapor concentrations in nine wells located on the 600 Area Closure were the lowest detected during the comprehensive soil vapor and groundwater survey (Table 4.9). The 600 Area Closure is located to the south of the inferred pathway for the groundwater plume that originates in the 200 Area. Groundwater concentrations are lower within this peripheral area of the plume. The 600 Area Closure is known to be a satellite source for groundwater contaminants based on historical operations, but concentrations in this area have always been lower than the 200 Area located upgradient and to the northeast (NASA, 2014e). The range of VOC concentrations reported for the 600 Area Closure wells are within the range previously reported for these wells (NASA, 2013c). Each of the nine wells contained more than one accessible vapor port and provided a generalized vertical delineation of soil vapor. The highest vapor concentrations in the nine wells available for vertical delineation were either within or directly above the deepest vapor sampling port.

Freon 11 was detected at concentrations between 1.4 and 1,200 µg/kg within six of the nine wells sampled. Freon 113 was detected within all nine wells at concentrations between 13 and 280,000 µg/kg; TCE was detected in the nine wells at concentrations between 5.5 and 15,000 µg/kg. Very low to negligible concentrations of PCE were detected in four of the nine wells at concentrations between 0.98 and 3.5 µg/kg. These low concentrations indicate a general absence of PCE in soil vapor at the 600 Area Closure.

MSVM well 600-SGW-5 is located adjacent to the east corner of the 600 Area Closure, where a localized occurrence of up to 3 ft (0.9 m) of perched contaminated groundwater has been identified on the top of the bedrock. This well displayed the maximum concentrations for three contaminants in the deepest port (137.5’); Freon 11 (1,200 µg/kg); Freon 113 (280,000 µg/kg); TCE (15,000 µg/kg). Well 600-G-138 was installed in 2011 to monitor the perched groundwater, and in 2013 groundwater extraction and treatment was implemented at this location.

#### 4.3.2.4 Overall Trends

Table 4.9 demonstrates that maximum soil vapor concentrations detected during the comprehensive soil vapor sampling event decrease from the 200 Area new wells southwest through the area covered by existing 100 Area and 200 wells and into the 600 Area Closure. The maximum soil vapor concentration for the 200 Area (typically in the vicinity of the former Clean Room Tank at 200-LV-150) is from 23 to 25 times higher than the maximum concentration for the 600 Area Closure for Freon 11, Freon 113, and TCE. Because PCE is essentially absent at the 600 Area Closure, the PCE concentration at 200-LV-150 is significantly higher.

The calculated concentration for soil vapor in equilibrium with the maximum measured groundwater concentrations (Table 4.9) are significantly higher for Freon 11 and Freon 113 than the maximum concentration for soil vapor measured within any of the wells. These calculated values represent the concentrations that might be expected within soil vapor measured directly above the groundwater table. The lower concentrations measured in the field may reflect the gradient that exists between the groundwater table and the lowermost port within each MSVM or MSVGM well.

The calculated concentration for soil vapor in equilibrium with the maximum measured groundwater concentrations for TCE and PCE (Table 4.9) are lower than the maximum concentrations observed within well 200-LV-150 at a depth of 64 ft bgs. This elevated TCE and PCE in soil vapor corresponds to the identification of relatively elevated concentration of the same contaminants in the vadose zone rock matrix at the same location (Section 4.2.4.6). With the exception of specific locations in the 200 Area near the former west Closure (Clean Room tanks), TCE and PCE soil vapor concentrations measured in

the field are typically lower than the corresponding calculated concentrations for soil vapor in equilibrium with the groundwater table, and decline with increasing distance above the groundwater table.

### 4.4 Groundwater

Groundwater samples were collected from the seven MSVGM wells located within and adjacent to the 200 Area (200-KV-150, 200-LV-150, 200-SG-1, 200-SG-2, 200-SG-3, 200-JG-110, and 100-HG-139) in conjunction with vadose zone soil vapor samples (Section 4.3). Results from recent groundwater samples from 17 other conventional or multi-port groundwater monitoring wells located in the vicinity of the 200 and 600 Areas (100-D-176, 600-G-138, 200-B-240, 200-C, 200-D-109, 200-D-240, 200-F, 200-G, 200-H, 200-I, 600-C-173, 600-D, BW-3-180, BW-4, NASA 4, NASA 7, and NASA 8) were also included for a comprehensive multi-port soil vapor and groundwater well evaluation for the 200 Area and 600 Area Closure.

The most recent analytical data from the groundwater monitoring wells (from samples collected between August 2013 and August 2014) were used for comparison. Groundwater samples were collected in laboratory-provided containers according to site-specific procedures and submitted to the ALS laboratory in Rochester, NY following requirements of the NMED-approved GMP (NASA, 2013b). A summary of groundwater sample analytical results is provided in Appendix H. The maximum concentrations reported for Freon 11, Freon 113, TCE, and PCE are included in Table 4.9. These concentrations were used to derive the calculated concentrations for soil vapor in equilibrium with the maximum groundwater concentrations.

### 4.5 Analytical Soil Sampling Deviations

This section provides a summary of the limited number of deviations from the analytical data proposed in the 200 Area Phase II IWP (NASA, 2013e) and the analytical results obtained for the 200 Area Phase II IR. Table 4.12 provides a list of the soil sampling deviations. A summary of the deviations is provided below:

- The primary cause for deviations between the proposed and actual sample sets was the inability to collect adeqaute amounts of soil matrix at the planned locations due to sample recovery issues.

- The IWP stated that soil samples would include analyses for hexavalent chromium in soil boring 200-SB-09. Although this sample was not collected, an additional two hexavalent chromium samples were collected in 200-SB-13.

- The IWP stated that a perchlorate sample would be collected in soil boring 200-SB-17. A perchlorate sample was collected for the shallow (8 ft [2.4 m]) depth, but not for the intermediate and deep soil samples.

## 5.0 Evaluation Criteria

Regulatory standards were applied to the evaluation process where possible for this study in order to identify areas of potential concern. The regulatory standards available in the literature apply to soil (residential NM SSLs; NMED 2014d) and groundwater (cleanup levels defined in the NMED-approved GMP; NASA 2013b). When the 200 Area IWP was approved by NMED and fieldwork was initiated, no regulatory standards were available for fractured bedrock matrix or soil vapor, although vapor intrusion screening levels (VISLs) were subsequently introduced by NMED in December 2014 (NMED, 2014d). In addition to recognized regulatory standards, NASA-proposed site-specific risk-based concentrations (RBCs; NASA, 2012b) were used to evaluate soil vapor concentrations.

## 5.1 Soil

Table 4.1 presents the most recent NMED SSLs (NMED, 2014d) that are available for 28 of the 34 analytes evaluated during the 200 Area Phase II investigation. For the total 36 soil samples that were collected, all analytes with the exception of arsenic have maximum concentrations below the corresponding SSL. Phase II investigation soil sample concentrations are reported at up to four orders of magnitude lower than the corresponding residential SSLs.

The maximum Phase II soil sample concentration for arsenic (14.9 mg/kg), exceeds the residential SSL of 4.25 mg/kg. This concentration was identified at a depth of 98 ft (29.9 m) bgs in soil boring 200-SB-15 located 1,500 ft (457 m) southwest of the industrialized area. The maximum Phase II concentration is below the maximum soil background study concentration of 45.7 mg/kg (NASA, 2014a). Arsenic is known to bind to sulfur, which promotes its occurrence in sulfide-bearing mineral deposits such as those found within the southern SAM. Naturally occurring arsenic is also commonly found in volcanic glass of rhyolitic composition, which characterize Quartzite Mountain located 1,500 ft (457.2 m) west of the 200 Area.

## 5.2 Bedrock Matrix

The results of the matrix diffusion evaluation using the CORE$^{DFN}$ process is expressed quantitatively in terms of rock matrix and pore water VOC concentrations. There are no regulatory criteria available for direct comparison to these two media.

### 5.2.1 Rock Core Sample Concentrations

No residential exposure pathway for bedrock exists within the 200 Area with the exception of the unlikely event of trenching to bedrock. The residential NM SSLs are provided in Table 4.4 for reference only. Rock core concentrations are significantly lower than the residential NM SSLs for the 10 detected VOCs (Freon 11, chloromethane, Freon 113, 2-butanone, benzene, TCE, toluene, 1,1,2-trichloroethane, PCE, and m,p,-xylenes).

### 5.2.2 Equivalent Pore Water Sample Concentrations

Because pore water is relatively immobile, and groundwater cleanup standards are derived for groundwater flowing through a fractured rock aquifer through secondary porosity pathways, direct comparison of calculated pore water concentrations to regulatory criteria is not applicable. Instead, regulatory groundwater cleanup standards should be compared to the groundwater samples collected from monitoring wells completed in fractured bedrock.

The average equivalent pore water sample concentrations encountered in the Permian limestones, silty limestones, and mudstones of boreholes 200-SB-06 and 200-SB-07 generally exceed the current maximum 200 Area concentrations for fracture-controlled groundwater in monitoring wells (Table 4.5). As a result, pore water contaminant mass has some potential to diffuse from the rock matrix into the groundwater in fractures or bedding plane solution channels over time.

## 5.3 Soil Vapor

Regulatory criteria for soil vapor are necessary to effectively define areas of concern and implement corrective actions for soil vapor at WSTF. Because there are currently no specific regulatory criteria for soil vapor in New Mexico, NASA, in conjunction with experts in the field of soil vapor intrusion and related regulatory issues, developed site-specific regulatory criteria for soil vapor. The development of these RBCs is discussed in detail in NASA (2012b).

### 5.4 Groundwater

The WSTF GMP (NASA, 2013b) provides a comprehensive list of the cleanup levels for hazardous wastes and hazardous constituents detected in WSTF groundwater. Groundwater contaminant concentrations at WSTF are routinely monitored and summarized in quarterly PMRs provided to NMED. Groundwater contamination is the primary focus for remedial activities with the pumping, treatment, and injection of groundwater at the WSTF Plume Front (alluvial aquifer) and Mid-plume (fractured bedrock) areas. Time-concentration plots for monitoring wells in the 200 Area have shown consistently declining trends since the maximum concentrations were observed in the late 1980s to mid 1990s (NASA, 2014e). A summary of the time-concentration trends for four of the primary VOCs in 200 Area groundwater monitoring wells is provided in Table 5.1.

## 6.0 Site Contamination

The following observations relative to 200 Area site contamination were made during the review of analytical results from the 200 Area Phase II investigation.

### 6.1 Soil

Soil chemical analytical results were presented in Section 4.1.1. No significant contamination was observed within the vadose zone soils in the 200 Area. Organic compounds with more than one detection were limited to:

- Traces of toluene at levels from 1 – 3.4 ug/kg, which is several orders of magnitude below the equivalent residential SSL of 5,230 mg/kg.
- Traces of acetone at levels from 0.54 – 15 µg/kg, which is several orders of magnitude below the corresponding residential SSL of 66,300 mg/kg.
- Acetone, identified in two method 8260C soil blank samples and in nine 8260 water equipment blank samples, which corresponded to the locations for which acetone was identified within soil samples.

Traces of acetone within soil samples is considered an artifact of the sampling process. The distribution of the detections of toluene in 200 Area soil samples is provided in Figure 6.1. The random horizontal and vertical distribution of toluene, and trace concentrations do not support a vadose zone source

### 6.2 Bedrock Matrix

The results for bedrock matrix and equivalent porewater contamination were presented in Section 4.2. A total of ten VOCs were identified within the bedrock matrix and equivalent porewater through the analysis of rock core samples. The primary location of contaminants, based on frequency of detection, was soil boring 200-SB-06 (former Clean Room tanks): chloromethane* (58.3% of samples); Freon 113 (36.0% of samples); 2-butanone* (5.8% of samples); benzene (36.0% of samples); TCE (41.0% of samples); toluene (20.8% of samples); 1,1,2-trichloroethane (3.6% of samples); PCE (13.6% of samples); m,p,-xylenes* (69.1% of samples), where * denotes detection in a sample blank. Only one VOC (Freon 11) was predominant in 200-SB-07 (former Chemistry Laboratory tanks; 10.9% of samples).

### 6.3 Soil Vapor

Quantitative soil vapor chemical analytical data from MSVM and MSVGM wells for four of the most commonly occurring VOCs (Freon 11, Freon 113, TCE and PCE) were reviewed and presented in the

form of isoconcentration maps for the soil vapor and groundwater monitoring well network within the 100, 200, and 600 Areas (Figures 6.2 through 6.5). The configuration of the soil vapor maps from analytical data available from the vapor ports shows a strong correlation with the semi-quantitative shallow soil vapor data from the 200 Area Phase I survey for the same contaminants (NASA, 2013d). The compatibility between Phase I and Phase II soil vapor surveys was anticipated as the Phase I data 'hot spots' were used to establish the locations for Phase II soil boring installations. In addition, the elevated vapor concentrations visible on both the Phase I semi-quantitative and Phase II quantitative data maps that correspond to the 200 Area east Closure (Chemistry Lab Tanks) and west Closure (Clean Room Tanks) were expected due to the known management of contaminants in these two areas and the condition of the tanks upon removal.

The maximum VOC soil vapor and groundwater concentrations within the well networks were compared on the isoconcentration maps to evaluate potential relationships between the two media. This approach has been used previously (e.g., NASA, 2013c) to provide a visual interpretation of the soil vapor and groundwater plumes. It should be noted that the distribution of isoconcentration lines for each soil vapor plume is influenced by the location of soil vapor wells that target specific HWMUs, SWMUs, and AOIs. Due to the location of these specific targets, the soil vapor plumes exhibit a generalized northeast to southwest plume orientation.

It is anticipated that the soil vapor plumes continue at lower concentrations to the west beyond the limits defined on the isoconcentration maps corresponding with the distribution of the WSTF groundwater contaminant plume and the inferred relationship between the two. Previous investigations have indicated; 1) a strong correlation between the distribution of soil vapor and groundwater contamination, and 2) a strong relationship between the maximum soil vapor concentrations typically observed at depth near the water table and the corresponding calculated concentrations for soil vapor in equilibrium with contaminated groundwater (NASA, 2011a). As a result, significant parts of the soil vapor plume in the vadose zone are attributed to the underlying groundwater plume. Based on available soil vapor sampling locations, the soil vapor plumes in the area extend (with declining concentrations) from the 200 Area in the northeast to the 600 Area Closure in the southwest. Soil vapor concentration contours resemble an elongated northeast-southwest trending high that corresponds to topographic runoff from the 200 Area southwest to GSA with subsequent groundwater migration along the primary drainage. The more prominent drainages in the 200 Area are also subparallel to the primary faults mapped within the area (inferred fault-enhanced groundwater migration) and subparallel to the strike of many of the limestone beds in the area (inferred bedding plane solution channel groundwater migration; NASA, 2009).

### 6.3.1 Freon 11

The maximum Freon 11 soil vapor concentration (30,000 µg/m3) was reported from the deepest port of 200 Area well 200-SV-16 (99 ft [30.2 m] bgs), located southwest of the 200 Area and west of the 200-D well cluster (Figure 6.2, Table 4.7). This maximum concentration is approximately three times the maximum Freon 11 concentration for existing wells between the 100 and 200 Area and 25 times the concentration of Freon 11 at the 600 Area Closure. Maximum Freon 11 soil vapor concentrations do not exceed the RBC developed for WSTF (NASA, 2012b; Table 4.9). Freon 11 soil vapor and groundwater concentrations in the source area show the influence of the northeast to southwest fault orientation bedding plane strike. It is probable that the Freon 11 soil vapor plume continues to the west of well 200-SV-17 in conjunction with the groundwater plume. No MSVM or MSVGM wells have been constructed in this area.

### 6.3.2 Freon 113

The VOC present at the highest average concentration in soil vapor is Freon 113. The maximum concentration of 6,600,000 µg/m3 of Freon 113 in soil vapor was reported from 200 Area well 200-LV-

150 at 64 ft (19.5 m) bgs in the vicinity of the former Clean Room Tank (Figure 6.3, Table 4.7). This concentration is approximately 1.5 times the maximum Freon 113 soil vapor concentration for existing wells between the 100 and 200 Area and 23 times the concentration of Freon 113 at the 600 Area Closure. The Freon 113 soil vapor plume can be traced from the 200 Area to the 600 Area Closure, with concentrations generally declining from the northeast to the southwest. Relatively higher localized concentrations exist within each of the two areas. Freon 113 soil vapor concentrations do not exceed the RBC developed for WSTF (NASA, 2012b; Table 4.9). Freon 113 soil vapor and groundwater concentrations show strong correlation within the 200 Area and adjacent areas. The influences on the distribution of the Freon 113 plume are inferred to be the same as for the Freon 11 plume.

### 6.3.3 TCE

TCE presents the greatest health risk concern in the 200 Area for soil vapor and groundwater contaminant plume investigations. TCE is present at the second highest average concentration in soil vapor. The maximum TCE concentration of 380,000 µg/m3 in soil vapor was reported at 64 ft (19.5 m) bgs in well 200-LV-150, located adjacent to the former Clean Room Tank (Figure 6.4, Table 4.7). This concentration is approximately 2.7 times the maximum TCE soil vapor concentration for existing wells between the 100 and 200 Area and 23 times the concentration of TCE at the 600 Area Closure. The TCE soil vapor plume can be traced from the 200 Area to the 600 Area Closure, with localized highs in both areas. TCE soil vapor concentrations were observed to exceed the equivalent WSTF commercial RBC (Table 4.9) at nine soil vapor ports in six different wells (Table 4.11). These soil vapor concentrations can be grouped into three distinct groupings as follows:

- Former Clean Room Tank and Clean Room Discharge Pipe area - four soil vapor ports exceeded the WSTF RBC.
- 200-D Well Cluster - four soil vapor ports exceeded the WSTF RBC.
- Southwest of former 200 Area Evaporation Tanks near reported surface release of Freon 113 (NASA, 2012b) – one soil vapor port exceeded the WSTF RBC.

TCE in soil vapor and groundwater again show excellent correlation under the influence of faulting and the strike of bedding planes from northeast to southwest.

### 6.3.4 PCE

PCE was included as a soil vapor and groundwater contaminant plot due to its status as one of more significant health-risk contaminants in the 200 Area. The maximum concentration of 19,000 µg/m3 of PCE in soil vapor was also observed in the port at 84 ft (25.6 m) bgs in 200 Area well 200-LV-150. The concentrations reported in the vicinity of the 600 Area closure were negligible (Figure 6.5, Table 4.7). PCE soil vapor concentrations do not exceed the RBC developed for WSTF (NASA, 2012b; Table 4.9). PCE in soil vapor and groundwater was reported to be ND in the vicinity of the 600 Area Closure, again demonstrating a close relationship between the two media.

## 6.4 Groundwater

Groundwater analytical results for the VOCs Freon 11, Freon 113, TCE, and PCE were reviewed and included on the iso-concentration maps developed for soil vapor. The maximum groundwater contaminant concentrations (using the highest concentration from multi-port wells regardless of depth) at individual MSVM, MSVGM, and groundwater monitoring wells within the 100, 200, and 600 Areas were used for the iso-concentration maps.

### 6.4.1 Freon 11

The maximum groundwater concentration of Freon 11 was 66 µg/L in conventional well 200-B-240 (sampled 11/1/2013). Freon 11 groundwater concentrations above 10 µg/L are present in the 200 Area wells located in GSA and within groundwater wells downgradient and to the west (200-B-240, BW-4) of the 200 Area (Figure 6.2).

### 6.4.2 Freon 113

The maximum groundwater concentration of Freon 113 was 390 µg/L in MSVGM well 200-SG-1 (sampled 9/10/2014). This location approximately coincides with the location of maximum Freon 113 soil vapor concentrations (Figure 6.3). Freon 113 groundwater concentrations occur throughout the monitoring well network within the groundwater plume beneath the study area.

### 6.4.3 TCE

The maximum groundwater concentration of TCE was 170 µg/L in monitoring well 200-D-109 (8/30/2013); located adjacent to MSVGM well 200-SG-1. Two separate TCE groundwater plumes are currently plotted due to the ND groundwater concentration (detection limit 0.22 µg/L) at MSVGM well 100-HG-139 that is located between the 200 and 600 Areas (Figure 6.4). The fractured bedrock aquifer at this location is a tuff unit which distinctly lower hydraulic conductivity than the adjacent 200 Area limestone.

TCE groundwater concentrations in the 200 Area have declined an order of magnitude from 2,600 µg/L in 1996 within the 200-D well cluster in GSA (the highest reported concentrations at WSTF) to 110 µg/L for this sampling event. Time-concentration plots from 200 Area wells evaluated during WSTF PCC reporting (1995 – 2009; NASA, 2009), and most recently in NASA's PMR (NASA, 2014e) indicate that groundwater VOCs are actively migrating downgradient from the 200 Area (Table 5.1) west toward the WSTF Mid-plume and Plume Front groundwater treatment systems.

### 6.4.4 PCE

The maximum PCE groundwater concentration was 4 µg/L in well 200-SG-1 (10/21/2014). Within the 200 Area, groundwater concentrations for PCE occur primarily within the 200-D well cluster and well 200-I (Figure 6.5). Low concentration groundwater contours are restricted to this area and to the area downgradient (west) of the 200 Area (e.g., groundwater monitoring well BW-4 located 3,000 ft (914 m) to the west of the 200 Area). PCE was ND (detection limit - 0.3 µg/L) in the 600 Area groundwater.

# 7.0 Summary and Conclusions

## 7.1 Soil

Soil within the 200 Area and surrounding areas does not present a significant source of residual vadose zone contamination. The soil cuttings for the 200 Area Phase II investigation were acquired from soil borings installed at the locations of greatest potential concern for contamination based on previous research and investigation. The analytical results for inorganic soil chemical samples were within normal range. Organic detections characteristic of the soil formation were limited to traces of toluene. All soil cuttings generated for this study were approved by NMED for a NLCID based on laboratory analytical results.

All soils encountered in the 200 Area are coarse-grained alluvial fan sediments with low moisture, low organic content, and high porosities; characteristics that promote the rapid infiltration of solutes through

the vadose zone. 200 Area contaminants are known to have migrated rapidly through the alluvial vadose zone and fractured limestone bedrock to the water table.

## 7.2 Bedrock Matrix

There is no direct exposure pathway for matrix pore water in the 200 Area, since it is located in subsurface fractured rock and is immobile by nature. Because the VOC concentrations for pore water in the rock matrix at boreholes 200-SB-06 and 200-SB-07 are generally higher than the current concentrations for fracture-controlled groundwater, contaminant mass has the potential to diffuse slowly out of the matrix into the groundwater of adjacent fractures over time. The primary question regarding matrix diffusion is whether or not the mass in the pore water could be a long term source of groundwater contamination. The potential diffusion from the pore water to the adjacent groundwater is not considered significant since a steady decline in 200 Area groundwater contaminant concentrations within the monitoring well network has been documented over the last 20 years. Groundwater concentrations in the secondary porosity rock fractures and bedding planes (in the case of limestones) is the medium to which regulatory criteria should be applied, as is currently performed for the 200 Area. Quantification of the declining concentrations in fractured rock and the evaluation of the potential duration required to meet cleanup levels may be evaluated using discreet fracture network numerical modeling.

Matrix diffusion study data from across the United States indicates that the majority of the matrix pore water contaminant mass is inaccessible to remedial technologies in an economically feasible manner, and that the groundwater concentrations in the secondary fractures will continue to decline slowly over a long time inducing some back diffusion from the rock matrix. Fractured bedrock sites that are currently subject to full-scale remediation (soil, rock, and groundwater) are associated with non-aqueous phase liquids and VOC contaminant concentrations that exceed concentrations in the WSTF 200 Area by several orders of magnitude. The reported TCE concentrations in rock and soil from a site located in the southeastern part of the United States is as high as 81,000 µg/kg (Heron, 2008), orders of magnitude above the average TCE concentrations identified in the 200 Area.

## 7.3 Soil Vapor

### 7.3.1 Calculated Soil Vapor Concentrations in Equilibrium with Groundwater

Calculations were performed to determine the equivalent soil vapor VOC concentrations that represent equilibrium with groundwater VOC concentrations to demonstrate the potential relationship between soil vapor and groundwater contaminants. Comparisons of measured soil vapor concentrations from MSVM and MSVGM wells to calculated soil vapor concentrations from groundwater have been performed previously for the 600 Area Closure IR (NASA, 2011b) and for the subsequent semi-annual soil vapor and groundwater evaluations (NASA, 2013c). It has been concluded previously that the calculated soil vapor concentrations representing equilibrium with groundwater are similar to the measured soil vapor concentrations (within the typical range of one to two orders of magnitude) and that VOCs in groundwater are the primary source of VOCs in vadose soil vapor over large areas affected by groundwater contamination.

The maximum groundwater concentrations for the four primary contaminants (Freon 11 (well 200-B-240), Freon 113 (well 200-SG-1), TCE, and PCE (both in well 200-D-109) are all located within the 200 Area. These groundwater concentrations and the soil vapor concentration representative of equilibrium with groundwater are provided in Table 4.9. The maximum soil vapor concentrations that were reported from the comprehensive soil vapor sampling event were all identified within new 200 Area Phase II wells; the maximum concentration of Freon 11 in soil vapor was identified in well 200-SV-16, and the maximum soil vapor concentration for Freon 113, TCE, and PCE were all reported in well 200-LV-150.

The maximum soil vapor concentrations reported for the four primary VOCs and the corresponding calculated soil vapor concentrations in equilibrium with groundwater are summarized as follows:

- Freon 11 – maximum soil vapor concentration = 30,000 µg/m$^3$; calculated soil vapor concentration representative of equilibrium with groundwater = 262,680 µg/m3. Freon 11 in soil vapor has been consistently observed over the last several years at concentrations up to an order of magnitude below the calculated concentration in equilibrium with groundwater, typically decreasing with distance above the water table and proximity to the ground surface within individual MSVM and MSVGM wells.

- Freon 113 – maximum soil vapor concentration = 6,600,000 µg/m3; calculated soil vapor concentration representative of equilibrium with groundwater = 8,424,000 µg/m$^3$. Freon 113 in soil vapor has consistently been observed at concentrations below, but within an order of magnitude of the calculated concentration in equilibrium with groundwater. Individual MSVM and MSVGM well vertical profiles generally decrease with distance above the water table and proximity to the ground surface.

- TCE – maximum soil vapor concentration = 380,000 µg/m$^3$; calculated soil vapor concentration representative of equilibrium with groundwater = 68,680 µg/m$^3$. This relationship is characterized by a specific location where the measured concentration of soil vapor exceeds the calculated concentration for soil vapor in equilibrium with groundwater. The maximum measured concentration for TCE in soil vapor is located within the vadose zone at a depth of 64 ft bgs in well 200-LV-150 at the former Clean Room Tank HWMU location. This maximum concentration is located close to 100 ft (30.5 m) above the local water table at 156 ft (47.5 m) bgs. This TCE soil vapor result is attributed to residual vadose zone contamination from TCE released from the former Clean Room Tank. The elevated TCE contamination above the local water table is confirmed by the presence of TCE in the rock matrix of the vadose zone (Section 4.2.4.6).

- PCE – maximum soil vapor concentration = 42,000 µg/m$^3$; calculated concentration for soil vapor in equilibrium with groundwater = 2,904 µg/m$^3$. The maximum PCE concentration in soil vapor coincides with maximum TCE in soil vapor above the water table at 64 ft bgs in well 200-LV-150 below the former Clean Room Tank HWMU. This PCE soil vapor result is also directly attributed to releases from the former Clean Room Tank.

### 7.3.2 Trends for Maximum Vapor Concentrations with Time

A summary of the maximum concentrations for the primary constituents in soil vapor that compares the last four pre-200 Area Phase II semi-annual sampling events in the 200 and 600 Areas to the recent 200 Area Phase II comprehensive sampling event is presented in Table 4.10. This table confirms the overall decline in the maximum concentrations for Freon 11, Freon 113, TCE and PCE contamination for existing 200 and 600 Area wells since 2010 This, a trend has been observed over time since the inception of soil vapor monitoring at WSTF in 2000. Freon 11 (decreasing in the existing 200 Area wells from 27,300 µg/m$^3$ in 2010 to 9,200 µg/m$^3$ and at the 600 Area Closure wells from 1,870 µg/m$^3$ in 2010 to 1,200 µg/m$^3$ in 2014) and Freon 113 (decreasing in the existing 200 Area wells from 6,690,000 µg/m$^3$ in 2010 to 2,000,000 µg/m$^3$ and at the 600 Area Closure wells from 2,330,000 µg/m$^3$ in 2010 to 280,000 µg/m$^3$ in 2014) both show generally continuous declines over time. A similar trend is visible for TCE for existing 200 Area wells (decreasing from 238,000 µg/m$^3$ in 2010 to 140,000 µg/m$^3$ in 2014); however, the 600 Area Closure well concentrations have remained stable at 13,800 µg/m$^3$ in 2010 to 15,000 µg/m$^3$ in 2014. PCE concentrations for existing 200 Area wells have decreased from 21,800 µg/m$^3$ in 2010 to 12,000 µg/m$^3$ in 2014, and has remained fairly stable since 2011. PCE remains essentially ND at the 600 Area Closure.

The bolded values in Table 4.10 represent the four maximum soil vapor concentrations reported to date for samples collected from all of the soil vapor wells within the WSTF 100, 200, and 600 Areas. The maximum concentrations for Freon 11 (30,000 µg/m$^3$ in 200-SV-16), TCE (380,000 µg/m$^3$ in 200-LV-150), and PCE 42,000 µg/m$^3$ in 200-LV-150) were all detected within 200 Area Phase II wells. The maximum concentration for Freon 113 (6,690,000 µg/m$^3$ in 200-SG-1 from 2010) was marginally higher than the Freon 113 concentration of 6,600,000 µg/m$^3$ reported from 200-LV-150 in 2014. This helps demonstrate that the highest concentration of the four primary soil vapor VOCs are located in the new 200 Phase II soil vapor wells, and most prominently in the vicinity of the former Clean Room Tank at well 200-LV-150. Although the maximum concentration for Freon 113 is significantly higher than for TCE or PCE, the relative health risk concern posed is much lower.

In conjunction with general declines in the maximum soil vapor concentrations since the August 2010 inception of soil vapor monitoring in this area, it should be noted that groundwater contaminant concentrations have also decreased during this time period (Table 5.1). Groundwater elevations for individual monitoring wells (conventional and multi-port) have either remained relatively steady over this time period (e.g., 200-B-240, 200-SG-1, 600-C-173, NASA 4, NASA 7) or have declined slightly (from 2 to 4 ft [0.6 – 1.2 m]; e.g., 200-D-240, 200-F- 225, 200-G-175, 200-H-150, and BLM-3-182) in response to drought conditions that have existed within the region over the last several years. A general relationship has been observed within the 200 Area over the last 20 years with respect to declining groundwater VOC concentrations and soil vapor VOC concentrations under the influence of the relatively steep groundwater table gradient in the area (0.05 ft/ft).

### 7.3.3 Comparison to WSTF Risk-Based Concentrations

Table 4.9 comparesthe maximum concentrations of the four primary VOCs in soil vapor with the equivalent calculated WSTF RBCs (NASA, 2012b). The comparison shows that the maximum soil vapor concentrations for Freon 11, Freon 113, and PCE measured for new 200 Area Phase II wells, existing wells between the 100 and 200 Areas, and at the 600 Area Closure are from one to three orders of magnitude lower than the proposed site-specific WSTF RBCs for soil vapor in the vadose zone. In contrast, TCE soil vapor concentrations in the new 200 Area Phase II wells and existing wells in the 100 and 200 Areas locally exceed the equivalent WSTF RBC by an order of magnitude (Table 4.9). The maximum concentration for TCE at the 600 Area Closure in well 600-SG-5 at 137.5 ft (41.9 m) bgs (15,000 µg/m$^3$) does not exceed the WSTF RBC at 100 ft (30.5 m) bgs (30,000 µg/m$^3$; not shown in table).

Concentrations for the four primary VOCs for all comprehensive soil vapor survey samples were compared to the appropriate WSTF RBCs (NASA, 2012b) for the depth of each of the soil gas ports analyzed during the October 2014 soil vapor sampling event. TCE soil vapor concentrations exceeded WSTF RBCs in nine soil vapor ports (within seven different monitoring wells) during the October 2014 sampling event. Table 4.11 presents the data and provides comments related to the historical management practices of concern. The seven well locations are identified on the TCE isoconcentration map (Figure 6.4), and are grouped into three locations as follows:

- The former Clean Room Tank HWMU and surrounding area located adjacent to Apollo Boulevard on the northwest side of the Building 200 Clean Room (three wells: 200-SV-05, 200-LV-150, and 200-SV-09).

- The west side of the former 200 Area ETU near the former 200 Area Burn Pit (SWMU 9) near the area where a significant Freon 113 discharge in the early 1980s was observed by a WSTF employee (200 Area HIS; NASA, 2012a; well 200-SG-3).

- The 200-D well cluster area immediately surrounding groundwater monitoring wells 200-D-109 and 200-D-240 (three wells: 200-SV-19, 200-SG-1, and 200-SG-4).

#### 7.3.4 Regulatory Criteria

Based on the application of NMED soil vapor regulatory criteria (NMED, 2014d), the VISL of 98.3 µg/m$^3$ for TCE in industrial/occupational soil vapor is exceeded within 10 ft (3.1 m) of the base of the Building 200 foundation near the location of the former Clean Room tank (soil boring 200-SB-05, TCE in soil vapor at 47,000 µg/m$^3$ at a depth of 9 ft [2.74 m] bgs). Adjacent soil boring 200-SB-06 (200-LV-150) shows TCE at 380,000 µg/m$^3$ at a depth of 64 ft (19.51 m) bgs, and can be expected to exceed the VISL at 10 ft (3.1 m) bgs.

NMED guidance requires that a quantitative vapor intrusion pathway assessment be performed for the 200 Area as the former Clean Room Tank location falls into the "complete pathway" category (NMED, 2014d; Section 2.5.2.3). Evaluation of the vapor intrusion pathway should be based on multiple lines of evidence and a thorough characterization of potential subsurface vapor sources. Subsurface vapor source delineation has already been performed as part of the 200 Area Phase I (shallow soil vapor survey; NASA, 2013d) and Phase II investigations.

### 7.4 Groundwater

Groundwater concentrations for newly installed wells 200-KV-150 and 200-LV-150 were within the range of concentrations identified for the existing groundwater monitoring well network in the 200 Area. TCE is the primary COC in groundwater in the 200 Area based on health risk concerns and was reported with a concentration of 1.2 ug/L in 200-LV-150 and 0.77 ug/L in 200-KV-150, below the equivalent GMP cleanup level of 2.6 µg/L.

Groundwater contamination in the 200 Area is monitored by sampling of the existing network of groundwater monitoring wells screened within secondary porosity pathways associated with contaminant transport. Although maximum contaminant concentrations within the 200 Area exceed GMP levels for selected contaminants including TCE, they have been decreasing steadily over time since the late 1980s (Table 5.1). Some potential diffusion-driven chemical mass transfer may occur between the rock matrix and the groundwater, but this is not expected to inhibit the observed declines groundwater concentrations.

## 8.0 Recommendations

### 8.1 Soil

No COCs in soil samples were detected above the corresponding NMED SSLs and no risks are presented to human health or the environment. No further investigative or corrective actions are recommended for the 200 Area vadose zone soils based on the analytical results and conclusions generated for the Phase I and Phase II investigations.

### 8.2 Bedrock Matrix

No additional bedrock evaluations are recommended for the 200 Area. The two boreholes selected and installed for the matrix diffusion study are located adjacent to the former Clean Room Tank (200-SB-06) and through the former Chemistry Lab Tank (200-SB-07). These locations represent the two primary sources for solute contaminants released to the subsurface based on the historical management of the 200 Area and the compromised condition of the tanks upon removal (NASA, 2012a). Additional data provided by the 200 Area Phase I and Phase II investigations has confirmed the significance of these two sources relative to any of the other SWMUs or AOIs within the 200 Area.

The application of remediation techniques to address the potential removal of contaminants from the vadose zone bedrock matrix and pore water in the 200 Area is impractical given the limited amount of pore water present and low contaminant concentrations compared to active fractured bedrock remediation sites. Based on these factors, combined with the remote location of WSTF, declining groundwater contaminant concentrations in the 200 Area, and ongoing operation of the downgradient MPITS and PFTS used to contain and remediate the contaminant groundwater plume; no additional subsurface matrix diffusion work is recommended.

The most important tool in assessing the impact of contaminant diffusion from bedrock matrix pore water will be the continued monitoring of the declining COC concentrations in 200 Area groundwater monitoring wells. The stabilization of 200 Area contaminants within groundwater in the fractured bedrock aquifer relative to the NMED groundwater treatment standards will define future work in the area. It is expected that some back diffusion from pore water within the rock matrix to the fracture-controlled groundwater will also occur as concentrations of 200 Area groundwater contaminants continue to decrease over time.

## 8.3 Soil Vapor

Low level VOC concentrations are widespread in the soil vapor of the 200 Area and adjacent areas. Although not approved by NMED, WSTF soil vapor RBCs were compared to measured soil vapor concentrations as part of this investigation in order to identify specific areas of concern in the 200 Area. Without the application of RBCs, the delineation of specific targets of concern would not be possible.

As presented in Section 7.3.3, TCE is the only VOC that exceeded the equivalent RBCs in soil vapor. Three specific targets can be delineated. Two of the targets (the west side of the former 200 Area ETU near the former 200 Area Burn Pit (SWMU 9) and the 200-D well cluster) are located between 250 ft (76.2 m) and 1,750 ft (533.4 m) southeast of the most proximal 200 Area buildings. These areas are of less concern due to their location in less developed areas surrounding GSA. The third location is the former Clean Room tank HWMU located immediately adjacent to and potentially below the north side of Building 200. This location is of significance and is a candidate for additional soil vapor evaluation. In order to continue with assessment of the 200 Area, NASA recommends that the following steps be performed with respect to additional soil vapor evaluation:

- Following NMED approval of the 200 Area Phase II investigation report, NASA recommends that NMED perform a supplemental review and provide a formal response to the document "*Development of Site-specific Risk-based Regulatory Criteria for Soil Vapor at the NASA White Sands Test Facility (WSTF)*" (NASA, 2012b). It is imperative that NASA define and bound the soil vapor plume and delineate any areas of concern to identify the need for any additional soil vapor evaluations. In the event that any remedial activities are implemented, established RBCs will also allow the development of the criteria required to determine when the remedial activities are completed. Following NMED concurrence on an applicable set of soil vapor RBCs, NASA will utilize MSVM and MSVGM well analytical data to identify and bound the area of concern for soil vapor contamination in the 200 Area.
- In accordance with NMED guidance (NMED, 2014d; Section 2.5.2.3), NASA recommends the performance of a quantitative assessment of the complete vapor intrusion pathway in the WSTF 200 Area adjacent to the foundation of Building 200 near the location of the former Clean Room tank and soil borings 200-SB-05 and 200-SB-06. By NMED definition (NMED, 2014d), this location exceeds NMED VISLs for TCE in industrial/occupational soil vapor and falls into the "complete pathway" category for vapor intrusion. Within 90 days of NMED approval of this 200

Area Phase II investigation report, NASA will develop and submit a Work Plan for a quantitative vapor intrusion assessment that outlines the following steps:

- Step 1: compare maximum detected soil vapor to NMED VISL (completed).
- Step 2: evaluate the vapor intrusion pathway to characterize potential subsurface sources based on multiple lines of evidence. Reviews of site history and potential sources, the comparison of groundwater and soil vapor concentrations to NMED VISLs, and monitoring of vapor migration and attenuation in the vadose zone have already been completed. Additional activities that will be proposed will include details on the building foundation, evaluation of any preferential pathways, a description of ventilation system, and collection of vapor readings at openings to the subsurface, grab samples from indoor air, and building pressure gradients.
- Step 3: additional lines of evidence may be proposed if concurrence (NMED, 2014d) is not reached.
- Step 4: if it is established that vapor intrusion can potentially impact human health, a human health risk assessment and potential remedial activity may be required.

## 8.4 Groundwater

Based on routine evaluation of the existing monitoring well network in the 200 Area presented in PMRs (NASA, 2014e), the ongoing decline in groundwater concentrations within 200 Area wells, and conclusions presented in this report, NASA recommends continued monitoring of the VOC concentrations in 200 Area groundwater monitoring wells in accordance with the WSTF GMP. This monitoring should be performed in conjunction with continued operation of the MPITS and PFTS.

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# Figures

**Figure 1.1** **WSTF Location Map**

(SEE NEXT PAGE)

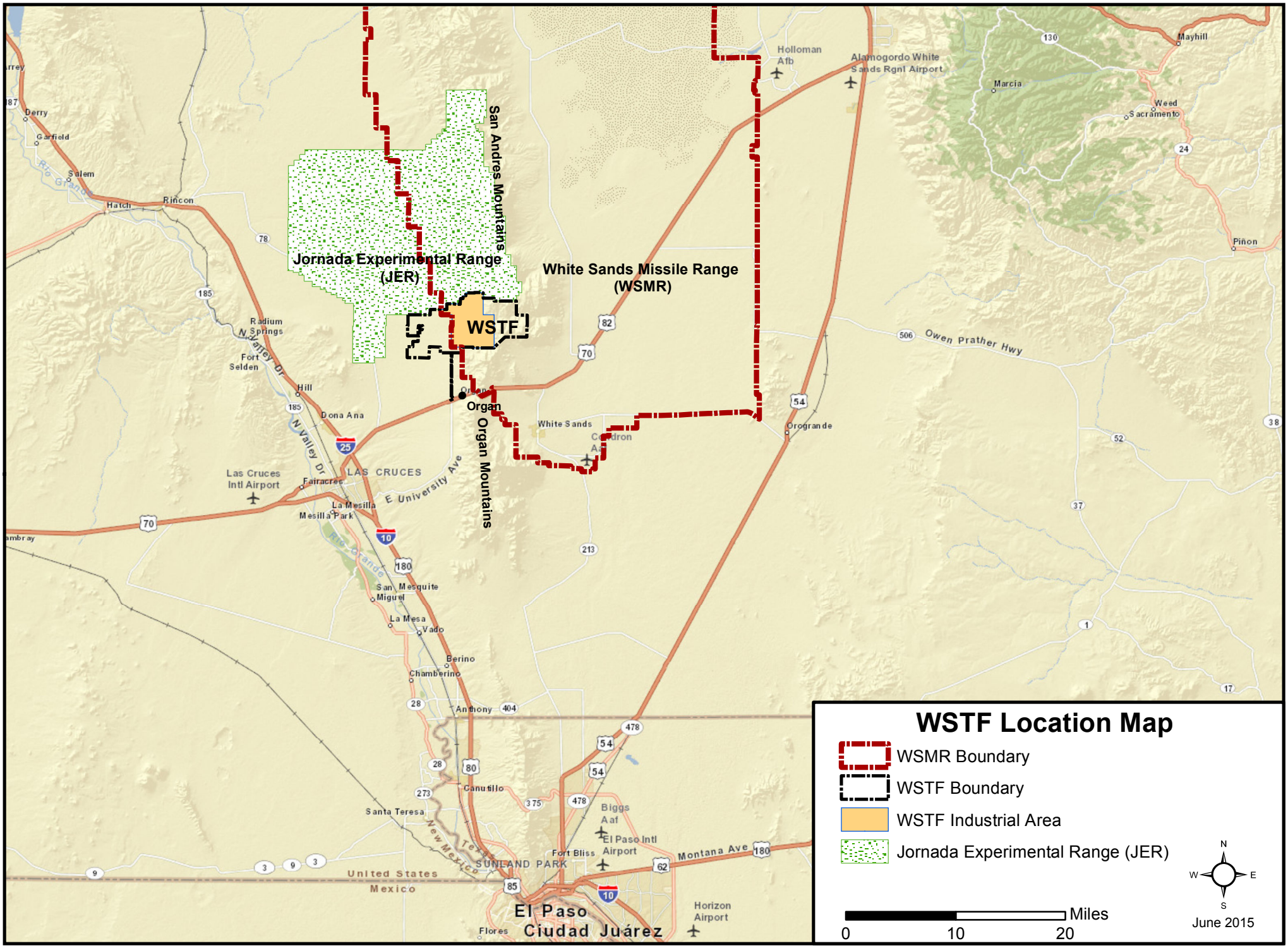

WSTF Location Map
WSMR Boundary
WSTF Boundary
WSTF Industrial Area
Jornada Experimental Range (JER)
Miles
0
10
20
N
S
E
W
June 2015
Jornada Experimental Range
(JER)
White Sands Missile Range
(WSMR)
WSTF
San Andres Mountains
Organ Mountains
Organ
Holloman Afb
Alamogordo White Sands Rgnl Airport
Mayhill
Marcia
Weed
Sacramento
Piñon
Owen Prather Hwy
Orogrande
White Sands
Cloudcroft
Las Cruces Intl Airport
LAS CRUCES
Fairacres
La Mesilla
Mesilla Park
E University Ave
N Valley Dr
Dona Ana
Hill
Radium Springs
Fort Selden
Rio Grande
Mesquite
San Miguel
La Mesa
Vado
Berino
Chamberino
Anthony
Canutillo
Santa Teresa
New Mexico
Texas
Biggs Aaf
El Paso Intl Airport
Fort Bliss
SUNLAND PARK
Montana Ave
United States
Mexico
El Paso
Ciudad Juárez
Flores
Horizon Airport
Salem
Hatch
Rincon
Garfield
Derry

**Figure 1.2 200 Area Soil Boring and Well Locations**

(SEE NEXT PAGE)

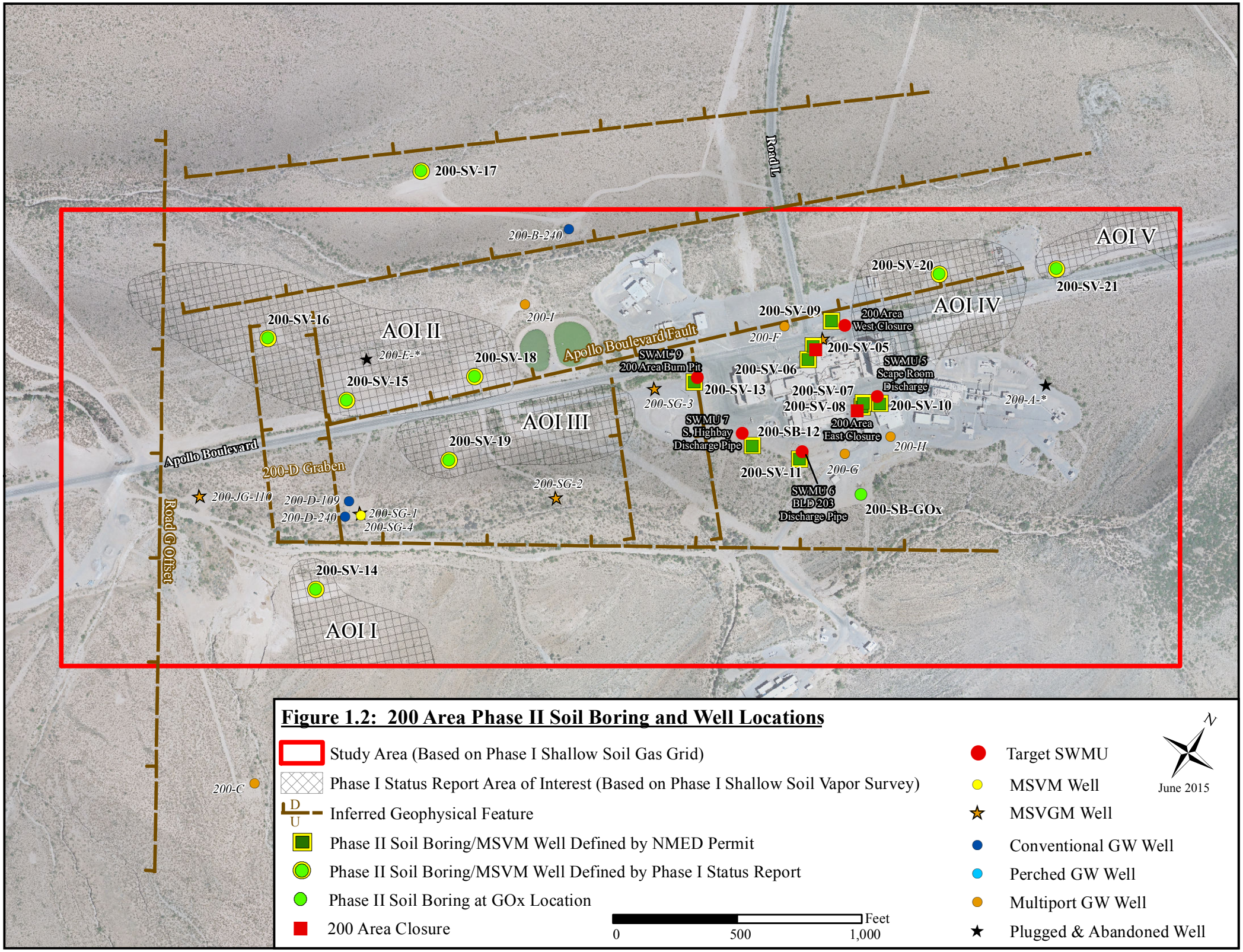



**Figure 1.2: 200 Area Phase II Soil Boring and Well Locations**

**Figure 2.1 200 Area Previous Soil Borings and Existing Wells**

(SEE NEXT PAGE)

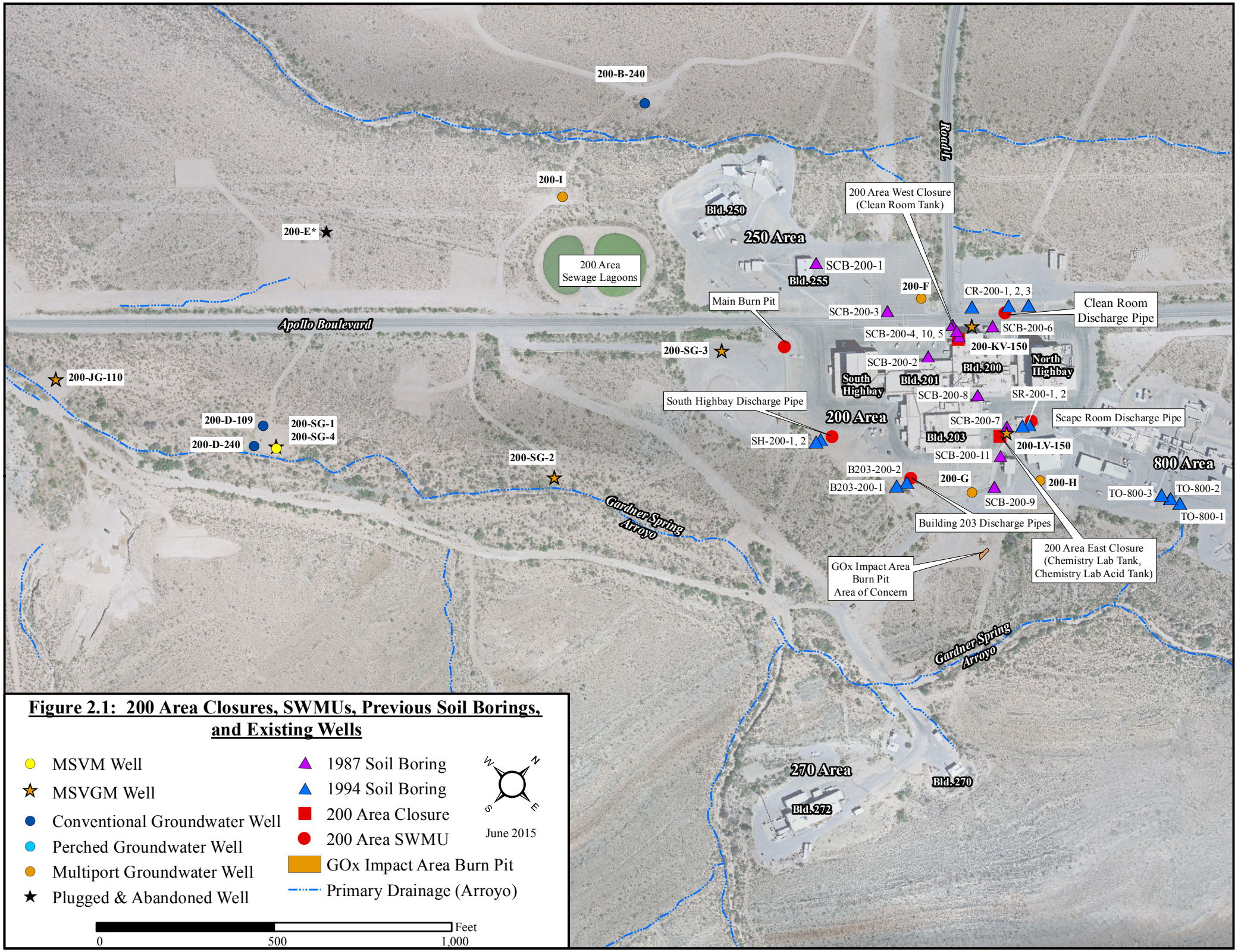



**Figure 2.1: 200 Area Closures, SWMUs, Previous Soil Borings, and Existing Wells**

**Figure 2.2** **200 Area Phase II Soil Borings**

(SEE NEXT PAGE)

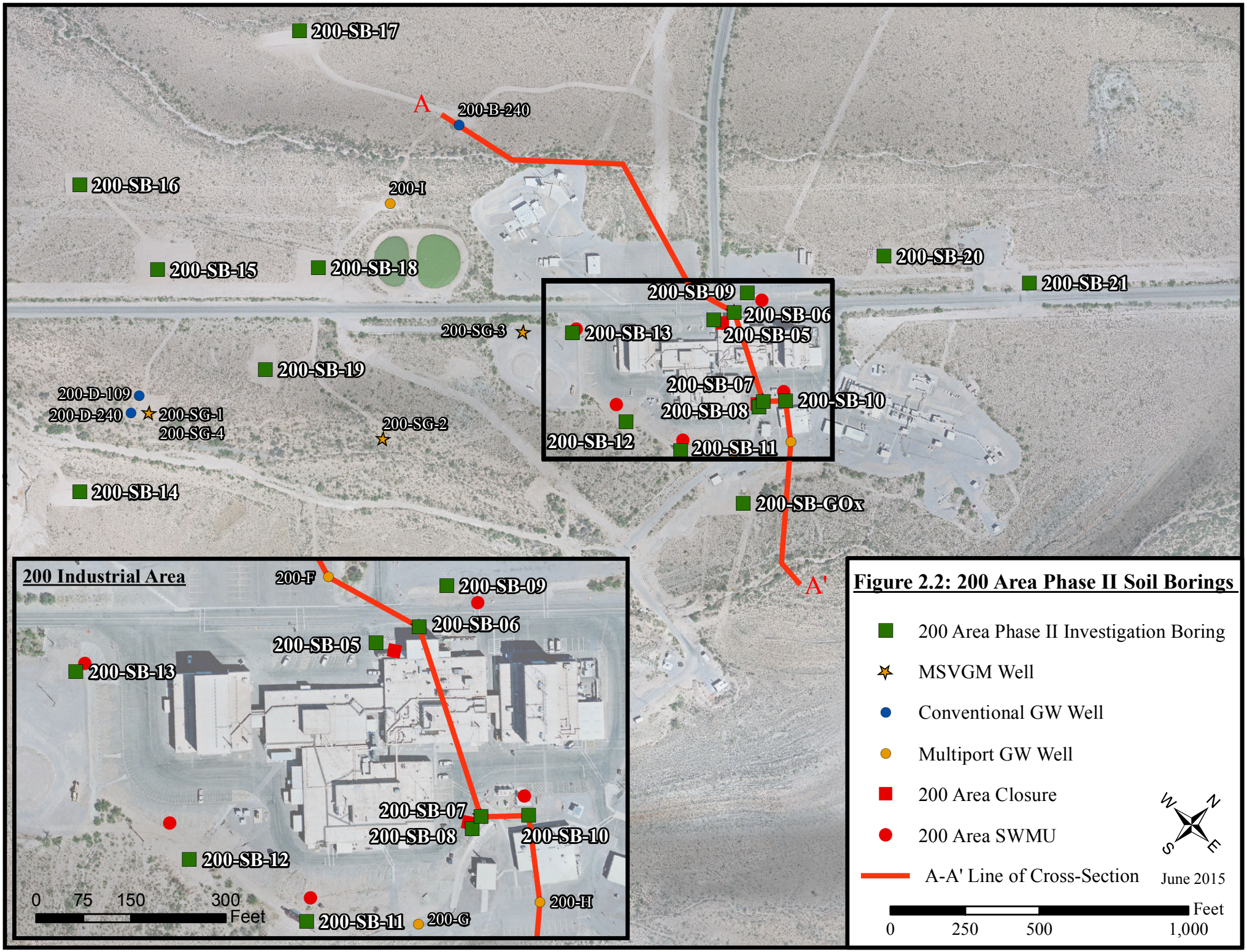

200-SB-17
A
200-B-240
200-SB-16
200-I
200-SB-15
200-SB-18
200-SB-20
200-SB-21
200-SB-09
200-SB-06
200-SG-3
200-SB-13
200-SB-05
200-SB-19
200-SB-07
200-D-109
200-SB-10
200-D-240
200-SG-1
200-SB-08
200-SG-4
200-SG-2
200-SB-12
200-SB-11
200-SB-14
200-SB-GOx
A'
200 Industrial Area
200-F
200-SB-09
200-SB-06
200-SB-05
200-SB-13
200-SB-07
200-SB-08
200-SB-10
200-SB-12
0 75 150 300 Feet
200-SB-11
200-G
200-H
Figure 2.2: 200 Area Phase II Soil Borings
200 Area Phase II Investigation Boring
MSVGM Well
Conventional GW Well
Multiport GW Well
200 Area Closure
200 Area SWMU
A-A' Line of Cross-Section
N
E
S
W
June 2015
Feet
0 250 500 1,000

**Figure 2.3 200 Area Site Conceptual Model**

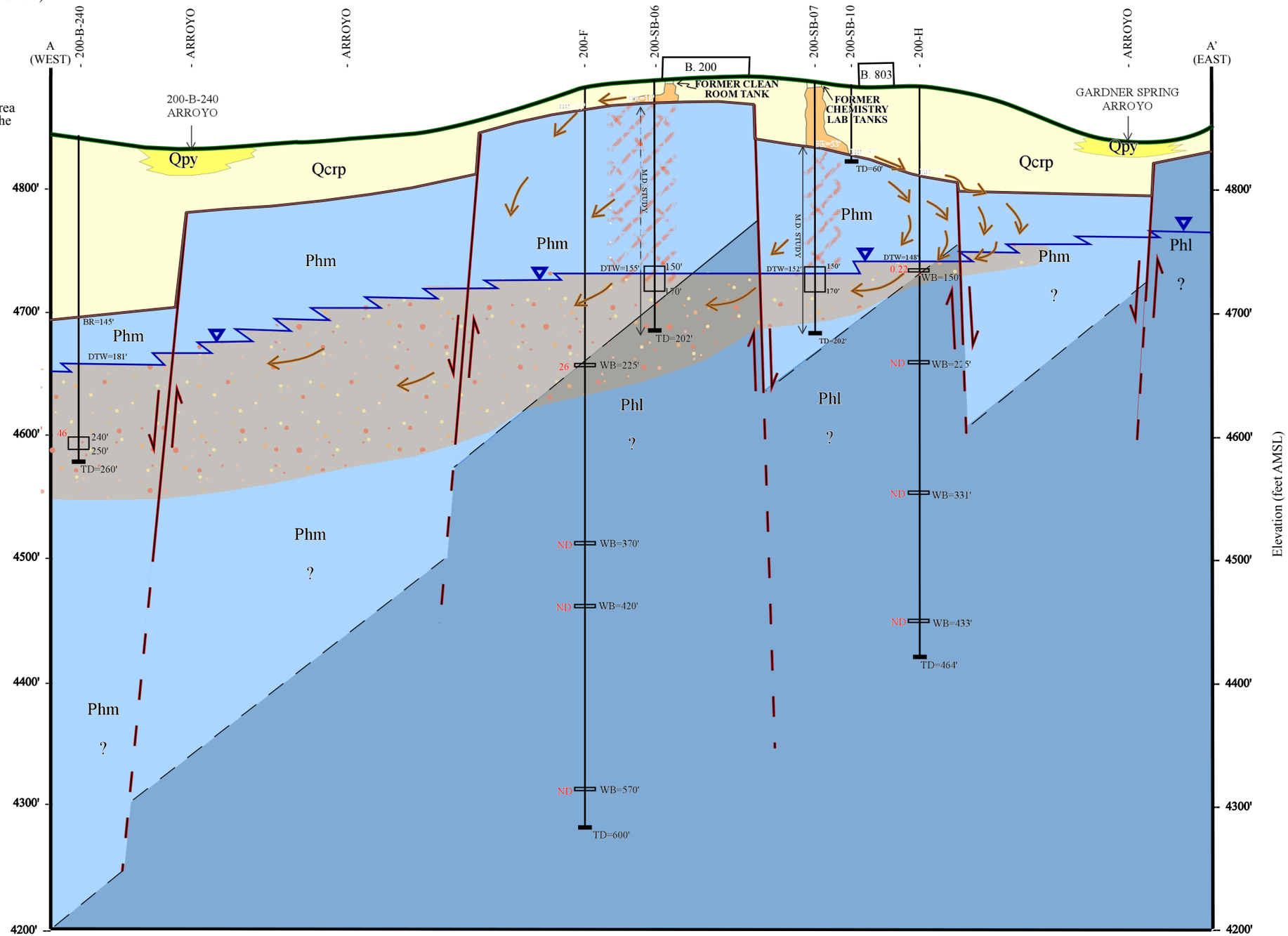
(SEE NEXT PAGE)

# 200 Area Site Conceptual Model (June 2015)

LEGEND:

- Soil boring (total depth in feet)
- Monitoring well with monitoring zone(s) and total depth in feet. TCE concentration in ug/L (2014). All 200 Area wells show decreasing T-C Plots since the late 80's / early 90's.
- Inferred Fault with displacement
- Interval covered by Matrix Diffusion Study
- Water Table (Gradient 0.05)
- Ground Surface
- Bedrock Surface (Depth listed in Feet)
- TCE in Groundwater
- TCE in fractured bedrock
- TCE in vadose zone
- Inferred Direction of VOC Migration
- Qpy — Younger Piedmont Slope Alluvium
- Qcrp — Camp Rice Formation
- Phm — Permian Hueco Limestone (Middle)
- Phl — Permian Hueco Limestone (Lower)

SCALE:
100'
VERTICAL EXAGGERATION = 2.5
0 100'




NOTE:

- Question marks indicate inferred lithologies
- Dashed lines indicate inferred lithologic boundaries
- Dip of strata approximately 23° west, adjusted for vertical exaggeration.

**Figure 6.1** **Toluene Soil Detections**

(SEE NEXT PAGE)

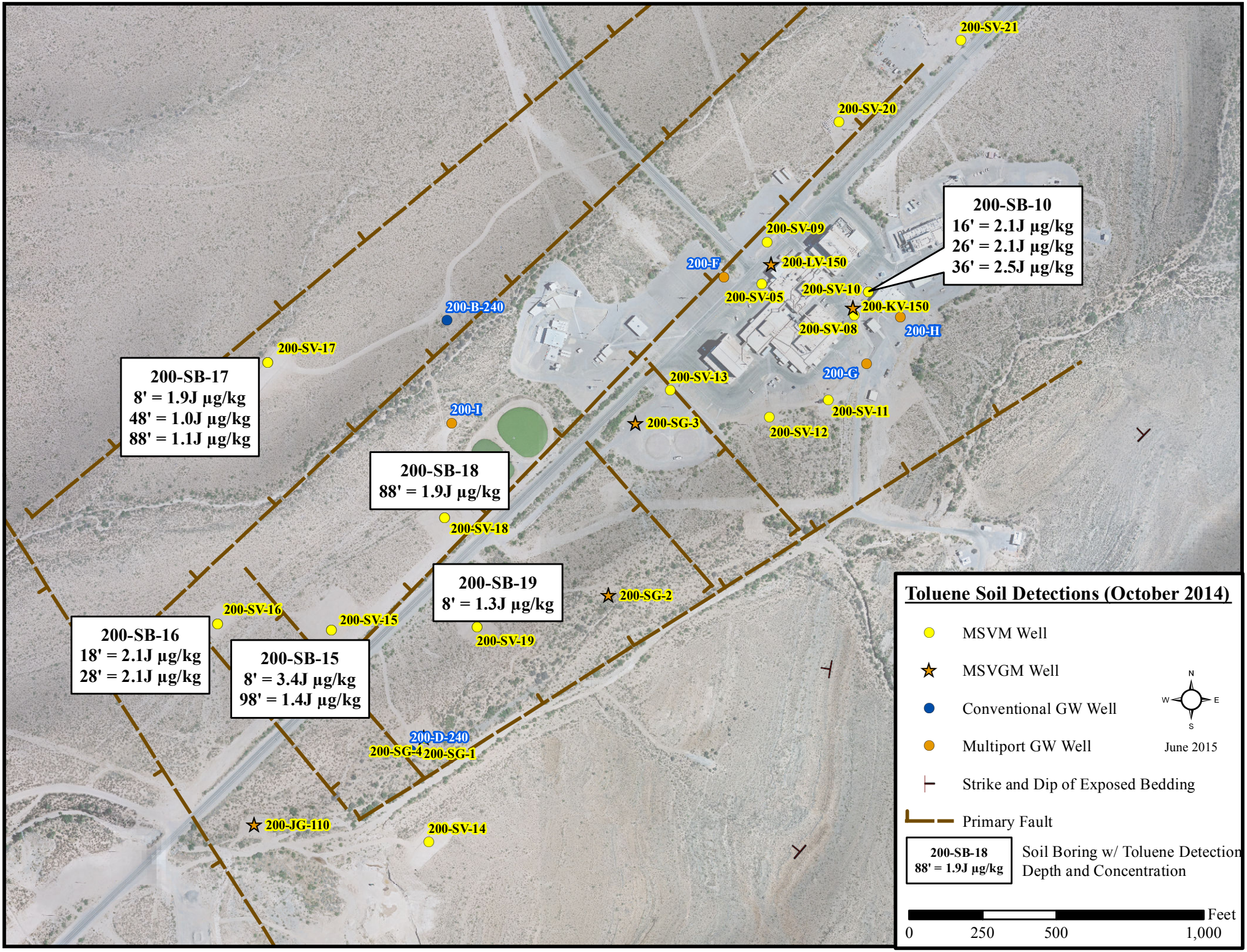

200-SV-21
200-SV-20
200-SB-10
16' = 2.1J µg/kg
26' = 2.1J µg/kg
36' = 2.5J µg/kg
200-SV-09
200-F
200-LV-150
200-SV-05
200-SV-10
200-KV-150
200-SV-08
200-H
200-B-240
200-SV-17
200-SB-17
8' = 1.9J µg/kg
48' = 1.0J µg/kg
88' = 1.1J µg/kg
200-SV-13
200-G
200-I
200-SV-11
200-SG-3
200-SV-12
200-SB-18
88' = 1.9J µg/kg
200-SV-18
200-SB-19
8' = 1.3J µg/kg
200-SG-2
200-SV-16
200-SV-15
200-SV-19
200-SB-16
18' = 2.1J µg/kg
28' = 2.1J µg/kg
200-SB-15
8' = 3.4J µg/kg
98' = 1.4J µg/kg
200-D-240
200-SG-4
200-SG-1
200-JG-110
200-SV-14
Toluene Soil Detections (October 2014)
MSVM Well
MSVGM Well
Conventional GW Well
Multiport GW Well
Strike and Dip of Exposed Bedding
Primary Fault
200-SB-18
88' = 1.9J µg/kg
Soil Boring w/ Toluene Detection Depth and Concentration
N
W
E
S
June 2015
Feet
0
250
500
1,000

**Figure 6.2 Freon 11 Soil Vapor and Groundwater Concentrations**

(SEE NEXT PAGE)

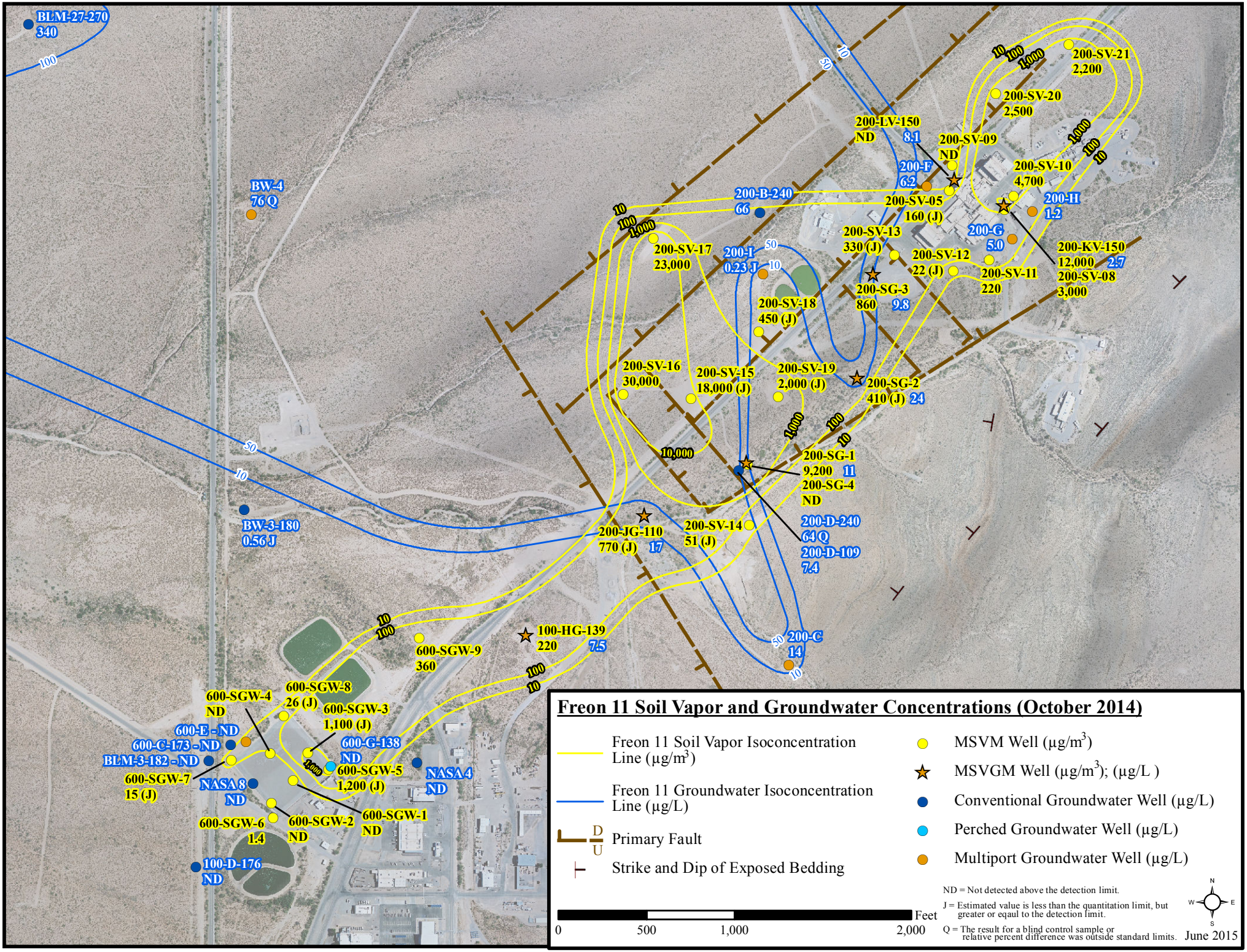

Freon 11 Soil Vapor and Groundwater Concentrations (October 2014)
Freon 11 Soil Vapor Isoconcentration Line (µg/m3)
Freon 11 Groundwater Isoconcentration Line (µg/L)
Primary Fault
Strike and Dip of Exposed Bedding
MSVM Well (µg/m3)
MSVGM Well (µg/m3); (µg/L )
Conventional Groundwater Well (µg/L)
Perched Groundwater Well (µg/L)
Multiport Groundwater Well (µg/L)
ND = Not detected above the detection limit.
J = Estimated value is less than the quantitation limit, but greater or eqaul to the detection limit.
Q = The result for a blind control sample or relative percent difference was outside standard limits.
0
500
1,000
2,000
Feet
June 2015
BLM-27-270 340
BW-4 76 Q
BW-3-180 0.56 J
200-SV-21 2,200
200-SV-20 2,500
200-LV-150 ND
200-SV-09 ND
200-F 6.2
200-SV-10 4,700
200-H 1.2
200-B-240 66
200-SV-05 160 (J)
200-G 5.0
200-SV-13 330 (J)
200-SV-17 23,000
200-I 0.23 J
200-SV-12 22 (J)
200-KV-150 12,000
2.7
200-SV-11 220
200-SV-08 3,000
200-SG-3 860
9.8
200-SV-18 450 (J)
200-SV-16 30,000
200-SV-15 18,000 (J)
200-SV-19 2,000 (J)
200-SG-2 410 (J)
24
10,000
200-SG-1 9,200
11
200-SG-4 ND
200-D-240 64 Q
200-D-109 7.4
200-JG-110 770 (J)
17
200-SV-14 51 (J)
100-HG-139 220
7.5
200-C 14
600-SGW-9 360
600-SGW-4 ND
600-SGW-8 26 (J)
600-SGW-3 1,100 (J)
600-E - ND
600-C-173 - ND
BLM-3-182 - ND
600-G-138 ND
600-SGW-5 1,200 (J)
600-SGW-7 15 (J)
NASA 8 ND
NASA 4 ND
600-SGW-6 1.4
600-SGW-2 ND
600-SGW-1 ND
100-D-176 ND

**Figure 6.3 Freon 113 Soil Vapor and Groundwater Concentrations**

(SEE NEXT PAGE)

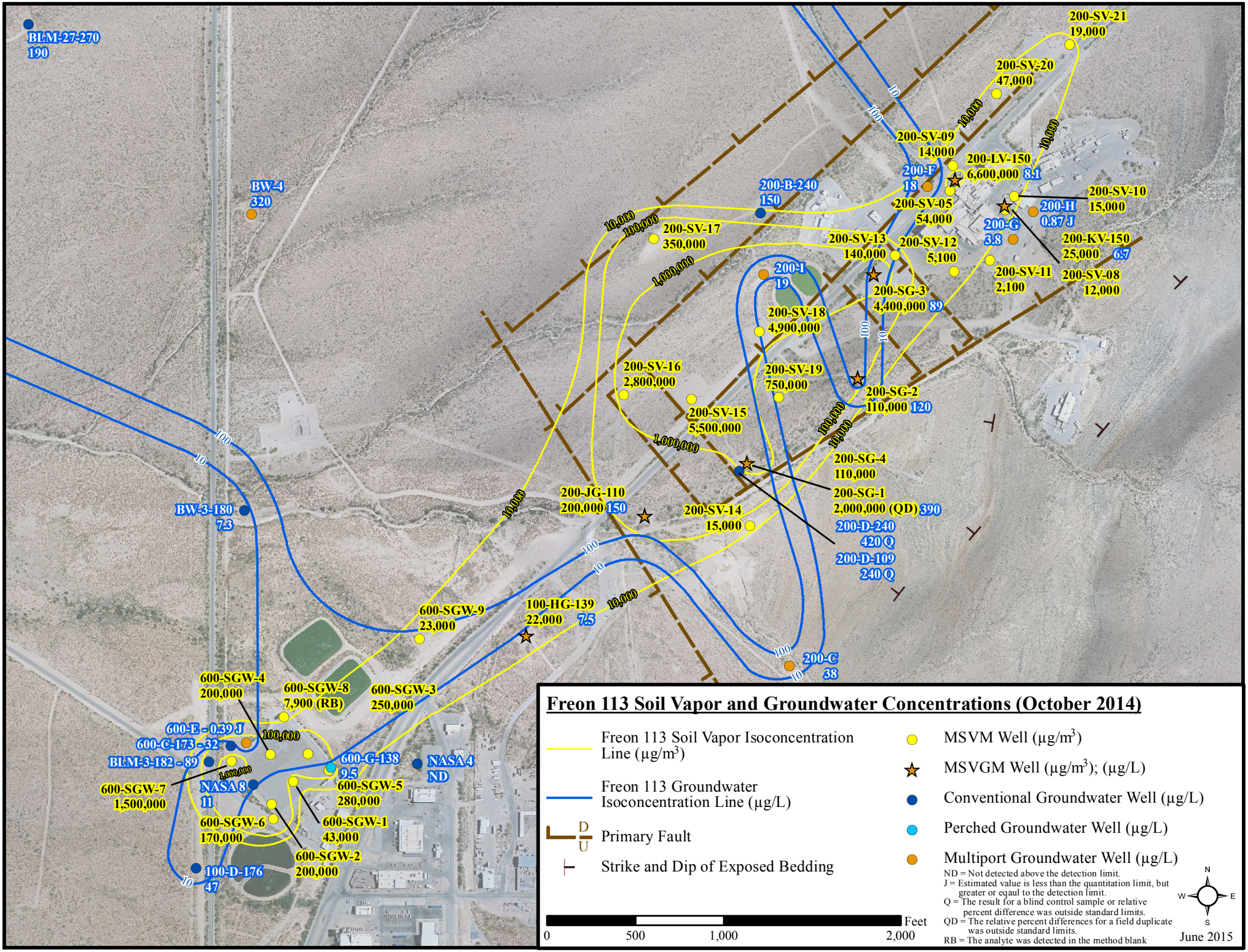

BLM-27-270
190
BW-4
320
200-SV-21
19,000
200-SV-20
47,000
200-SV-09
14,000
200-LV-150
6,600,000 8.1
200-F
18
200-SV-05
54,000
200-SV-10
15,000
200-H
0.87 J
200-G
3.8
200-KV-150
25,000 6.7
200-SV-08
12,000
200-SV-11
2,100
200-SV-12
5,100
200-SV-13
140,000
200-SG-3
4,400,000 89
200-B-240
150
200-SV-17
350,000
200-I
19
200-SV-18
4,900,000
200-SV-16
2,800,000
200-SV-19
750,000
200-SG-2
110,000 120
200-SV-15
5,500,000
200-SG-4
110,000
200-SG-1
2,000,000 (QD) 390
200-D-240
420 Q
200-D-109
240 Q
200-JG-110
200,000 150
200-SV-14
15,000
BW-3-180
7.3
600-SGW-9
23,000
100-HG-139
22,000 7.5
200-C
38
600-SGW-4
200,000
600-SGW-8
7,900 (RB)
600-SGW-3
250,000
600-E - 0.39 J
600-C-173 - 32
BLM-3-182 - 89
600-SGW-7
1,500,000
NASA 8
11
600-G-138
9.5
NASA 4
ND
600-SGW-5
280,000
600-SGW-6
170,000
600-SGW-1
43,000
600-SGW-2
200,000
100-D-176
47
10,000
100,000
1,000,000
100
10
Freon 113 Soil Vapor and Groundwater Concentrations (October 2014)
Freon 113 Soil Vapor Isoconcentration Line (µg/m3)
Freon 113 Groundwater Isoconcentration Line (µg/L)
D
U
Primary Fault
Strike and Dip of Exposed Bedding
MSVM Well (µg/m3)
MSVGM Well (µg/m3); (µg/L)
Conventional Groundwater Well (µg/L)
Perched Groundwater Well (µg/L)
Multiport Groundwater Well (µg/L)
ND = Not detected above the detection limit.
J = Estimated value is less than the quantitation limit, but greater or eqaul to the detection limit.
Q = The result for a blind control sample or relative percent difference was outside standard limits.
QD = The relative percent differences for a field duplicate was outside standard limits.
RB = The analyte was detected in the method blank
Feet
0
500
1,000
2,000
N
W
E
S
June 2015

**Figure 6.4 TCE Soil Vapor and Groundwater Concentrations**

(SEE NEXT PAGE)

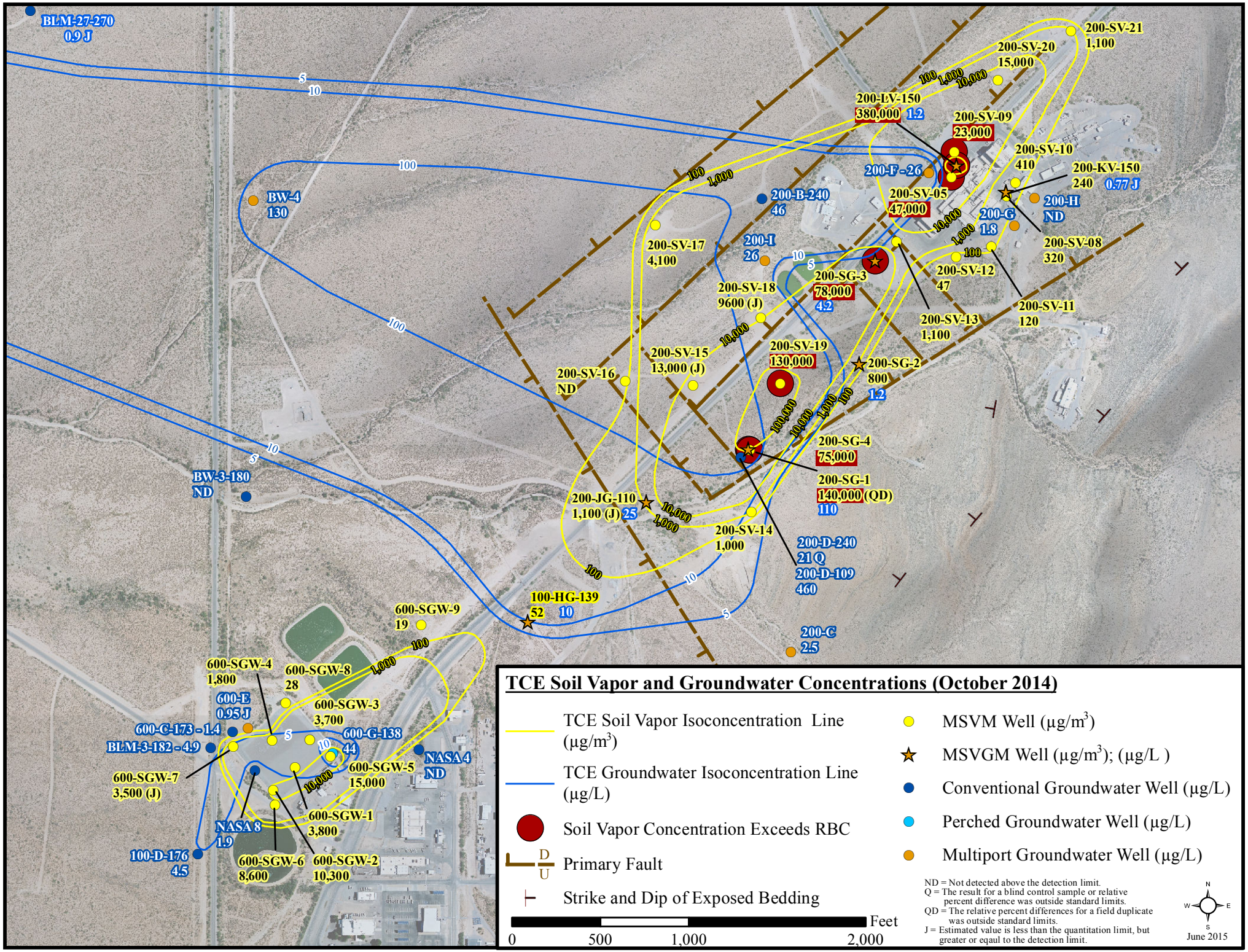
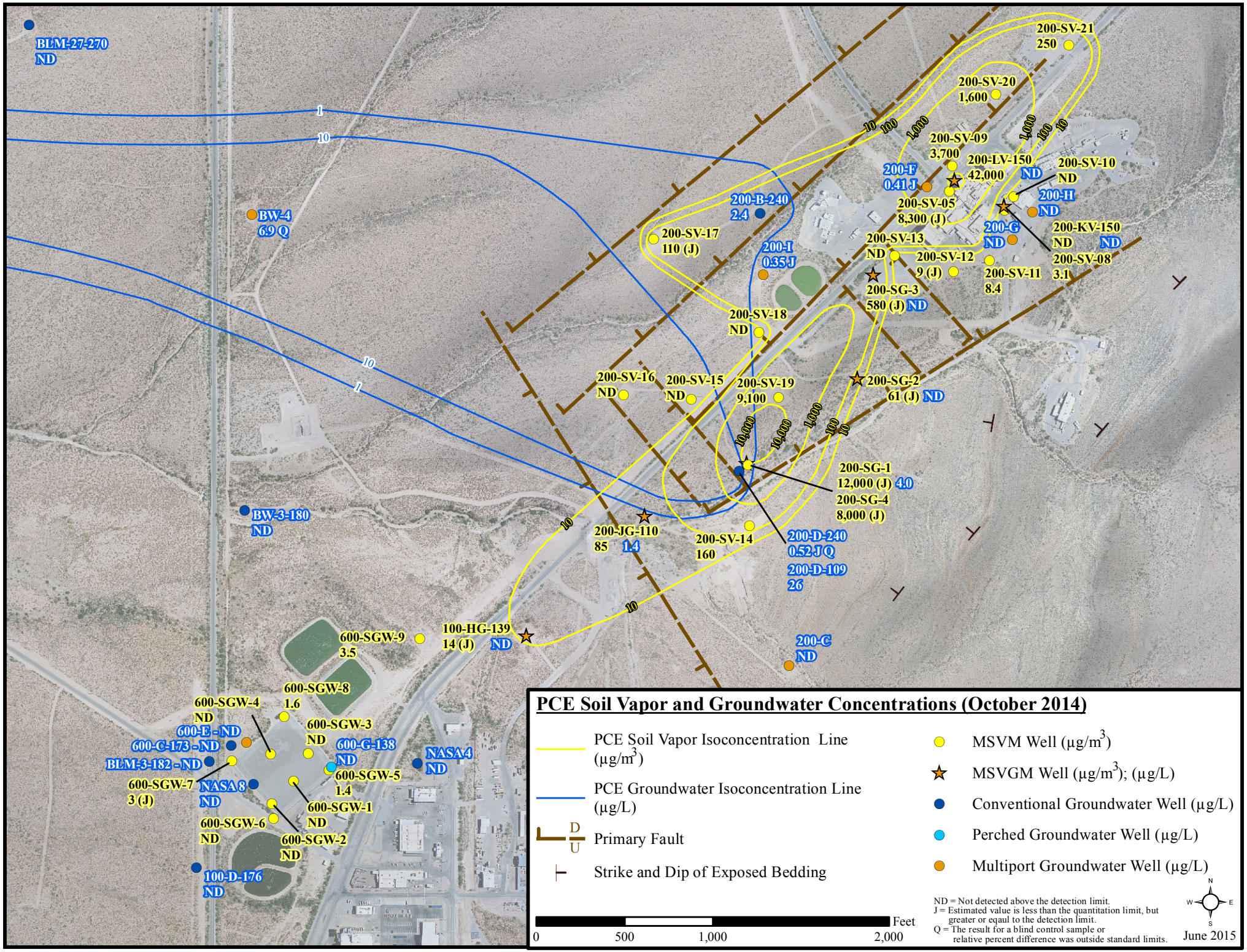

TCE Soil Vapor and Groundwater Concentrations (October 2014)
TCE Soil Vapor Isoconcentration Line (µg/m3)
TCE Groundwater Isoconcentration Line (µg/L)
Soil Vapor Concentration Exceeds RBC
Primary Fault
Strike and Dip of Exposed Bedding
MSVM Well (µg/m3)
MSVGM Well (µg/m3); (µg/L )
Conventional Groundwater Well (µg/L)
Perched Groundwater Well (µg/L)
Multiport Groundwater Well (µg/L)
ND = Not detected above the detection limit.
Q = The result for a blind control sample or relative percent difference was outside standard limits.
QD = The relative percent differences for a field duplicate was outside standard limits.
J = Estimated value is less than the quantitation limit, but greater or eqaul to the detection limit.
Feet
0
500
1,000
2,000
June 2015
BLM-27-270 0.9 J
BW-4 130
BW-3-180 ND
200-SV-21 1,100
200-SV-20 15,000
200-LV-150 380,000 1.2
200-SV-09 23,000
200-SV-10 410
200-KV-150 240 0.77 J
200-F-26
200-B-240 46
200-SV-05 47,000
200-H ND
200-G 1.8
200-SV-08 320
200-SV-17 4,100
200-I 26
200-SG-3 78,000 4.2
200-SV-12 47
200-SV-18 9600 (J)
200-SV-11 120
200-SV-13 1,100
200-SV-15 13,000 (J)
200-SV-19 130,000
200-SG-2 800 1.2
200-SV-16 ND
200-SG-4 75,000
200-SG-1 140,000 (QD) 110
200-JG-110 1,100 (J) 25
200-SV-14 1,000
200-D-240 21 Q
200-D-109 460
100-HG-139 52 10
200-C 2.5
600-SGW-9 19
600-SGW-4 1,800
600-SGW-8 28
600-E 0.95 J
600-SGW-3 3,700
600-C-173 - 1.4
600-G-138 44
BLM-3-182 - 4.9
NASA 4 ND
600-SGW-7 3,500 (J)
600-SGW-5 15,000
600-SGW-1 3,800
NASA 8 1.9
100-D-176 4.5
600-SGW-6 8,600
600-SGW-2 10,300

**Figure 6.5 PCE Soil Vapor and Groundwater Concentrations**

(SEE NEXT PAGE)


PCE Soil Vapor and Groundwater Concentrations (October 2014)
PCE Soil Vapor Isoconcentration Line (µg/m3)
PCE Groundwater Isoconcentration Line (µg/L)
Primary Fault
D
U
Strike and Dip of Exposed Bedding
MSVM Well (µg/m3)
MSVGM Well (µg/m3); (µg/L)
Conventional Groundwater Well (µg/L)
Perched Groundwater Well (µg/L)
Multiport Groundwater Well (µg/L)
ND = Not detected above the detection limit.
J = Estimated value is less than the quantitation limit, but greater or equal to the detection limit.
Q = The result for a blind control sample or relative percent difference was outside standard limits.
Feet
0
500
1,000
2,000
June 2015
N
S
E
W
BLM-27-270
ND
BW-4
6.9 Q
BW-3-180
ND
200-SV-21
250
200-SV-20
1,600
200-SV-09
3,700
200-LV-150
42,000
200-F
0.41 J
200-SV-05
8,300 (J)
200-SV-10
ND
200-H
ND
200-G
ND
200-KV-150
ND
200-SV-08
3.1
200-SV-11
8.4
200-SV-12
9 (J)
200-SV-13
ND
200-SG-3
580 (J)
200-B-240
2.4
200-I
0.35 J
200-SV-17
110 (J)
200-SV-18
ND
200-SV-16
ND
200-SV-15
ND
200-SV-19
9,100
200-SG-2
61 (J)
200-SG-1
12,000 (J)
4.0
200-SG-4
8,000 (J)
200-JG-110
85
1.4
200-SV-14
160
200-D-240
0.52 J Q
200-D-109
26
200-C
ND
100-HG-139
14 (J)
600-SGW-9
3.5
600-SGW-8
1.6
600-SGW-4
ND
600-E - ND
600-C-173 - ND
BLM-3-182 - ND
600-SGW-3
ND
600-G-138
ND
NASA 4
ND
600-SGW-5
1.4
600-SGW-7
3 (J)
NASA 8
ND
600-SGW-1
ND
600-SGW-6
ND
600-SGW-2
ND
100-D-176
ND
1
10
100
1,000
10,000

# Tables

**Table 3.1 Summary of Soil Sampling for the 200 Area Phase II IR**

| Soil Boring ID | Boring Depth (ft bgs) | Sample Depth (ft bgs) | Sample Collection Summary | | | | |
|---|---|---|---|---|---|---|---|
| | | | Soil Chemical Sample ID | Soil Geotechnical Sample ID | Duplicates | Matrix Spike | Blanks |
| **200-SB-05** | 20 | 8-10 | 1406151125-1131 | 200-SB-05 (8-10') | 1406151141-1147 (soil chem) | | Equip Rinsate 1406151050-1119 |
| **200-SB-06** | 20 | 8-10 | 1406141700-170 | 200-SB-06 (8-10') | | | Equip Rinsate 1406141650-1659<br>Trip Blank 1406141200 |
| **200-SB-07** | 55 | 8-10 | 1406111455 – 1508 | | | X | Equip Rinsate 1406111435-1444<br>Trip Blank 1406111335 |
| | | 18-20 | 1406111630 – 1636 | | | | |
| | | 38-40 | 1406120930 – 0936 | | | | |
| | | 47-49 | | 200-SB-07 (47-49') | | | |
| **200-SB-08** | 57 | 8-10 | 1406130800 – 0806 | | 1406130810 – 0816 (soil chem) | | Equip Rinsate 1406130720-0729<br>Trip Blank 1406130700 |
| | | 28-30 | 1406130940 – 0946 | 200-SB-08 (28-30') | | | |
| | | 43-45 | 1406131300 – 1306 | | | | |
| **200-SB-09** | 26 | 8-10 | 1406301545 – 1551 | 200-SB-09 (8-10') | | | Equip Rinsate 1406301525-1534<br>Trip Blank 1406301500 |
| **200-SB-10** | 60 | 16-18 | 1406281018 – 1024 | 200-SB-10 (16-18') | | | Equip Rinsate 406280940 – 0948<br>Trip Blank 1406280630 |
| | | 26-28 | 1406281200 – 1206 | | | | |
| | | 36-38 | 1406281505 – 1511 | | | | |

**Table 3.1 Summary of Soil Sampling for the 200 Area Phase II IR**

| Soil Boring ID | Boring Depth (ft bgs) | Sample Depth (ft bgs) | Sample Collection Summary | | | | |
|---|---|---|---|---|---|---|---|
| | | | Soil Chemical Sample ID | Soil Geotechnical Sample ID | Duplicates | Matrix Spike | Blanks |
| **200-SB-11** | 46 | 8-10 | 1407011410 – 1416 | | | | Equip Rinsate 1407011355-1403<br>Trip Blank 1407011240 |
| | | 28-30 | 1407011600 – 1606 | 200-SB-11 (28 – 30’) | | | |
| **200-SB-12** | 23 | None | | | | | Equip Rinsate 1407171130-1138<br>Trip Blank 140717100 |
| **200-SB-13** | 48 | 8-10’ | 1406161400 – 1406 | | | | Equip Rinsate 1406161340-1348<br>Trip Blank 1406160730 |
| | | 28-30’ | 1406161540 – 1553 | | | | |
| | | 30-32’ | | | | X | |
| **200-SB-14** | 8 | None | | | | | None |
| **200-SB-15** | 127 | 8-10’ | 1407111410 – 1423 | 200-SB-15 (8-10’) | | X | Equip Rinsate 1407111340-1348<br>Trip Blank 1407111130 |
| | | 66-68’ | | 200-SB-15 (66-68’) | | | |
| | | 98-100’ | 1407161200 – 1206 | 200-SB-15 (98-100’) | | | |
| **200-SB-16** | 123 | 18-20’ | 1407220800 – 0807 | 200-SB-16 (18-20’) | | | Equip Rinsate 1407211250-1258<br>Trip Blank 1407211030 |
| | | 28-30’ | 1407220940 – 0947 | | | | |
| | | 48-50’ | 1407221135 – 1142 | | | | |
| | | 58-60’ | 1407230750 – 0757 | 200-SB-16 (58-60’) | | | |
| **200-SB-17** | 147 | 8-12’ | 1408020915 – 0930 | 200-SB-17 (8-12’) | 1408020915-0930 | | |

**Table 3.1 Summary of Soil Sampling for the 200 Area Phase II IR**

| Soil Boring ID | Boring Depth (ft bgs) | Sample Depth (ft bgs) | Sample Collection Summary | | | | |
|---|---|---|---|---|---|---|---|
| | | | Soil Chemical Sample ID | Soil Geotechnical Sample ID | Duplicates | Matrix Spike | Blanks |
| | | 48-50’ | 1408030843 – 0852 | | | | Equip Rinsate 1408020900-0908<br>Trip Blank 1408010700 |
| | | 88-90’ | 1408031315 -1322 | | | | |
| **200-SB-18** | 98 | 48-50’ | | 200-SB-18 (48-50’) | | | Equip Rinsate 1407071400-1408<br>Trip Blank 1407071250 |
| | | 58-60’ | | 200-SB-18 (58-60’) | | | |
| | | 88-90’ | 1407091135 -1140 | 200-SB-18 (88-90’) | | | |
| **200-SB-19** | 46 | 8-10’ | 1407200845- 0900 | 200-SB-19 (8-10’) | 1407200845-0900 | | Equip Rinsate 1407200755-0804<br>Trip Blank 1407200630 |
| **200-SB-20** | 60 | 9-10’ | 1406040940 – 0942 | | | | Equip Rinsate 1406040810-0819<br>Trip Blank 1406040730 |
| | | 29-30’ | 1406041200 – 1207 | 200-SB-20 (28-30’) | | | |
| | | 49-50’ | 1406041720 – 1726 | | | | |
| **200-SB-21** | 45 | 7.5-10’ | 1406091135 – 1141 | | | | Equip Rinsate 1406090810-0819<br>Trip Blank 1406090811 |
| | | 17.5-22.5’ | 1406091610 – 1616 | | | | |
| | | 27.5-32.5’ | 1406091745 – 1751 | 200-SB-21 (32.5-33’) | | | |
| **200-SB-GOx** | 12 | 5-7’ | 1408220850 | | | | Equip Rinsate 1408220830 |
| | | 10-12’ | 1408220900 | | | | |

**Table 3.1 Summary of Soil Sampling for the 200 Area Phase II IR**

| Soil Boring ID | Boring Depth (ft bgs) | Sample Depth (ft bgs) | Sample Collection Summary | | | | |
|---|---|---|---|---|---|---|---|
| | | | Soil Chemical Sample ID | Soil Geotechnical Sample ID | Duplicates | Matrix Spike | Blanks |
| Target Depths (presented in IWP): shallow surface (upper 10 ft bgs); intermediate depth of borehole; and deep borehole near TD<br>Analytical Parameters:<br>Soil Chemical: VOCs, Hydrazines, NDMA, SVOCs, Bromacil, Dioxins/Furans, Hexavalent Chromium, Metals-total, Nitrate/Nitrite, Cyanide, Perchlorate, Chloride, and soil pH.<br>Geotechnical: Soil Classification, Particle Size, Gravimetric Moisture Content, Bulk Density, Porosity, Saturated Hydraulic Conductivity, and Unsaturated Hydraulic Conductivity, Organic Carbon.<br>Analytical Methods: VOCs – SW-846 Method 8260C; hydrazines – SW-846 Method 8315; NDMA – EPA Method 607M; SVOCs – SW-846 Method 8270C – including low level PAH; bromacil – SW-846 Method 8321B; dioxins/furans – SW-846 Method 8280/8290; total metals – most appropriate method; nitrate/nitrite – EPA Method 300.0 or best available; cyanide – SW-846 Method 9012/9013; Perchlorate – EPA Method 6850; chloride – EPA Method 300.0 or best available; and pH – SW-846 Method 9045D. Where applicable, hexavalent chromium – SW-846 Method 7199. Soil samples specifically collected for PFCs are anticipated to be analyzed by EPA Method 537 | | | | | | | |

**Table 3.2 Soil Samples Collected and Tests Performed for Soil Physical and Hydraulic Properties**

| Soil Boring | Depth | Type | Date Collected | Initial Soil Properties | | Saturated Hydraulic Conductivity | Moisture | | | | | Particle Size | | Atterberg Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | G | VM | CH | HC | PP | DPP | RH | $K_{unsat}$ | WS | H | |
| 200-SB-05 | 8 – 10’ | Sleeve*/Bag | 06/15/14 | S | S | S | S | | S | S | S | B/S | B/S | B |
| 200-SB-06 | 8 – 10’ | Sleeve*/Bag | 06/14/14 | B/S | B/S | B/S | B/S | | B/S | B/S | B/S | B/S | B/S | B/S |
| 200-SB-07 | 47 – 49’ | Sleeve*/Bag | 06/12/14 | S | S | S | S | S | S | S | S | B/S | B/S | B |
| 200-SB-08 | 28 – 30’ | Sleeve*/Bag | 06/13/14 | S | S | S | S | S | S | S | S | B/S | B/S | B |
| 200-SB-09 | 8 – 10’ | Sleeve/Bag | 06/30/14 | S | S | S | S | | S | S | S | B/S | B/S | B |
| 200-SB-10 | 16 – 18’ | Sleeve/Bag | 06/28/14 | S | S | S | S | | S | S | S | B/S | B/S | B |
| 200-SB-11 | 28 – 30’ | Sleeve | 07/01/14 | S | S | S | S | | S | S | S | S | S | S |
| 200-SB-12 | 8 – 10’ | Bag | 07/17/14 | | | | | | | | | B | B | B |
| 200-SB-15 | 8 – 10’ | Sleeve/Bag | 07/11/14 | S | S | S | S | S | S | S | S | S | S | B |
| 200-SB-15 | 66 – 68’ | Bag | 07/16/14 | | | | | | | | | B | B | B |
| 200-SB-15 | 98 – 100’ | Bag | 07/16/14 | | | | | | | | | B | B | B |
| 200-SB-16 | 18 – 20’ | Sleeve | 07/22/14 | S | S | S | S | S | S | S | S | S | S | S |
| 200-SB-16 | 58 – 60’ | Sleeve/Bag | 07/23/14 | S | S | S | S | | S | S | S | B/S | B/S | B |
| 200-SB-17 | 8 – 12’ | Bag | 08/02/14 | B | B | B | B | | B | B | B | B | B | B |
| 200-SB-18 | 48 – 50’ | Bag | 07/08/14 | | | | | | | | | B | B | B |
| 200-SB-18 | 58 – 60’ | Bag | 07/08/14 | | | | | | | | | B | B | B |

**Table 3.2 Soil Samples Collected and Tests Performed for Soil Physical and Hydraulic Properties**

| Soil Boring | Depth | Type | Date Collected | Initial Soil Properties | | Saturated Hydraulic Conductivity | | Moisture | | | | Particle Size | | Atterberg Limits |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | G | VM | CH | HC | PP | DPP | RH | $K_{unsat}$ | WS | H | |
| 200-SB-18 | 88 – 90’ | Bag | 07/09/14 | B | B | B | B | B | B | B | B | B | B | B |
| 200-SB-19 | 8 – 10’ | Sleeve/Bag | 07/20/14 | S | S | S | S | S | S | S | S | S | S | B |
| 200-SB-20 | 28 – 30’ | Sleeve*/Bag | 06/04/14 | S/B | S/B | S/B | S/B | | S/B | S/B | S/B | S/B | S/B | S/B |
| 200-SB-21 | 32 – 33’ | Sleeve* | 06/09/14 | S | S | S | S | S | S | S | S | S | S | |

**Table 3.3 Summary of Rock Core Samples for the Matrix Diffusion Study**

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7 | 1 | 6/17/2014 | 55.5 | 56.5 | 1 | 0.3 | 0 | 0 | | | | |
| | 2 | | 56.5 | 60.5 | 4 | 4.2 | 52 | 4 | | | | |
| | 3 | | 60.5 | 65.5 | 5 | 4.9 | 61 | 5 | | | | |
| | 4 | 6/19/2014 | 65.5 | 68.5 | 3 | 2.3 | 0 | 3 | 1 | | | |
| | 5 | | 68.5 | 70 | 1.5 | 1.3 | 60 | 1 | | 1 | 1 | |
| | 6 | | 70 | 71 | 1 | 1.7 | 43 | 2 | | | | |
| | 7 | | 71 | 72 | 1 | 0.9 | 60 | 1 | | | | |
| | 8 | | 72 | 75 | 3 | 3 | 47 | 3 | | | | 1 |
| | 9 | | 75 | 77 | 2 | 1.8 | 45 | 1 | | | | |
| | 10 | | 77 | 78 | 1 | 1.3 | 73 | 1 | | | | |
| | 11 | | 78 | 79 | 1 | 1.7 | 30 | 0 | | | | |
| | 12 | | 79 | 84 | 5 | 5 | 64 | 5 | | | | |
| | 13 | | 84 | 89 | 5 | 5.1 | 84 | 5 | 1 | | | |
| | 14 | | 89 | 94 | 5 | 5 | 100 | 5 | | 1 | 1 | |
| | 15 | 6/20/2014 | 94 | 99 | 5 | 5.1 | 97 | 4 | | | | |
| | 16 | | 99 | 101 | 2 | 1.8 | 86 | 2 | | | | |
| | 17 | | 101 | 104 | 3 | 3 | 78 | 3 | | | | 1 |
| | 18 | | 104 | 107.5 | 3.5 | 3.6 | 100 | 4 | | | | |
| | 19 | | 107.5 | 107.5 | 0 | 0 | 0 | 0 | | | | |
| | 20 | | 107.5 | 108 | 0.5 | 0.8 | 0 | 0 | | | | |
| | 21 | | 108 | 112 | 4 | 3.8 | 35 | 3 | 1 | | | |
| | 22 | | 112 | 115 | 3 | 2.5 | 100 | 2 | | | | |
| | 23 | | 115 | 118.5 | 3.5 | 3.7 | 80 | 4 | | | | 1 |
| | 24 | | 118.5 | 122 | 3.5 | 3.7 | 64 | 3 | | | | |
| | 25 | | 122 | 126.5 | 4.5 | 4.4 | 53 | 4 | | | | |
| | 26 | | 126.5 | 131.5 | 5 | 5.3 | 84 | 5 | | 1 | 1 | |

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7 | 27 | 6/20/2014 | 131.5 | 136.5 | 5 | 5.2 | 63 | 4 | 1 | | | 1 |
| | 28 | | 136.5 | 142 | 5.5 | 5.5 | 62 | 5 | | | | |
| | 29 | | 142 | 147 | 5 | 5.1 | 85 | 4 | | | | |
| | 30 | | 147 | 150.5 | 3.5 | 3.4 | 52 | 3 | | | | |
| | 31 | 6/21/2014 | 150.5 | 152 | 1.5 | 1.5 | 100 | 0 | | | | 1 |
| | 32 | | 152 | 157.5 | 5.5 | 5.2 | 70 | 5 | 1 | 1 | 1 | |
| | 33 | | 157.5 | 162 | 4.5 | 4.8 | 64 | 5 | | | | |
| | 34 | | 162 | 167 | 5 | 5.4 | 68 | 4 | | | | |
| | 35 | | 167 | 168.5 | 1.5 | 1 | 50 | 0 | | | | 1 |
| | 36 | | 168.5 | 172.5 | 4 | 4.4 | 81 | 4 | | | | |
| | 37 | | 172.5 | 178 | 5.5 | 5.3 | 70 | 5 | | 1 | 1 | |
| | 38 | | 178 | 181 | 3 | 2.8 | 181 | 3 | 1 | | | |
| | 39 | | 181 | 186 | 5 | 5.2 | 0 | 5 | | | | |
| | 40 | | 186 | 191 | 5 | 5.2 | 60 | 4 | | | | |
| | 41 | | 191 | 196 | 5 | 3.7 | 33 | 3 | | | | |
| | 42 | | 196 | 197 | 1 | 1.7 | 50 | 1 | | | | 1 |
| | 43 | | 197 | 201.5 | 4.5 | 4.7 | 86 | 4 | | 1 | 1 | |
| | 44 | | 201.5 | 202 | 0.5 | 0.7 | 0 | 0 | | | | |
| 200-SB-6 | 1 | 6/23/2014 | 20 | 26 | 6 | 3.6 | 30 | 3 | | | | |
| | 2 | | 26 | 31.5 | 5.5 | 4.9 | 27 | 5 | | | | |
| | 3 | | 31.5 | 36.5 | 5 | 5 | 73 | 4 | | | | 1 |
| | 4 | | 36.5 | 41 | 4.5 | 4.5 | 50 | 4 | | | | |
| | 5 | | 41 | 42.5 | 1.5 | 1.5 | 28 | 1 | | 1 | 1 | |
| | 6 | | 42.5 | 45 | 2.5 | 2.2 | 44 | 2 | 1 | | | |
| | 7 | | 45 | 50.5 | 5.5 | 5.4 | 27 | 5 | | | | |
| | 8 | | 50.5 | 53 | 2.5 | 1.9 | 67 | 2 | | | | |
| | 9 | | 53 | 54 | 1 | 1 | 0 | 1 | | | | |

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-6 | 10 | 6/23/2014 | 54 | 54.5 | 0.5 | 0.6 | 0 | 0 | | | | |
| | 11 | | 54.5 | 57.5 | 3 | 3.7 | 31 | 3 | | | | |
| | 12 | | 57.5 | 62.5 | 5 | 4.7 | 84 | 3 | | | | 1 |
| | 13 | 6/24/2014 | 62.5 | 67.5 | 5 | 4.9 | 69 | 5 | | 1 | 1 | |
| | 14 | | 67.5 | 72 | 4.5 | 4.7 | 54 | 4 | 1 | | | |
| | 15 | | 72 | 75 | 3 | 2.9 | 79 | 3 | | | | |
| | 16 | | 75 | 77 | 2 | 2.3 | 55 | 2 | | | | 1 |
| | 17 | | 77 | 81 | 4 | 4 | 100 | 3 | | | | |
| | 18 | | 81 | 84 | 3 | 3.8 | 87 | 2 | | | | |
| | 19 | | 84 | 89 | 5 | 4.2 | 100 | 3 | | | | |
| | 20 | | 89 | 92 | 3 | 2.9 | 63 | 3 | | 1 | 1 | |
| | 21 | | 92 | 97 | 5 | 4.8 | 100 | 5 | 1 | | | 1 |
| | 22 | | 97 | 98 | 1 | 1.2 | 44 | 0 | | | | |
| | 23 | | 98 | 102 | 4 | 3.4 | 100 | 2 | | | | |
| | 24 | | 102 | 107 | 5 | 5.1 | 81 | 5 | | | | |
| | 25 | | 107 | 112 | 5 | 5 | 95 | 4 | | | | |
| | 26 | | 112 | 117 | 5 | 5 | 100 | 5 | | 1 | 1 | 1 |
| | 27 | | 117 | 122 | 5 | 5 | 100 | 5 | 1 | | | |
| | 28 | | 122 | 123 | 1 | 1 | 0 | 0 | | | | |
| | 29 | | 123 | 128 | 5 | 5.2 | 94 | 5 | | | | |
| | 30 | | 128 | 128 | 0 | 0 | 0 | 0 | | | | |
| | 31 | | 128 | 132 | 4 | 3.5 | 69 | 2 | | | | |
| | 32 | | 132 | 137 | 5 | 5.3 | 78 | 3 | | | | |
| | 33 | | 137 | 142 | 5 | 4.3 | 100 | 2 | | | | 1 |
| | 34 | | 142 | 147 | 5 | 5.2 | 77 | 5 | 1 | 1 | 1 | |
| | 35 | | 147 | 151 | 4 | 5.2 | 95 | 4 | | | | |
| | 36 | | 151 | 156.5 | 5.5 | 5.2 | 100 | 3 | | | | |

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-6 | 37 | 6/24/2014 | 156.5 | 161.5 | 5 | 4.7 | 91 | 4 | | | | 1 |
| | 38 | | 161.5 | 162 | 0.5 | 0.5 | 0 | 0 | | | | |
| | 39 | 6/25/2014 | 162 | 167 | 5 | 5.3 | 86 | 5 | | | | |
| | 40 | | 167 | 172 | 5 | 5.3 | 81 | 5 | | 1 | 1 | |
| | 41 | | 172 | 177 | 5 | 5 | 100 | 2 | 1 | | | |
| | 42 | | 177 | 179 | 2 | 1.6 | 100 | 0 | | | | |
| | 43 | | 179 | 184 | 5 | 5.2 | 83 | 4 | | | | |
| | 44 | | 184 | 189 | 5 | 5.1 | 73 | 4 | | | | 1 |
| | 45 | | 189 | 194 | 5 | 5 | 72 | 3 | | | | |
| | 46 | | 194 | 199 | 5 | 4.9 | 100 | 4 | | 1 | 1 | |
| | 47 | | 199 | 202 | 3 | 2.4 | 100 | 0 | | | | |
| **Totals** | | | | | **328.5** | **325.1** | **--** | **268** | **12** | **13** | **13** | **15** |

**Table 3.4 Summary of 200 Area Phase II VOC Soil Vapor Sampling**

| Soil Vapor Well | Port Depth (ft) | Sample ID Number |
|---|---|---|
| 200-SV-05 | 9 | 1410081330 |
| 200-LV-150 (200-SB-06) | 64 | 1410080800 |
| 200-LV-150 (200-SV-06) | 84 | 1410080805 |
| 200-KV-150 (200-SB-07) | 59 | 1410071525 |
| 200-KV-150 (200-SB-07) | 119 | 1410071535* |
| 200-SV-07-FB | - | 1410071540 |
| 200-SV-08 | 9 | 1410071509 |
| 200-SV-08 | 29 | 1410071514 |
| 200-SV-08 | 49 | 1410071521 |
| 200-SV-09 | 19 | 1410080825 |
| 200-SV-10 | 19 | 1410080737 |
| 200-SV-10 | 39 | 1410080745 |
| 200-SV-11 | 9 | 1410071447 |
| 200-SV-11 | 29 | 1410071500 |
| 200-SV-11-D | 29 | 1410071500 |
| 200-SV-12 | 14 | 1410071440 |
| 200-SV-13 | 14 | 1410071410 |
| 200-SV-13 | 34 | 1410071419 |
| 200-SV-14 | 4.75 | 1410081005 |
| 200-SV-15 | 9 | 1410071035 |
| 200-SV-15 | 59 | 1410071052 |
| 200-SV-15 | 119 | 1410071124 |
| 200-SV-16 | 19 | 1410071300 |
| 200-SV-16 | 59 | 1410071312 |
| 200-SV-16 | 99 | 1410071320 |
| 200-SV-17 | 29 | 1410080905 |
| 200-SV-17 | 79 | 1410080910 |
| 200-SV-17 | 139 | 1410080915 |
| 200-SV-18 | 29 | 1410071331 |
| 200-SV-18 | 59 | 1410071347 |
| 200-SV-18 | 89 | 1410071400 |
| 200-SV-19 | 19 | 1410080943 |
| 200-SV-19 | 39 | 1410080947 |
| 200-SV-20 | 9 | 1410081113 |
| 200-SV-20 | 29 | 1410081117 |
| 200-SV-20 | 49 | 1410081125 |
| 200-SV-21 | 9 | 1410080837 |
| 200-SV-21 | 29 | 1410080842 |

**Table 4.1 Summary of Soil Inorganic Data and Comparison to Background Concentrations**

| Analyte | 200 Area Phase II Soil Borings@ | | Soil BG Study Area #3* (NASA, 2014) | | RFI Background Ranges (200 Area) | | Literature | NMED |
|---|---|---|---|---|---|---|---|---|
| | Minimum Value (mg/kg) | Maximum Value (mg/kg) | Minimum Value (mg/kg) | Maximum Value (mg/kg) | 1987 Background Soil Borings (mg/kg) | 1995 Background Soil Borings (mg/kg) | Regional Background[1] (ppm) | Dec 2014 SSL for Residential Soil (mg/kg) |
| Aluminum | 1,380 | 11,100 | 2,260 | 11,200 | | | 700-<100,000 | 78,000 |
| Antimony | 0.6 (J RB) | 1.5 (J RB) | ND | 2.1 (J RB) | | | | 31.3 |
| Arsenic | 1.24 | 14.9 | 4.6 | 45.7 | ND (28-31) | ND (5)-14 | 0.1-97 | 4.25 |
| Barium | 9.3 | 376 | 41.7 | 572 | 23-290 | 41-181 | 10-5,000 | 15,600 |
| Beryllium | 0.28 | 0.67 | 0.25 (J) | 0.87 | | | <1-15 | 156 |
| Boron | ND | 11 (J) | ND | 50 | | | | 15,600 |
| Cadmium | 0.1 (J) | 0.95 | ND | 0.63 | 0.3-1.3 | ND (0.5)-2.1 | | 70.5 |
| Calcium | 53,600 | 235,000 | 52,400 | 279,000 | | | 100-320,000 | Not Available |
| Chloride | ND | 442 | ND | 1,230 (T) | | | | Not Available |
| Chromium, Hex | ND | 0.05 (J) | ND (T) | 1.21 (T) | | | | 3.05 |
| Chromium | 4.79 | 49.7 | 2.73 | 9.2 | 4.1-20 | 8-23 | 1-2,000 | 117,000 (Cr III) |
| Cobalt | 2.41 | 6.58 | 2.31 | 10.8 | | | <3-70 | 23 (EPA RSL) |
| Copper | 3.96 | 11.8 | 2.96 | 17.9 | | | <1-700 | 3,130 |
| Cyanide | ND | 0.19 (J) | ND (T) | 0.16 (T) | | | | 11.2 |
| Iron | 3,760 | 19,300 | 5,880 | 25,200 | | | 100->100,000 | 54,800 |
| Lead | 3.1 | 14.1 | 3.2 (J) | 14.2 | 7-15 | 6-2,420 | <10-700 | 400 |
| Magnesium | 5,570 | 31,100 | 3,950 | 82,300 | | | 50->100,000 | Not Available |
| Manganese | 169 | 388 | 84.1 | 457 | | | 2-7,000 | 10,500 |
| Mercury | ND | 0.028 (J) | ND (T) | 0.044 (T) | ND (0.05) | ND (0.1)-0.2 | <0.01-4.6 | 23.8 |
| Molybdenum | 0.5 (J RB) | 3.8 | 0.3 (J RB) | 13.3 | | | <3-15 | 391 |
| Nickel | 4.7 | 14.6 | 6.3 | 29.8 | | | <5-700 | 1,560 |

**Table 4.1 Summary of Soil Inorganic Data and Comparison to Background Concentrations**

| Analyte | 200 Area Phase II Soil Borings@ | | Soil BG Study Area #3* (NASA, 2014) | | RFI Background Ranges (200 Area) | | Literature | NMED |
|---|---|---|---|---|---|---|---|---|
| | Minimum Value (mg/kg) | Maximum Value (mg/kg) | Minimum Value (mg/kg) | Maximum Value (mg/kg) | 1987 Background Soil Borings (mg/kg) | 1995 Background Soil Borings (mg/kg) | Regional Background[1] (ppm) | Dec 2014 SSL for Residential Soil (mg/kg) |
| NO2/NO3 | ND | 11.1 | ND (T) | 3.5 (J T) | | | | Nitrate 125,000<br>Nitrite 7,820 |
| Perchlorate | Not Available | Not Available | ND | 4.3 | | | | 54.8 |
| Potassium | 340 | 3,560 | 780 | 3,510 | | | 50-63,000 | Not Available |
| Selenium | ND | ND | ND | 1.3 | 30-40 | ND(10)-20 | 0.1-4.3 | 391 |
| Silver | ND | ND | ND | 2.7 | 0.9-11 | ND(1)-4 | | 391 |
| Sodium | 80 (J) | 660 | 50 (J) | 1,500 | | | <500-100,000 | Not Available |
| Strontium | 106 | 311 | 75 | 3,510 | | | <5-3,000 | 46,900 |
| Thallium | ND | ND | ND | ND | | | 2.2-31 | 78.2 |
| Tin | ND | 6 | ND | 6 (J RB) | | | <0.1-10 | 47,000<br>(EPA RSL) |
| Titanium | 15.3 | 204 | 23.6 | 234 | | | 70-20,000 | Not Available |
| Uranium | 0.81 | 2.39 | 0.47 (J) | 5.57 | | | 0.29-11[)] | 234 |
| Vanadium | 4.2 (J) | 42.2 | 11.3 | 66.4 | | | <7-500[)] | 394 |
| Zinc | 18.5 | 68 | 14 | 87 | | | <5-2,900 | 23,500 |

**Table 4.2 Summary of Soil Volatile Organic Analyses Detections**

| Soil Boring ID and Sample Depth | Sample Type | Analyte | Result (ug/kg) | Reporting Limit (ug/kg) | Detection Limit (ug/kg) | Qa Flag |
|---|---|---|---|---|---|---|
| 200-SB-19-8 | VOA-D | Acetone | 4.4 | 6.4 | 3.7 | J |
| 200-SB-19-8 | VOA-D | Toluene | 1.3 | 6.4 | 1.3 | J |
| 200-SB-17-8 | VOA-D | Acetone | 2.7 | 4.4 | 2.5 | J |
| 200-SB-17-8 | VOA-D | Chloromethane | 0.54 | 4.4 | 0.36 | J |
| 200-SB-17-8 | VOA-D | Toluene | 1.9 | 4.4 | 0.88 | J |
| 200-SB-20-9 | VOA | Dichloromethane | 0.75 | 5.1 | 0.59 | J |
| 200-SB-20-30 | VOA | Acetone | 3.8 | 5 | 2.9 | J |
| 200-SB-10-16 | VOA | Toluene | 2.1 | 4.7 | 0.93 | J |
| 200-SB-10-36 | VOA | Acetone | 8.2 | 5.2 | 3 | J |
| 200-SB-10-36 | VOA | Toluene | 2.5 | 5.2 | 1.1 | J |
| 200-SB-10-26 | VOA | Acetone | 5.7 | 3.7 | 2.1 | J |
| 200-SB-10-26 | VOA | Toluene | 2.1 | 3.7 | 0.73 | J |
| 200-SB-19-8 | VOA | Acetone | 4.5 | 7.7 | 4.4 | J |
| 200-SB-16-18 | VOA | Acetone | 9.1 | 5.2 | 3 | |
| 200-SB-16-18 | VOA | Toluene | 2.1 | 5.2 | 1.1 | J |
| 200-SB-16-28 | VOA | Acetone | 2.7 | 4.6 | 2.6 | J |
| 200-SB-16-28 | VOA | Toluene | 2.1 | 4.6 | 0.92 | J |
| 200-SB-11-28 | VOA | Acetone | 3.9 | 5.1 | 2.9 | BJ |
| 200-SB-18-88 | VOA | Acetone | 15 | 5 | 2.9 | |
| 200-SB-18-88 | VOA | Toluene | 1.9 | 5 | 1 | J |
| 200-SB-15-8 | VOA | Acetone | 5.3 | 5.7 | 3.3 | J |
| 200-SB-15-8 | VOA | Toluene | 3.4 | 5.7 | 1.2 | J |
| 200-SB-15-98 | VOA | Acetone | 4 | 5.5 | 3.2 | J |
| 200-SB-15-98 | VOA | Toluene | 1.4 | 5.5 | 1.2 | J |
| 200-SB-17-48 | VOA | Toluene | 1 | 4.4 | 0.88 | J |
| 200-SB-17-88 | VOA | Acetone | 4.1 | 4 | 2.3 | |
| 200-SB-17-88 | VOA | Toluene | 1.1 | 4 | 0.81 | J |
| 200-SB-17-8 | VOA | Acetone | 3.9 | 4.6 | 2.6 | J |
| 200-SB-17-8 | VOA | Toluene | 1.4 | 4.6 | 0.92 | J |

**Table 4.3 Summary of Geotechnical Soil Sample Results for Phase II Soil Borings**

| Sample Location (depth in feet) | Particle Size Characteristics# | | | | Atterberg | Mass/Volume Relationships | | | | Hydraulic Properties | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gravel<br>Sand<br>Silt<br>Clay<br>(%) | $d_{10}$ (mm)<br>$d_{50}$ (mm)<br>$d_{60}$ (mm)<br>$C_u$<br>$C_c$ | ASTM Classn | ASTM Description | Plasticity Index | Gravimetric Moisture (%, g/g) | Volumetric Moisture (%, $cm^3/cm^3$) | Dry Bulk Density/ Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) | Saturated Hydraulic Conductivity (cm/sec) | Unsaturated Hydraulic Properties<br>α ($cm^{-1}$)<br>N<br>Θr (% vol)<br>Θs (% vol) |
| 200-SB-05<br>(8 -10') | 49.1<br>41.6<br>6.4<br>3.0 | 0.099<br>4.5<br>7.3<br>74<br>1.7 | GW-GM (to SW-SM) | Well-graded gravel with silt and sand | --- | 3.6* | 6.0* | 1.67<br>1.73 | 38.0 | 1.2E-02 | 0.1176<br>1.3082<br>0.00<br>28.17 |
| 200-SB-06<br>(8 – 10') | 54.4<br>35.5<br>8.2<br>1.8 | 0.074<br>6.0<br>10<br>135<br>3.0 | GP-GM | Poorly-graded gravel with silt and sand | --- | 8.3* | 14.3* | 1.72<br>1.87 | 36.2 | 5.2E-02 | 1.2646<br>1.2116<br>0.00<br>34.11 |
| 200-SB-07<br>(47 – 49') | 79.0<br>15.3<br>3.7<br>2.1 | 0.71<br>8.0<br>9.5<br>13<br>4.6 | GP-GC (to SC-SM) | Poorly-graded gravel with clay and sand | 7 | 6.6* | 10.4* | 1.57<br>1.68 | 41.8 | 5.5E-03 | 0.5150<br>1.2561<br>0.00<br>40.53 |
| 200-SB-08<br>(28 – 30') | 26.0<br>54.9<br>13.2<br>5.8 | 0.0073<br>0.83<br>1.8<br>247<br>4.8 | SM | Silty sand with gravel | --- | 3.4* | 5.6* | 1.64<br>1.70 | 39.2 | 9.2E-03 | 0.269<br>1.4776<br>1.16<br>28.97 |
| 200-SB-09<br>(8 – 10') | 47.1<br>42.1<br>8.8<br>2.1 | 0.065<br>4.0<br>6.5<br>100<br>2.9 | GW-GM | Well-graded gravel with silt and sand | --- | 2.4 | 4.1 | 1.70<br>1.74 | 36.0 | 2.5E-01 | 0.6384<br>1.2945<br>0.00<br>31.08 |
| 200-SB-10<br>(16 – 18') | 34.6<br>34.7<br>19.9 | 0.0016<br>0.51<br>2.0 | SC-SM | Silty, clayey sand with gravel | 6 | 9.9 | 19.6 | 1.98<br>2.17 | 25.3 | 4.3E-04 | 0.0163<br>1.2411<br>0.00 |

| Sample Location (depth in feet) | Particle Size Characteristics# | | | | Atterberg | Mass/Volume Relationships | | | | Hydraulic Properties | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gravel<br>Sand<br>Silt<br>Clay<br>(%) | $d_{10}$ (mm)<br>$d_{50}$ (mm)<br>$d_{60}$ (mm)<br>$C_u$<br>$C_c$ | ASTM Classn | ASTM Description | Plasticity Index | Gravimetric Moisture (%, g/g) | Volumetric Moisture (%, $cm^3/cm^3$) | Dry Bulk Density/ Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) | Saturated Hydraulic Conductivity (cm/sec) | Unsaturated Hydraulic Properties<br>α ($cm^{-1}$)<br>N<br>Θr (% vol)<br>Θs (% vol) |
| | 10.8 | 1250<br>1.6 | | | | | | | | | 25.32 |
| 200-SB-11<br>(28 – 30’) | 43.1<br>47.6<br>7.4<br>1.9 | 0.11<br>3.7<br>5.1<br>46<br>5.2 | SP-SM | Poorly-graded sand with silt and gravel | --- | 2.2 | 3.9 | 1.73<br>1.77 | 34.6 | 2.9E-01 | 0.6229<br>1.3017<br>0.00<br>32.26 |
| 200-SB-12<br>(8 – 10’) | 74.1<br>19.6<br>4.8<br>1.5 | 0.26<br>11<br>13<br>50<br>9.6 | GP-GM | Poorly-graded gravel with silt and sand | --- | --- | --- | --- | --- | --- | --- |
| 200-SB-15<br>(8 – 10’) | 1.4<br>25.0<br>60.0<br>13.6 | 0.00087<br>0.042<br>0.053<br>61<br>3.7 | ML | Sandy silt | --- | 6.1 | 8.4 | 1.37<br>1.45 | 48.3 | 3.5E-04 | 0.0091<br>1.3099<br>0.18<br>47.01 |
| 200-SB-15<br>(66 – 68’) | 80.3<br>12.7<br>5.7<br>1.3 | 0.52<br>13<br>15<br>29<br>6.8 | GP-GM | Poorly-graded gravel with silt | --- | --- | --- | --- | --- | --- | --- |
| 200-SB-15<br>(98 – 100’) | 89.4<br>7.3<br>2.5<br>0.8 | 4.3<br>11<br>12<br>2.8<br>1.1 | GP | Poorly-graded gravel | --- | --- | --- | --- | --- | --- | --- |
| 200-SB-16<br>(18 – 20’) | 2.1<br>21.4 | 0.0016<br>0.040 | ML | Silt with sand | --- | 6.3 | 8.5 | 1.35<br>1.44 | 49.0 | 2.8E-04 | 0.0098<br>1.2961 |

| Sample Location (depth in feet) | Particle Size Characteristics# | | | | Atterberg | Mass/Volume Relationships | | | | Hydraulic Properties | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gravel<br>Sand<br>Silt<br>Clay<br>(%) | $d_{10}$ (mm)<br>$d_{50}$ (mm)<br>$d_{60}$ (mm)<br>$C_u$<br>$C_c$ | ASTM Classn | ASTM Description | Plasticity Index | Gravimetric Moisture (%, g/g) | Volumetric Moisture (%, $cm^3/cm^3$) | Dry Bulk Density/ Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) | Saturated Hydraulic Conductivity (cm/sec) | Unsaturated Hydraulic Properties<br>α ($cm^{-1}$)<br>N<br>Θr (% vol)<br>Θs (% vol) |
| | 64.7<br>11.8 | 0.053<br>33<br>0.87 | | | | | | | | | 0.00<br>46.93 |
| 200-SB-16 (58 – 60’) | 52.7<br>37.6<br>7.5<br>2.2 | 0.082<br>5.6<br>9.7<br>118<br>1.5 | GW-GM (to SP-SM) | Well graded gravel with silt and sand | --- | 2.0 | 3.9 | 1.92<br>1.95 | 27.7 | 1.8E-03 | 0.0272<br>1.4502<br>0.59<br>24.65 |
| 200-SB-17 (8 – 12’) | 50.4<br>43.3<br>5.9<br>0.5 | 0.27<br>4.8<br>6.8<br>25<br>1.8 | GW-GM | Well graded gravel with silt and sand | --- | 4.0* | 7.4* | 1.83<br>1.91 | 30.8 | 3.6E-02 | 0.0832<br>1.6498<br>1.22<br>31.65 |
| 200-SB-18 (48 – 50’) | 72.4<br>22.6<br><br>1.3 | 0.85<br>8.3<br>11<br>13<br>2.7 | GW-GC | Well-graded gravel with clay and sand | 10 | --- | --- | --- | --- | --- | --- |
| 200-SB-18 (58 – 60’) | 73.2<br>24.2<br>2.1<br>0.6 | 0.86<br>7.6<br>9.3<br>11<br>3.3 | GP | Poorly-graded gravel with sand | --- | --- | --- | --- | --- | --- | --- |
| 200-SB-18 (88 – 90’) | 29.6<br>22.2<br>32.5<br>15.7 | 0.0011<br>0.11<br>0.68<br>618<br>0.051 | GC | Clayey gravel with sand | 17 | 9.2 | 17.1 | 1.87<br>2.04 | 29.5 | 2.9E-05 | 0.0040<br>1.2170<br>0.00<br>32.63 |

| Sample Location (depth in feet) | Particle Size Characteristics# | | | | Atterberg | Mass/Volume Relationships | | | | Hydraulic Properties | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gravel<br>Sand<br>Silt<br>Clay<br>(%) | $d_{10}$ (mm)<br>$d_{50}$ (mm)<br>$d_{60}$ (mm)<br>$C_u$<br>$C_c$ | ASTM Classn | ASTM Description | Plasticity Index | Gravimetric Moisture (%, g/g) | Volumetric Moisture (%, $cm^3/cm^3$) | Dry Bulk Density/ Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) | Saturated Hydraulic Conductivity (cm/sec) | Unsaturated Hydraulic Properties<br>α ($cm^{-1}$)<br>N<br>Θr (% vol)<br>Θs (% vol) |
| 200-SB-19<br>(8 – 10’) | 47.6<br>29.0<br>18.7<br>4.7 | 0.013<br>3.6<br>8.0<br>615<br>0.31 | GM (to SM) | Silty gravel with sand | --- | 3.6 | 5.8 | 1.61<br>1.67 | 39.2 | 5.0E-03 | 0.0092<br>1.4855<br>1.67<br>35.74 |
| 200-SB-20<br>(28 – 30’) | 17.4<br>78.7<br>1.7<br>2.2 | 0.32<br>1.6<br>2.1<br>6.6<br>1.2 | SW | Well-graded sand with gravel | --- | 7.0* | 12.2* | 1.76<br>1.88 | 34.9 | 4.9E-02 | 0.5383<br>1.4362<br>0.88<br>34.88 |
| 200-SB-21<br>(32 – 33’) | 47.7<br>44.8<br>4.8<br>2.7 | 0.17<br>4.2<br>6.5<br>38<br>1.5 | GW-GM (to SW) | Well-graded gravel with silt and sand | --- | 1.2* | 2.0* | 1.72<br>1.74 | 36.4 | 1.3E-03 | 0.5654<br>1.3480<br>0.00<br>31.74 |

**Table 4.4 Summary of Detected VOC Concentrations in Rock Core Samples**

| VOC | Borehole | Number of Sample Detections (%) | Detection Range (µg/kg) | Average of Detected Values (µg/kg) | Max Value (µg/kg) | Max Value Depth (Ft Bgs) | NM 2014 Residential Soil Screening Level (SSL) (µg/kg)* |
|---|---|---|---|---|---|---|---|
| Freon 11 | 200-SB-06<br>200-SB-07 | 2/139 = 1.4<br>14/129 = 10.9 | 46.9 – 107<br>23.3 – 960 | 77.0<br>139.4 | 107<br>960 | **187.4**<br>**143.9** | 1,230,000 |
| Chloromethane | 200-SB-06<br>200-SB-07 | 81/139 = 58.3<br>12/129 = 9.3 | 15.4 – 67.7<br>13.6 – 56.7 | 28.8<br>29.7 | 67.7<br>56.7 | **171.3**<br>75.3 | 41,100 |
| Freon 113 | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>19/129 = 14.7 | 19.7 – 4,270<br>19.8 – 2,480 | 381.1<br>245.0 | 4,270<br>2,480 | **158.0**<br>**143.9** | 50,800,000 |
| 2-Butanone | 200-SB-06<br>200-SB-07 | 8/139 = 5.8<br>6/129 = 4.7 | 145 – 554<br>162 – 475 | 294.6<br>234.2 | 554<br>475 | 76.1<br>67.6 | 37,400,000 |
| Benzene | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>13/129 = 10.1 | 2.9 – 8,330<br>4.2 – 118 | 249.1<br>19.1 | 8,330<br>118 | **174.1**<br>115.8 | 17,800 |
| TCE | 200-SB-06<br>200-SB-07 | 57/139 = 41.0<br>8/129 = 6.2 | 12.6 – 2,350<br>16.6 – 35.5 | 192.7<br>25.7 | 2,350<br>35.5 | 108.5<br>**149.9** | 6,770 |
| Toluene | 200-SB-06<br>200-SB-07 | 29/139 = 20.8<br>20/129 = 16.0 | 6.6 – 2,180<br>10.4 – 218 | 203.7<br>37.4 | 2,180<br>218 | **174.1**<br>115.8 | 5,230,000 |
| 1,1,2-Trichloroethane | 200-SB-06<br>200-SB-07 | 5/139 = 3.6<br>1/129 = 0.8 | 53.9 – 290<br>35.1 | 133.1<br>35.1 | 290<br>35.1 | **187.4**<br>**148.7** | 2,610 |
| PCE | 200-SB-06<br>200-SB-07 | 19/139 = 13.6<br>0/129 = --- | 14.2 – 91.5<br>--- | 50.4<br>--- | 91.5<br>--- | 55.7<br>--- | 111,000 |
| m,p,-xylenes | 200-SB-06<br>200-SB-07 | 96/139 = 69.1<br>51/129 = 39.5 | 3.4 – 199<br>4.7 – 74.4 | 17.0<br>11.5 | 199<br>74.4 | **171.3**<br>**148.7** | 764,000 |

Notes: VOCs ND or with one total detection or less (both boreholes combined) = 1,1-Dichloroethene, Methylene Chloride, t-Butyl-methyl ether, Chloroform, 1,1,1,-Trichloroethane, 1,2-Dichloroethane, Bromodichloromethane, Dibromochloromethane, Chlorobenzene, and Bromoform.

**Bold** = Sample located near or below the static water table during field drilling at 140 – 145 ft bgs in boreholes 200-SB-06 and 200-SB-07.

*Taken from NMED Risk Assessment Guidance for site Investigations and Remediation (NMED, 2014d).

**Table 4.5 Summary of Estimated Pore Water Concentrations in Rock Core Samples**

| VOC | Borehole | Number of Sample Detections (%) | Detection Range (µg/L) | Average of Detected Values (µg/L) | Max Value (µg/L) | Max Value Depth (Ft Bgs) | Current Maximum Value From 200 Area Wells (µg/L) |
|---|---|---|---|---|---|---|---|
| Freon 11 | 200-SB-06<br>200-SB-07 | 2/139 = 1.4<br>14/129 = 10.9 | 130 – 150<br>84.0 – 43,000 | 140.0<br>5,240 | 150<br>43,000 | **158.0**<br>**143.9** | 100<br>(200-B-240) |
| Chloromethane | 200-SB-06<br>200-SB-07 | 81/139 = 58.3<br>12/129 = 9.3 | 300 – 1,900<br>290 – 5,800 | 745.8<br>2,175 | 5,800<br>1,900 | **100.5**<br>**144.7** | 1.4<br>(200-B-240) |
| Freon 113 | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>19/129 = 14.7 | 7.2 – 4,700<br>40.0 – 52,000 | 1,181<br>4,732 | 4,700<br>52,000 | 73.1<br>**143.9** | 1,400<br>(200-SG-1) |
| 2-Butanone | 200-SB-06<br>200-SB-07 | 8/139 = 5.8<br>6/129 = 4.7 | 2,200 – 12,000<br>1,500 – 11,000 | 4,938<br>5,833 | 12,000<br>11,000 | 76.1<br>**170.1** | Non-Detect<br>(Since 2/1/08) |
| Benzene | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>13/129 = 10.1 | 8.0 – 44,000<br>28.0 – 940 | 1,442<br>333.3 | 44,000<br>940 | **174.1**<br>**166.7** | 0.99J<br>(200-F-225) |
| TCE | 200-SB-06<br>200-SB-07 | 57/139 = 41.0<br>8/129 = 6.2 | 13.0 – 13,000<br>90.0 – 1,800 | 1,488<br>559.0 | 13,000<br>1,800 | 108.5<br>**149.9** | 460<br>(200-D-109) |
| Toluene | 200-SB-06<br>200-SB-07 | 29/139 = 20.8<br>20/129 = 16.0 | 4.9 – 4,400<br>26.0 – 3,300 | 496.3<br>437.5 | 4,400<br>3,300 | **174.1**<br>97.3 | 0.8J<br>(200-D-109) |
| 1,1,2-Trichloroethane | 200-SB-06<br>200-SB-07 | 5/139 = 3.6<br>1/129 = 0.8 | 230 – 690<br>--- | 414.0<br>--- | 690<br>--- | **187.4**<br>--- | Non-Detect<br>(Since 2/1/08) |
| PCE | 200-SB-06<br>200-SB-07 | 19/139 = 13.6<br>0/129 = --- | 63 – 360<br>--- | 156.6<br>--- | 360<br>--- | 35.8<br>--- | 26<br>(200-D-109) |
| m,p,-xylenes | 200-SB-06<br>200-SB-07 | 96/139 = 69.1<br>51/129 = 39.5 | 2.5 – 290<br>8.6 – 2,300 | 43.2<br>147.1 | 290<br>2,300 | **171.3**<br>**148.7** | 0.25J<br>(200-SG-1) |

Notes: VOCs ND or with one total detection or less (both boreholes combined) = 1,1-Dichloroethene, Methylene Chloride, t-Butyl-methyl ether, Chloroform, 1,1,1,-Trichloroethane, 1,2-

Dichloroethane, Bromodichloromethane, Dibromochloromethane, Chlorobenzene, and Bromoform.

**Bold** = Sample located near or below the static water table during field drilling at 140 – 145 ft bgs in boreholes 200-SB-06 and 200-SB-07.

**Table 4.6 Summary of Soil Vapor Ports and Groundwater Zones for MSVM and MSVGM Wells**

| Well Group | Individual MSVM and MSVGM Wells | Operational Soil Vapor Ports (Number and Location) | Non-Operational Soil Vapor Ports (Blocked/ Damaged) | Groundwater Monitoring Zones (MSVGM Wells) |
|---|---|---|---|---|
| Phase II Investigation Wells | 200-SV-05 | (1) 9’ | | |
| | 200-LV-150 | (2) 64’, 84’ | 34’ | 150’ – 170’ |
| | 200-KV-150 | (2) 59’, 119’[@] | 89’ | 150’ – 170’ |
| | 200-SV-08 | (3) 9’, 29’, 49’ | | |
| | 200-SV-09 | (1) 19’ | | |
| | 200-SV-10 | (2) 19’, 39’ | | |
| | 200-SV-11 | (2) 9’, 29’ | | |
| | 200-SV-12 | (1) 14’ | | |
| | 200-SV-13 | (2) 14’, 34’ | | |
| | 200-SV-14 | (1) 4.75’ | | |
| | 200-SV-15 | (3) 9’, 59’, 119’ | | |
| | 200-SV-16 | (3) 19’, 59’, 99’ | | |
| | 200-SV-17 | (3) 29’, 79’, 139’ | | |
| | 200-SV-18 | (3) 29’, 59’, 89’ | | |
| | 200-SV-19 | (2) 19’, 39’ | | |
| | 200-SV-20 | (3) 9’, 29’, 49’ | | |
| | 200-SV-21 | (2) 9’, 29’ | | |
| 200 Area Existing Wells of the GSA Area and Between the 100 and 200 Areas | 100-HG-139 | (3) 6.5’, 40’, 72’ | 107.5’ | 139’ – 159’ |
| | 200-JG-110 | (3) 10’, 40’, 80’ | | 110’ – 130’ |
| | 200-SG-1 | (3) 30’, 90’, 122’ | 60’ | 123’ – 138’ |
| | 200-SG-2 | (2) 30’, 60’ | 84’ | 85’ – 100’ |
| | 200-SG-3 | (4) 30’, 60’, 90’, 154’ | 120’ | 155’ – 170’ |
| | 200-SG-4 | (1) 60’ | | |
| 600 Area Closure | 600-SGW-1 | (3) 12.5’, 57.5’, 117.5’ | | |
| | 600-SGW-2 | (4) 12.5’, 47.5’, 107.5’, 150’ | | |
| | 600-SGW-3 | (4) 12.5’, 57.5’, 107.5’, 137.5’ | | |
| | 600-SGW-4 | (4) 12.5’, 47.5;, 107.5’, 142.5’ | | |
| | 600-SGW-5 | (4) 7.5’, 52.5’, 102.5’, 137.5’ | | |
| | 600-SGW-6 | (4) 7.5’, 52.5’, 102.5’, 147.5’ | | |
| | 600-SGW-7 | (4) 7.5’, 62.5’, 102.5’, 152.5’ | | |
| | 600-SGW-8 | (4) 7.5’, 52.5’, 102.5’, 145.5’* | | |
| | 600-SGW-9 | (4) 7.5’, 40’#, 80’, 120’ | | |
| **Totals** | **32 Wells** | **87 Accessible Soil Vapor Ports** | **6 Blocked Soil Vapor Ports** | **7 Groundwater Zones** |

Notes: *Recorded in field notebook and COC as 150.5’.
[#]Canister reported a leaking by ALS Laboratory – not sampled.
[@]Canister reported as not filled by ALS Laboratory – not sampled

**Table 4.7 Summary of Soil Vapor Concentrations for Comprehensive Soil Vapor Sampling Event**

| Well Name (Port Locations in Ft Bgs) | Maximum Soil Vapor Concentrations in µg/m³ | | | | Locations for Maximum Detections Relative to Depth (for wells with more than one port) |
|---|---|---|---|---|---|
| | Freon 11 | Freon 113 | TCE | PCE | |
| **200 Area Phase II Wells** | | | | | |
| 200-SV-05 (9') | 0 | 54,000 | 47,000 | 8,300 | |
| 200-LV-150 (64') | 0 | **6,600,000** | **380,000** | 19,000 | Freon 113, TCE |
| 200-LV-150 (84') | 0 | 680,000 | 250,000 | **42,000** | PCE |
| 200-KV-150 (59')# | --- | --- | --- | --- | |
| 200-KV-150 (119') | **12,000** | **25,000** | **240** | 0 | Freon 11, Freon 113, TCE |
| 200-SV-08 (9') | 660 | 2,800 | 54 | 3.1 | |
| 200-SV-08 (29') | 2,800 | 2,100 | 120 | 8.4 | |
| 200-SV-08 (49') | **3,000** | **7,900** | **320** | 0 | Freon 11, Freon 113, TCE |
| 200-SV-09 (9') | 0 | 14,000 | 23,000 | 3,700 | |
| 200-SV-10 (19') | **4,700** | **15,000** | **410** | 0 | Freon 11, Freon 113, TCE |
| 200-SV-10 (39') | 1,300 | 4,400 | 170 | 0 | |
| 200-SV-11 (9') | 46 | 750 | 20 | 6 | |
| 200-SV-11 (29') | **220** | **2,100** | **120** | 8.4 | Freon 11, Freon 113, TCE |
| 200-SV-12 (14') | 22 | 5,100 | 47 | 9 | |
| 200-SV-13 (14') | 240 | 110,000 | 590 | 0 | |
| 200-SV-13 (34') | **330** | **140,000** | **1,100** | 0 | Freon 11, Freon 113, TCE |
| 200-SV-14 (5') | 51 | 15,000 | 1,000 | 160 | |
| 200-SV-15 (9') | 130 | 37,000 | 0 | 0 | |
| 200-SV-15 (59') | 6,200 | 2,100,000 | 0 | 0 | |
| 200-SV-15 (119') | **18,000** | **5,500,000** | **13,000** | 0 | Freon 11, Freon 113, TCE |
| 200-SV-16 (19') | 890 | 84,000 | 0 | 0 | |
| 200-SV-16 (59') | 2,500 | 220,000 | 0 | 0 | |
| 200-SV-16 (99') | **30,000** | **2,800,000** | 0 | 0 | Freon 11, Freon 113 |
| 200-SV-17 (29') | 1,000 | 13,000 | 640 | 120 | |
| 200-SV-17 (79') | 2,700 | 47,000 | 710 | 110 | |
| 200-SV-17 139') | **23,000** | **350,000** | **4,100** | 0 | Freon11, Freon 113, TCE |
| 200-SV-18 (29') | **450** | 110,000 | 260 | 0 | |
| 200-SV-18 (59') | 0 | 160,000 | 460 | 0 | |
| 200-SV-18 (89') | 0 | **4,900,000** | **9,600** | 0 | Freon 113, TCE |
| 200-SV-19 (9') | **2,000** | **750,000** | **130,000** | **9,100** | Freon 11, Freon 113, TCE, PCE |
| 200-SV-19 (39') | 150 | 44,000 | 12,000 | 820 | |
| 200-SV-20 (9') | 360 | 12,000 | 3,600 | 470 | |
| 200-SV-20 (29') | 1,100 | 24,000 | 8,300 | 860 | |
| 200-SV-20 (49') | **2,500** | **47,000** | **15,000** | **1,600** | Freon 11, Freon 113, TCE, PCE |
| 200-SV-21 (9') | 840 | 7,400 | **1,100** | **250** | TCE, PCE |
| 200-SV-21 (29') | **2,200** | **19,000** | 770 | 190 | Freon 11, Freon 113 |
| **Existing 100 Area and 200 Area Wells** | | | | | |
| 100-HG—139 (6.5') | 10 | 2,200 | 52 | 12 | |
| 100-HG—139 (40') | 18 | 2,700 | 38 | 9.2 | |
| 100-HG—139 (72') | **220** | **22,000** | **48** | **14** | Freon 11, Freon 113, TCE, PCE |
| 200-JG-110 (10') | 19 | 4,300 | 500 | **85** | |
| 200-JG-110 (40') | 160 | 45,000 | 130 | 0 | |

| Well Name (Port Locations in Ft Bgs) | Maximum Soil Vapor Concentrations in µg/m³ | | | | Locations for Maximum Detections Relative to Depth (for wells with more than one port) |
|---|---|---|---|---|---|
| | Freon 11 | Freon 113 | TCE | PCE | |
| 200-JG-110 (80') | **770** | **200,000** | **1,100** | 0 | Freon 113, TCE |
| 200-SG-1 (30') | 110 | 51,000 | 6,800 | 1,600 | |
| 200-SG-1 (90') | 0 | **2,000,000** | **140,000** | **12,000** | Freon 113, TCE, PCE |
| 200-SG-1 (122') | **9,200** | 550,000 | 19,000 | 0 | Freon 11 |
| 200-SG-2 (30') | 35 | 15,000 | 300 | **61** | PCE |
| 200-SG-2 (60') | **410** | **110,000** | **800** | 0 | Freon 11, Freon 113, TCE |
| 200-SG-3 (30') | 0 | 90,000 | 1,600 | 350 | |
| 200-SG-3 (60') | 280 | 140,000 | 2,600 | **580** | PCE |
| 200-SG-3 (90') | 0 | **4400,000** | **78,000** | 0 | Freon 113, TCE |
| 200-SG-3 (154') | **860** | 100,000 | 4,200 | 200 | Freon 11 |
| 200-SG-4 (60') | 0 | 110,000 | 75,000 | 8,000 | |
| **600 Area Closure Wells** | | | | | |
| 600-SGW-1 (12.5') | 0 | 22,000 | 1,600 | 0 | |
| 600-SGW-1 (57.5') | 0 | 26,000 | 2,700 | 0 | |
| 600-SGW-1 (117.5') | 0 | **43,000** | **3,800** | 0 | Freon 113, TCE |
| 600-SGW-2 (12.5') | 0 | 28,000 | 1,000 | 0 | |
| 600-SGW-2 (47.5') | 0 | 86,000 | 4,900 | 0 | |
| 600-SGW-2 (107.5') | 0 | **200,000** | **10,300** | 0 | Freon 113, TCE |
| 600-SGW-2 (150') | 0 | **200,000** | 8,500 | 0 | Freon 113 |
| 600-SGW-3 (12.5') | 0 | 18,000 | 300 | 0 | |
| 600-SGW-3 (57.5') | 2 | 950 | 46 | 0 | |
| 600-SGW-3 (107.5') | 12 | 5,000 | 720 | 0 | |
| 600-SGW-3 (137.5') | **1100** | **250,000** | **3,700** | 0 | Freon 11, Freon 113, TCE |
| 600-SGW-4 (12.5') | 0 | 11,000 | 500 | 0 | |
| 600-SGW-4 (47.5') | 0 | 7,500 | 530 | 0 | |
| 600-SGW-4 (107.5') | 0 | 8,500 | 680 | 0 | |
| 600-SGW-4 (142.5') | 0 | **200,000** | **1,800** | 0 | Freon 113, TCE |
| 600-SGW-5 (7.5') | 20 | 3,800 | 7.5 | 1.4 | |
| 600-SGW-5 (52.5') | 0 | 10,000 | 2,000 | 0 | |
| 600-SGW-5 (102.5') | 0 | 9,600 | 1,700 | 0 | |
| 600-SGW-5 (137.5') | **1200** | **280,000** | **15,000** | 0 | Freon 11, Freon 113, TCE |
| 600-SGW-6 (7.5') | 0 | 24,000 | 550 | 0 | |
| 600-SGW-6 (52.5') | 0 | 170,000 | 7,500 | 0 | |
| 600-SGW-6 (102.5') | 1.4 | **220,000** | **8,600** | 0 | Freon 113, TCE |
| 600-SGW-6 (147.5') | 0 | 140,000 | 5,000 | 0 | |
| 600-SGW-7 (7.5') | 3.6 | 1,500 | 31 | 3 | |
| 600-SGW-7 (62.5') | **15** | 8,500 | 440 | 0 | Freon 11 |
| 600-SGW-7 (102.5') | 0 | 11,000 | 560 | 0 | |
| 600-SGW-7 (152.5') | 0 | **1,500,000** | **3,500** | 0 | Freon 113, TCE |
| 600-SGW-8 (7.5') | 4.8 | 1,600 | **28** | 0 | TCE |
| 600-SGW-8 (52.5') | 3.3 | 210 | 15 | 1.6 | |
| 600-SGW-8 (102.5') | 3.7 | 130 | 7.9 | 1.3 | |
| 600-SGW-8 (150.5') | **26** | **7,900** | 0 | 0 | Freon 11, Freon 113 |
| 600-SGW-9 (7.5') | 3.5 | 100 | **19** | 3.5 | TCE |
| 600-SGW-9 (40')* | --- | --- | --- | --- | --- |

| Well Name (Port Locations in Ft Bgs) | Maximum Soil Vapor Concentrations in µg/m$^3$ | | | | Locations for Maximum Detections Relative to Depth (for wells with more than one port) |
|---|---|---|---|---|---|
| | Freon 11 | Freon 113 | TCE | PCE | |
| 600-SGW-9 (80') | 1.5 | 13 | 5.5 | 0.98 | |
| 600-SGW-9 (120') | **360** | **23,000** | 0 | 0 | Freon 11, Freon 113 |

Notes: The highest concentration for a specific contaminant is **bolded** within each well.

**Table 4.8 List of Soil Vapor Analytes and Concentration Ranges in Samples and Blanks**

| Analyte | Detections in Vapor Ports and Concentration Range | | Detections in Blank Samples and Concentration Range# | |
|---|---|---|---|---|
| | Minimum (ug/kg) | Maximum (ug/kg) | Minimum (ug/kg) | Maximum (ug/kg) |
| Ethyl Benzene | 0 | 0 | 4.7 FB | 4.7 FB |
| Styrene | 0 | 0 | 2.7 J FB | 2.7 J FB |
| alpha-Chlorotoluene | 0 | 0 | 0 | 0 |
| cis-1,3-Dichloropropene | 0 | 0 | 0 | 0 |
| trans-1,3-Dichloropropene | 0 | 0 | 0 | 0 |
| Propylbenzene | 0 | 0 | 0 | 0 |
| 1,4-Dichlorobenzene | 0 | 0 | 0 | 0 |
| 1,2-Dibromoethane (EDB) | 0 | 0 | 0 | 0 |
| 1,3-Butadiene | 0 | 0 | 0 | 0 |
| 3-Chloropropene | 0 | 0 | 0 | 0 |
| 1,2-Dichloroethane | 0 | 0 | 1.5 J FB | 1.5 J FB |
| 4-Methyl-2-pentanone | 0 | 0 | 0 | 0 |
| 1,3,5-Trimethylbenzene | 0 | 0 | 0 | 0 |
| Toluene | 0.8 J | 1,900 J | 2.6 FB | 820 FB |
| Chlorobenzene | 0 | 0 | 0 | 0 |
| Tetrahydrofuran | 0 | 0 | 0 | 0 |
| Hexane | 0.65 J | 780 J | 0.62 J | 25 FB |
| Cyclohexane | 0 | 0 | 5.1 J FB | 5.1 J FB |
| 1,2,4-Trichlorobenzene | 0 | 0 | 0 | 0 |
| 1,4-Dioxane | 11 | 95 | 0 | 0 |
| Dibromochloromethane | 0 | 0 | 0 | 0 |
| Tetrachloroethene (PCE)* | 0.98 J | 42,000 J | 1.4 J FB | 1.4 J FB |
| Heptane | 13J | 74 J | 5.2 FB | 5.2 FB |
| cis-1,2-Dichloroethene | 44J | 44 J | 0 | 0 |
| trans-1,2-Dichloroethene | 0 | 0 | 0 | 0 |
| Methyl tert-butyl ether | 0 | 0 | 0 | 0 |
| m,p-Xylene | 0 | 0 | 11 FB | 11 FB |
| Freon 123 | 0 | 0 | 0 | 0 |
| 2,2,4-Trimethylpentane | 200 J | 3,100 J | 3.1 J FB | 3.1 J FB |
| 1,3-Dichlorobenzene | 0 | 0 | 0 | 0 |
| Carbon Tetrachloride | 0 | 0 | 0 | 0 |
| 2-Hexanone | 0.77 J | 0.77 J | 0.72 J | 12 J FB |
| 4-Ethyltoluene | 0 | 0 | 0 | 0 |
| Ethanol | 7.1 J | 7.1 J | 3.4 J | 81 FB |
| 2-Propanol | 13 QD | 6,900 J | 6.9 FB | 81 FB |
| Acetone | 8.5 J | 2,400 J | 9.5 J FB | 180 FB |
| Chloroform | 0.96 J | 960 | 0 | 0 |
| Benzene | 0.66 J | 140 J | 4.7 FB | 5.3 FB |
| 1,1,1-Trichloroethane | 66 | 66 | 0 | 0 |
| Bromomethane | 0 | 0 | 0 | 0 |
| Chloromethane | 0.64 J | 0.64 J | 0.8 J | 1.1 J |
| Chloroethane | 0 | 0 | 0 | 0 |
| Vinyl Chloride | 0 | 0 | 0 | 0 |
| Methylene Chloride | 2.1 J | 1,500 J | 1 J | 14 J TB |

| Analyte | Detections in Vapor Ports and Concentration Range | | Detections in Blank Samples and Concentration Range# | |
|---|---|---|---|---|
| | Minimum (ug/kg) | Maximum (ug/kg) | Minimum (ug/kg) | Maximum (ug/kg) |
| Carbon Disulfide | 2 J | 750 J | 5 J FB | 18 J TB |
| Bromoform | 0 | 0 | 0 | 0 |
| Bromodichloromethane | 0 | 0 | 0 | 0 |
| 1,1-Dichloroethane | 0 | 0 | 0 | 0 |
| 1,1-Dichloroethene | 40 J | 530 J | 0 J | 0 |
| Freon 21 | 0 | 0 | 0 | 0 |
| Freon 11* | 1.5 J | 30,000 | 1.4 J FB | 2.7 J FB |
| Freon 12 | 1.7 J | 110,000 J | 2.3 FB | 2.6 J FB |
| Freon 113* | 13 D | 6,600,000 D | 0.9 J | 9.8 J FB |
| Freon 114 | 0 | 0 | 0 | 0 |
| 1,2-Dichloropropane | 30 J | 30 J | 0 J | 0 |
| 2-Butanone (Methyl Ethyl Ketone) | 0.86 J | 4.9 J | 2.8 J | 51 J TB |
| 1,1,2-Trichloroethane | 0 | 0 | 0 | 0 |
| Trichloroethene (TCE)* | 5.5 J | 380,000 QD | 0 J | 0 |
| 1,1,2,2-Tetrachloroethane | 0 | 0 | 0 | 0 |
| Hexachlorobutadiene | 0 | 0 | 0 | 0 |
| o-Xylene | 0 | 0 | 4.8 FB | 4.8 FB |
| 1,2-Dichlorobenzene | 0 | 0 | 0 | 0 |
| 1,2,4-Trimethylbenzene | 0 | 0 | 0.99 J | 2.6 J FB |
| Cumene | 0 | 0 | 0 | 0 |

**Table 4.9 Maximum Concentration of Primary Constituents in Soil Vapor and Groundwater (October 2014)**

| Constituent | 200 Area Phase II Wells | | Existing Wells Between the 100 and 200 Areas | | 600 Area Closure Wells | | Location for 100/200/600 Area Max. Measured Groundwater Concentration (Well) | Max. Measured Ground-water Concen-tration (µg/L) | Henry's Law Coefficient (dimension-less, volumetric basis; taken from NMED 2014d) | Calculated Soil Vapor Concen-tration in Equilib-rium with Ground-water (µg/m$^3$) | Calculated Commercial Risk-Based Concentration (RBC)[1] for Soil Vapor Corresponding to Max. Concentration from 200 or 600 Areas (From NASA, 2012[g]) (µg/m$^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Location for Max. Measured Concen-tration (Well & Port) | Soil Vapor Concen-tration (µg/m3) | Location for Max. Measured Concen-tration (Well & Port) | Soil Vapor Concen-tration (µg/m$^3$) | Location for Max. Measured Concen-tration (Well & Port) | Soil Vapor Concen-tration (µg/m$^3$) | | | | | |
| Freon-11 | 200-SV-16 (99 ft) | 30,000 | 200-SG-1 (122 ft) | 9,200 | 600-SGW-5 (137.5 ft) | 1,200 | 200-B-240 | 66 | 3.98E+00 | 262,680 | 28,000,000 (@ 100 ft) |
| Freon-113 | 200-LV-150 (64 ft) | 6,600,000 | 200-SG-3 (90 ft) | 2,000,000 | 600-SGW-5 (137.5 ft) | 280,000 | 200-SG-1 | 390 | 2.16E+01 | 8,424,000 | 690,000,000 (@ 50 ft) |
| TCE | 200-LV-150 (64 ft) | 380,000 | 200-SG-1 (90 ft) | 140,000 | 600-SGW-5 (137.5 ft) | 15,000 | 200-D-109 | 170 | 4.04E-01 | 68,680 | 16,000 (@ 50 ft) |
| PCE | 200-LV-150 (64 ft) | 42,000 | 200-SG-1 (90 ft) | 12,000 | 600-SGW-9 (7.5') | 3.5 | 200-D-109 | 4 | 7.26E-01 | 2,904 | 270,000 (@ 50 ft) |

[J] - The result is an estimated value less than the quantitation limit but greater than or equal to the detection limit.

[QD] - The relative percent difference for a field duplicate was outside standard limits.

[TIC] - Tentatively identified compound. The analyte was tentatively identified by a CG/MS library search and the amount reported is an estimated value.

(RBC)[1] – The RBC provided is conservative due to the use of the RBC value for the depth above the actual sampling depth for the maximum concentration recorded.

**Table 4.10 Summary of Semi-Annual Max. Concentrations of Primary Constituents in Soil Vapor**

| Constituent | August 2010 Semi-Annual Sampling Event | | November 2011 Semi-Annual Sampling Event | | June 2012 Semi-Annual Sampling Event | | March 2013 Semi-Annual Sampling Event | | October 2014 200 Area Phase II Investigation | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Existing 200 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 600 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 200 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 600 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 200 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 600 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 200 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 600 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **New 200 Area Phase II Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m3)** | **Existing 200 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** | **Existing 600 Area Wells Max. Soil Vapor Concen-tration** (Well Location) **(µg/m³)** |
| **Freon-11** | 27,300 (200-SG-1) | 1,870 (600-SGW-3) | 23,000 (200-SG-1) | 1,400 (600-SGW-3) | 12,000 (200-SG-1) | 1,100[J] (600-SGW-3) | 11,000 (200-SG-1) | 1,100[J] (600-SG-3) | **30,000 (200-SV-16)** | 9,200 (200-SG-1) | 1,200 (600-SGW-5) |
| **Freon-113** | **6,690,000 (200-SG-3)** | 2,330,000 (600-SGW-7) | 4,200,000 (200-SG-3) | 1,800,000 (600-SGW-7) | 4,100,000 (200-SG-3) | 1,400,000 (600-SGW-7) | 5,500,000 (200-SG-3) | 2,100,000 (600-SGW-7) | 6,600,000 (200-LV-150) | 2,000,000 (200-SG-3) | 280,000 (600-SGW-5) |
| **TCE** | 238,000 (200-SG-1) | 13,800 (600-SGW-1) | 180,000 (200-SG-4) | 13,000 (600-SGW-5) | 130,000 (200-SG-1) | 11,000 (600-SGW-5) | 110,000 (200-SG-1) | 16,000 (600-SGW-5) | **380,000 (200-LV-150)** | 140,000 (200-SG-1) | 15,000 (600-SGW-5) |
| **PCE** | 21,800 (200-SG-1) | 36.4 (600-SGW-1) | 15,000 (200-SG-4) | 240[J] (600-SGW-5) | 10,000 (200-SG-4) | 0.56[J] (600-SGW-5) | 8,700 (200-SG-1) | Non Detect | **42,000 (200-LV-150)** | 12,000 (200-SG-1) | 3.5 600-SGW-9 |

[J] The result is an estimated value less than the quantitation limit but greater than or equal to the detection limit.
[QD] The relative percent difference for a field duplicate was outside standard limits.
[TIC] Tentatively identified compound. The analyte was tentatively identified by a CG/MS library search and the amount reported is an estimated value.
**Bold** value represents the highest reported soil vapor sample concentration for historical 200 or 600 Area vapor sampling, or for 2014 vapor sampling of the 200 Area Phase II, 200 Area (existing), and 600 Area Wells.

**Table 4.11 Exceedances of NASA RBC's By Soil Vapor within the 100, 200, and 600 Area Wells**

| Well and Port Location | VOC | Concentration (µg/m$^3$) and Depth (Ft) | RBC (µg/m$^3$) and Depth (Ft) | Comments |
|---|---|---|---|---|
| 1. 200-SV-05 (9') | TCE | 47,000 µg/m$^3$ @ 9' | 4,200 µg/m$^3$ @ 10' | Well 200-SV-05 is located adjacent and south of the former Clean Room Tank HWMU. This soil Vapor port is located near the depth of the former tank. The ground surface is capped with asphalt within a parking lot adjacent to Building 200. Bedrock is located at a depth of 18 ft. |
| 2. 200-LV-150 (64') | TCE | TCE = 380,000 µg/m3 @ 64' | RBC = 30,000 µg/m3 @ 100' | Well 200-LV-150 is located in a downgradient location (relative to surface topography and the water table) adjacent and west of the former Clean Room Tank HWMU. The ground surface is capped with asphalt within a driveway located between Building 200 and Apollo Boulevard. Bedrock is located at a depth of 18 ft. |
| 3. 200-LV-150 (84') | TCE | 250,000 µg/m3 @ 84' | 16,000 µg/m3 @ 50 feet bgs | |
| 4. 200-SV-09 (9') | TCE | 23,000 µg/m$^3$ @ 9' | 4,200 µg/m$^3$ @ 10' | Well 200-SV-09 is located adjacent to the former Clean Room Discharge Pipe on the northwest side of Apollo Boulevard proximal and downgradient of the former Clean Room Tank within an unlined ditch. Bedrock is located at a depth of 22 ft. |
| 5. 200-SV-19 (9') | TCE | 130,000 µg/m$^3$ @ 9' | 4,200 µg/m$^3$ @ 10' | Well 200-SG-1 is located in the vicinity of the 200-D well cluster within Gardner Spring Arroyo. The maximum TCE concentrations in groundwater were detected within this area in the mid-1990s. Bedrock is located at a depth of 46 ft. |
| 6. 200-SV-19 (39') | TCE | 12,000 µg/m3 @ 39' | 8,500 µg/m3 @ 25' | |
| 7. 200-SG-1 (90') | TCE | 140,000 µg/m3 @ 90' | 16,000 µg/m3 @ 50' | Well 200-SG-1 is located within the 200-D well cluster. The maximum TCE concentrations in groundwater were detected within the well cluster in the mid-1990s. TCE concentrations in groundwater have declined steadily since this time. Bedrock is located at a depth of 92 ft. |
| 8. 200-SG-3 (90') | TCE | 78,000 µg/m3 @ 90' | 16,000 µg/m3 @ 50' | Well 200-SG-3 is located adjacent and southwest of former 200 Area Evaporation Tanks within a cleared gravel area. A release of Freon 113 was reported in this area in the early 1980's by a WSTF employee. Bedrock is located at a depth of 82 ft. |
| 9. 200-SG-4 (60') | TCE | 75,000 µg/m3 @ 60' | 16,000 µg/m3 @ 50' | 200-SG-4 is located adjacent to 200-SG-1 within the 200-D well cluster and was designed to replace the lost port at 60' within 200-SG-1. |

Notes: Exceedances are flagged on Figure 6.4 of this report.
For wells with two exceedences (200-LV-150 and 200-SV-19), the higher of the two concentrations is shown.
Wells 200-SG-1 and 200-SG-4 are twinned wells are identified by the same location flag.

**Table 4.12 Soil Chemical Sampling Analytical Deviations**

(SEE NEXT PAGE)

| | ANION | | DIOXINS/FURANS | | | | HYDRAZINE | | | METALS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chloride | Cyanide | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | Heptachlorodibenzo-p-dioxins (HpCDD), Total | Octachlorodibenzofuran (OCDF) | Octachlorodibenzo-p-dioxin (OCDD) | Hydrazine | Monomethylhydrazine (MMH) | Unsymmetrical Dimethylhydrazine (UDMH) | Aluminum | Antimony | Arsenic | Barium | Beryllium | Boron | Cadmium | Calcium | Chromium (Total) | Chromium (VI) | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver |
| **200-SB-05-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-05 Intermediate & TD Samples** | *Bedrock encountered at 18' bgs. Only one soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-06-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-06 Intermediate & TD Samples** | *Bedrock encountered at 18.5' bgs. Only one soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-07-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-07-18** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-07-38** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-43** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-09-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | — | • | • | • | • | • | • | • | • |
| **200-SB-09 Intermediate & TD Samples** | *Bedrock encountered at 22' bgs. Only one soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-10-16** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-10-26** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | ANION | | DIOXINS/FURANS | | | | HYDRAZINE | | | METALS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chloride | Cyanide | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | Heptachlorodibenzo-p-dioxins (HpCDD), Total | Octachlorodibenzofuran (OCDF) | Octachlorodibenzo-p-dioxin (OCDD) | Hydrazine | Monomethylhydrazine (MMH) | Unsymmetrical Dimethylhydrazine (UDMH) | Aluminum | Antimony | Arsenic | Barium | Beryllium | Boron | Cadmium | Calcium | Chromium (Total) | Chromium (VI) | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver |
| **200-SB-10-36** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-11-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-11-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-11-TD** | *Bedrock encountered at 40' bgs. Only two soil samples was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-12** | *Sample was attepmted at 8' and 19' bgs. No soil sample was recovered. Bedrock encountered at 20' bgs* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-13-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | + | • | • | • | • | • | • | • | • |
| **200-SB-13-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | + | • | • | • | • | • | • | • | • |
| **200-SB-13-48** | *Core barrel refusal, no soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-14** | *Sample was attepmted at 8' bgs. No soil sample was recovered. Bedrock encountered at 8' bgs .* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-15-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-15-66** | *Sample was attepmted at 66' bgs. No soil sample was recovered. Bedrock encountered at 8' bgs .* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-15-98** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-16-18** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-16-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-16-48** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-16-58** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-17-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | ANION | | DIOXINS/FURANS | | | | HYDRAZINE | | | METALS | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chloride | Cyanide | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | Heptachlorodibenzo-p-dioxins (HpCDD), Total | Octachlorodibenzofuran (OCDF) | Octachlorodibenzo-p-dioxin (OCDD) | Hydrazine | Monomethylhydrazine (MMH) | Unsymmetrical Dimethylhydrazine (UDMH) | Aluminum | Antimony | Arsenic | Barium | Beryllium | Boron | Cadmium | Calcium | Chromium (Total) | Chromium (VI) | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver |
| **200-SB-17-48** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-17-88** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-18-28** | *Sample was attepmted at 28' bgs. Only gravels were collected, no soil was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-18-Intermediate** | *Sample was attepmted at 38', 48', 58' 68', and 78' bgs. Very little to no soil was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-18-88** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-19-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | N/A | • | • | • | • | • | • | • | • |
| **200-SB-19 Intermediate & TD Samples** | *Sample was attepmted at 28' bgs. No soil sample was recovered. Bedrock encountered at 46' bgs .* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-20-9** | *Limited analysis due to limited sample rocovery* | | | | | | • | • | • | *Limited analysis due to limited sample rocovery* | | | | | | | | | | | | | | | | | |
| **200-SB-20-30** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-20-50** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-7.5** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-17.5** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-27.5** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-GOx** | *Collected required analytical samples: perfluorooctanoic acid and perfluorooctane sulfonate.* | | | | | | | | | | | | | | | | | | | | | | | | | | |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | METALS | | | | | NITROS-AMINES | | | NITRO-GEN | | | SVOA | | VOA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Strontium | Thallium | Tin | Vanadium | Zinc | Bromacil | N-Nitrodimethylamine | N-Nitrosodimethylamine | Nitrate | Nitrite | Perchlorate | Bis(2-ethylhexyl) Phthalate | Di-n-butyl Phthalate | 1,1,1-Trichloroethane | 1,1,2-Trichloroethane | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1,1-Dichloroethene | 1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a) | 1,2-Dichloroethane | 2,2-Dichloro-1,1,1-trifluoroethane (Freon 123) | 2-Butanone (Methyl Ethyl Ketone) | 2-Propanol | Acetone | Benzene | Bromodichloromethane | Bromoform | Chlorobenzene | Chloroform |
| **200-SB-05-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-05 Intermediate & TD Samples** | *Bedrock encountered at 18' bgs. Only one soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-06-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-06 Intermediate & TD Samples** | *Bedrock encountered at 18.5' bgs. Only one soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-07-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-07-18** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-07-38** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-43** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-09-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-09 Intermediate & TD Samples** | *Bedrock encountered at 22' bgs. Only one soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-10-16** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-10-26** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | METALS | | | | | NITROS-AMINES | | | NITRO-GEN | | | SVOA | | VOA | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Strontium | Thallium | Tin | Vanadium | Zinc | Bromacil | N-Nitrodimethylamine | N-Nitrosodimethylamine | Nitrate | Nitrite | Perchlorate | Bis(2-ethylhexyl) Phthalate | Di-n-butyl Phthalate | 1,1,1-Trichloroethane | 1,1,2-Trichloroethane | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1,1-Dichloroethene | 1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a) | 1,2-Dichloroethane | 2,2-Dichloro-1,1,1-trifluoroethane (Freon 123) | 2-Butanone (Methyl Ethyl Ketone) | 2-Propanol | Acetone | Benzene | Bromodichloromethane | Bromoform | Chlorobenzene | Chloroform |
| **200-SB-10-36** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-11-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-11-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-11-TD** | *Bedrock encountered at 40' bgs. Only two soil samples was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-12** | *Sample was attepmted at 8' and 19' bgs. No soil sample was recovered. Bedrock encountered at 20' bgs* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-13-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-13-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-13-48** | *Core barrel refusal, no soil sample was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-14** | *Sample was attepmted at 8' bgs. No soil sample was recovered. Bedrock encountered at 8' bgs .* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-15-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-15-66** | *Sample was attepmted at 66' bgs. No soil sample was recovered. Bedrock encountered at 8' bgs .* | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-15-98** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-18** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-28** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-48** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-58** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-17-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | METALS | | | | | NITROS-AMINES | | | NITRO-GEN | | | SVOA | | VOA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Strontium | Thallium | Tin | Vanadium | Zinc | Bromacil | N-Nitrodimethylamine | N-Nitrosodimethylamine | Nitrate | Nitrite | Perchlorate | Bis(2-ethylhexyl) Phthalate | Di-n-butyl Phthalate | 1,1,1-Trichloroethane | 1,1,2-Trichloroethane | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 1,1-Dichloroethene | 1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a) | 1,2-Dichloroethane | 2,2-Dichloro-1,1,1-trifluoroethane (Freon 123) | 2-Butanone (Methyl Ethyl Ketone) | 2-Propanol | Acetone | Benzene | Bromodichloromethane | Bromoform | Chlorobenzene | Chloroform |
| **200-SB-17-48** | • | • | • | • | • | • | • | • | • | • | — | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-17-88** | • | • | • | • | • | • | • | • | • | • | — | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-18-28** | *Sample was attepmted at 28' bgs. Only gravels were collected, no soil was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-18-Intermediate** | *Sample was attepmted at 38', 48', 58' 68', and 78' bgs. Very little to no soil was recovered.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-18-88** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-19-8** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-19 Intermediate & TD Samples** | *Sample was attepmted at 28' bgs. No soil sample was recovered. Bedrock encountered at 46' bgs .* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **200-SB-20-9** | *Limited analysis due to limited sample | | | | | • | • | • | *Limited analysis due to limited sample | | | | | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-20-30** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-20-50** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-7.5** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-17.5** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-27.5** | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-GOx** | *Collected required analytical samples: perfluorooctanoic acid and perfluorooctane sulfonate.* | | | | | | | | | | | | | | | | | | | | | | | | | | |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
\+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | VOA | | | | | | | | | | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chloromethane | Dibromochloromethane | Dichlorofluoromethane (Freon 21) | Methyl tert-Butyl Ether | Methylene Chloride | m-Xylene & p-Xylene | Tetrachloroethene (PCE) | Toluene | Trichloroethene (TCE) | Trichlorofluoromethane (Freon 11) | Soil pH |
| **200-SB-05-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-05 Intermediate & TD Samples** | *Bedrock encountered at 18' bgs. Only one soil sample was recovered.* | | | | | | | | | | |
| **200-SB-06-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-06 Intermediate & TD Samples** | *Bedrock encountered at 18.5' bgs. Only one soil sample was recovered.* | | | | | | | | | | |
| **200-SB-07-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-07-18** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-07-38** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-28** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-08-43** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-09-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-09 Intermediate & TD Samples** | *Bedrock encountered at 22' bgs. Only one soil sample was recovered.* | | | | | | | | | | |
| **200-SB-10-16** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-10-26** | • | • | • | • | • | • | • | • | • | • | • |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | VOA | | | | | | | | | | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chloromethane | Dibromochloromethane | Dichlorofluoromethane (Freon 21) | Methyl tert-Butyl Ether | Methylene Chloride | m-Xylene & p-Xylene | Tetrachloroethene (PCE) | Toluene | Trichloroethene (TCE) | Trichlorofluoromethane (Freon 11) | Soil pH |
| **200-SB-10-36** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-11-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-11-28** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-11-TD** | *Bedrock encountered at 40' bgs. Only two soil samples was recovered.* | | | | | | | | | | |
| **200-SB-12** | *Sample was attepmted at 8' and 19' bgs. No soil sample was recovered. Bedrock encountered at 20' bgs* | | | | | | | | | | |
| **200-SB-13-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-13-28** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-13-48** | *Core barrel refusal, no soil sample was recovered.* | | | | | | | | | | |
| **200-SB-14** | *Sample was attepmted at 8' bgs. No soil sample was recovered. Bedrock encountered at 8' bgs .* | | | | | | | | | | |
| **200-SB-15-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-15-66** | *Sample was attepmted at 66' bgs. No soil sample was recovered. Bedrock encountered at 8' bgs .* | | | | | | | | | | |
| **200-SB-15-98** | • | • | • | • | • | • | • | • | • | • | — |
| **200-SB-16-18** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-28** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-48** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-16-58** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-17-8** | • | • | • | • | • | • | • | • | • | • | • |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

| | VOA | | | | | | | | | | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Chloromethane | Dibromochloromethane | Dichlorofluoromethane (Freon 21) | Methyl tert-Butyl Ether | Methylene Chloride | m-Xylene & p-Xylene | Tetrachloroethene (PCE) | Toluene | Trichloroethene (TCE) | Trichlorofluoromethane (Freon 11) | Soil pH |
| **200-SB-17-48** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-17-88** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-18-28** | *Sample was attepmted at 28' bgs. Only gravels were collected, no soil was recovered.* | | | | | | | | | | |
| **200-SB-18-Intermediate** | *Sample was attepmted at 38', 48', 58' 68', and 78' bgs. Very little to no soil was recovered.* | | | | | | | | | | |
| **200-SB-18-88** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-19-8** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-19 Intermediate & TD Samples** | *Sample was attepmted at 28' bgs. No soil sample was recovered. Bedrock encountered at 46' bgs .* | | | | | | | | | | |
| **200-SB-20-9** | • | • | • | • | • | • | • | • | • | • | *Limited analysis due to limited sample rocovery* |
| **200-SB-20-30** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-20-50** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-7.5** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-17.5** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-21-27.5** | • | • | • | • | • | • | • | • | • | • | • |
| **200-SB-GOx** | *Collected required analytical samples: perfluorooctanoic acid and perfluorooctane sulfonate.* | | | | | | | | | | |

• Sample was taken and analyzed for the appropriate analyte.
— Sample was not taken for the appropriate analyte.
+ Sample was taken for the appropriate analyte, but was not required according to the 200 Area IWP (NASA, 2013).
N/A Sample was not required.

**Table 5.1 Time-Concentration Summary for Four Primary VOCs in 200 Area Groundwater Monitoring Wells Through 2013/2014**

| 200 Area Groundwater | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | First Sample | Freon 11 Concentration (µg/L) | | | | Freon 113 Concentration (µg/L) | | | | TCE Concentration (µg/L) | | | | PCE Concentration µg/L) | | | | T-C Interpretation (NASA, 2014a) |
| | | Max | Yr. | Last | Yr. | Max | Yr. | Last | Yr. | Max | Yr. | Last | Yr. | Max | Yr. | Last | Yr. | |
| 200-B-240 | 1989 | 280 | 1996 | 66 | 2013 | 2,200 | 1989 | 150 | 2013 | 290 | 1989 | 46 | 2013 | 15 QD | 1989 | 2.4 | 2013 | Plume Migration (Decreasing) |
| 200-C* | 1993 | 51 | 1996 | 14 | 2014 | 120 | 1996 | 38 | 2014 | 4.3 | 2003 | 2.5 | 2014 | 2.5 RL | 1993 | ND | 2014 | Plume Migration (Decreasing) |
| 200-D-109 | 1988 | 93 | 1988 | 7.4 | 2013 | 5,100 | 1993 | 240 | 2013 | 1,600 | 1993 | 460 | 2013 | 71 | 1992 | 26 | 2013 | Plume Migration (Decreasing) |
| 200-D-240 | 1988 | 240 QD | 1995 | 64Q | 2013 | 11,000 | 1988 | 420Q | 2013 | 110 | 1990 | 21Q | 2013 | 2.5 RL | 1998 | 0.52JQ | 2013 | Plume Migration (Decreasing) |
| 200-F* | 1995 | 41 | 2005 | 6.2 | 2013 | 62 | 1995 | 18 | 2013 | 34 | 2009 | 26 | 2013 | 2.5 RL | 1995 | 0.41 J | 2013 | Plume Migration (Decreasing) |
| 200-G* | 1995 | 55 | 1995 | 5.0 | 2013 | 48 | 1995 | 3.8 | 2013 | 4.8 | 2004 | 1.8 | 2013 | 2.5 RL | 1995 | ND | 2013 | Plume Migration (Decreasing) |
| 200-H* | 1994 | 6.0 | 2003 | 1.2 | 2014 | 7.9 | 1997 | 0.87 J | 2014 | 3.0 J | 1997 | ND | 2014 | 2.5 RL | 1994 | ND | 2014 | Plume Migration (Decreasing) |
| 200-I* | 1997 | 2.4 J | 1999 | 0.23 J | 2013 | 190 | 1999 | 19 | 2013 | 33 | 2007 | 26 | 2013 | 2.5 DL | 1997 | 0.35J | 2013 | Plume Migration (Decreasing) |
| 200-JG-110 | 2013 | 17 | 2013 | 5.1 | 2014 | 150 | 2013 | 39 | 2014 | 25 | 2013 | 16 | 2014 | 1.6 | 2013 | 0.95J | 2014 | Plume Migration (Decreasing) |

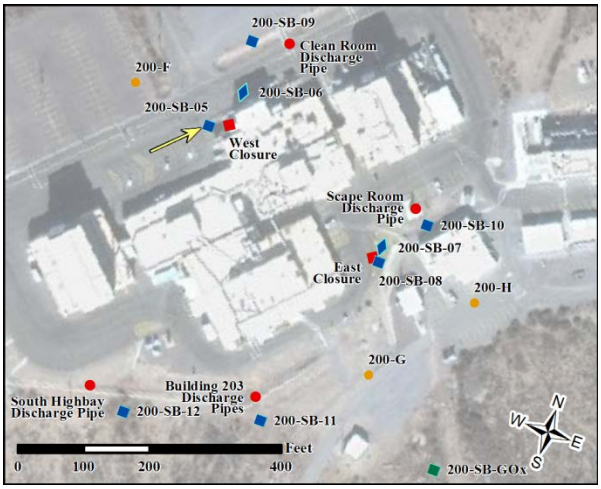
| 200 Area Groundwater | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | First Sample | Freon 11 Concentration (µg/L) | | | | Freon 113 Concentration (µg/L) | | | | TCE Concentration (µg/L) | | | | PCE Concentration µg/L) | | | | T-C Interpretation (NASA, 2014a) |
| | | Max | Yr. | Last | Yr. | Max | Yr. | Last | Yr. | Max | Yr. | Last | Yr. | Max | Yr. | Last | Yr. | |
| 200-SG-1 | 2004 | 81 | 2008 | 11 | 2014 | 2,000 | 2005 | 390 | 2014 | 380 | 2007 | 110 | 2014 | 17 | 2007 | 4.0 | 2014 | Plume Migration (Decreasing) |
| BW-4* | 1993 | 160 | 1993 | 76Q | 2013 | 400 | 1993 | 320 | 2013 | 210 | 1993 | 130 | 2013 | 13 | 1993 | 6.9Q | 2013 | Plume Migration (Decreasing) |

Notes: T-C plot interpretations are based on a review of all contaminant plots for a given well. This table generalizes the historical maximum concentration and last concentrations for four of the primary VOCs in groundwater.
* = Westbay wells utilize maximum concentration value recorded from all individual zones during a single sampling event.
J = Concentration values between the detection limit and practical quantitation limit.
Q = Result for a blind control sample recorded is outside the standard limits.
QD = duplicate error
RL = Concentration presents half of the reporting limit. The maximum reporting limits and most recent year it was used are reported in the table.
DL = Maximum detection limit and most recent year they were used are reported in the table.
ND = Not detected at method detection limit.

# Appendix A
# Soil Boring Lithologic Logs

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

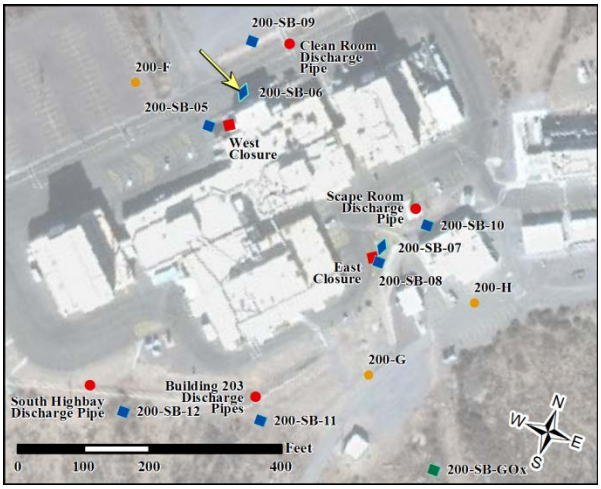



**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-05
**SITE COORDINATES (ft.)** **N:** 552379.73 **E:** 1532167.37
**GROUND ELEVATION (ft. MSL):** 4884.49
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 6/15/14 **DATE COMPLETED:** 6/15/14
**FIELD REPS.:** J. Pearson, S. Maestas **TOTAL DEPTH:** 20'
**COMMENTS:** 200-SB-05 is located adjacent to and south of the former Clean Room Tank HWMU (West Closure). All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0<br>5 | Hand Excavate | 100% | 4" | 2 | | | GM<br>GM | 0-4": Asphalt parking lot.<br>4": Silty Sandy Gravel, light brown (7.5YR 6/4), abundant limestone clasts w/ limestone boulder 1.5', very loose, dry.<br>2': Silty Gravel, light brown (7.5YR 6/4), 50% silt and 50% gravel clasts to 1.5" diameter, rounded to subrounded, mostly limestone. |
| 10 | Grab<br>Core Barrel | 70% | 6<br>8 | 6<br>10 | Equip Rinsate<br>Soil Chem<br>Soil Chem (dup)<br>Soil Geotech | 1406151050-1119<br>1406151125-1131<br>1406151141-1147<br>200-SB-05 (8-10') | ML | 8-9': As above, clasts mainly limestone (80%) and rhyolite (20%).<br>9-10': Sandy Silt, dark brown (7.5YR ¾), 15% clasts mainly limestone (80%). |
| 15 | Grab<br>Grab | | 13<br>14 | 13<br>14 | | | GM | 13': Silty Gravel, light brown (7.5YR 6/4), gravel clasts subrounded, mainly limestone and red mudstone, very loose, dry. |
| 20 | Grab<br>Grab<br>Grab | | 16<br>17<br>18 | 16<br>17<br>18 | | | Bedrock | 16': As above, clasts mainly limestone and rhyolite, some moisture in small sitly clay balls.<br>17': As above, moisture continues within silty clay component of matrix.<br>18': Limestone Bedrock, gray (7.5YR 6/1), angular broken chips. |
| | | | | | | | | **20': TOTAL DEPTH (TD)** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

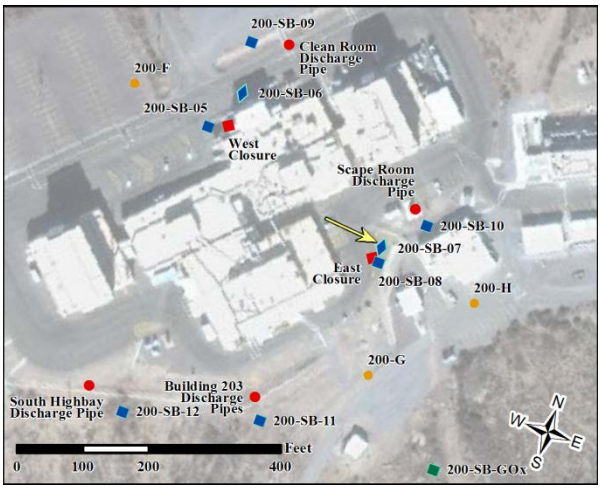



**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-06
**SITE COORDINATES (ft.) N:** 552449.47 **E:** 1532202.74
**GROUND ELEVATION (ft. MSL):** 4884.69
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 6/14/14 **DATE COMPLETED:** 6/15/14
**FIELD REPS.:** J. Hennessey, J. Pearson, S. Maestas
**TOTAL DEPTH*(see end of log):** 20'
**COMMENTS:** 200-SB-06 is located adjacent to the west side of Bldg. 200 (LabCon extension). The boring targets the former clean room tank excavation located adjacent and to the east, below the building. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | Sample Depth (ft) To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
| 0 | Hand Excavate | 100% | 4" | 2 | | | GM | 0-4": Asphalt parking lot.<br>4": Silty Gravel with Sand, light brown (7.5YR 6/4), gravel component 50%, clasts comprise limestone, mudstone, & siltstone, subangular to subrounded, very loose, dry. |
| 5 | Grab | | 5 | 5 | | | GM | 5': Silty Sandy Gravel, light brown (7.5YR 6/4), |
| 10 | Core Barrel | 70% | 8 | 10 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Geotech | 1406141200<br>1406141650-1659<br>1406141700-170<br>200-SB-06 (8-10') | | gravel component 40%, clasts comprise limestone, mudstone, and siltstone, subangular to subrounded, very loose, dry.<br>10': As above, gravel component 60%, clasts |
| 15 | Grab | | 15 | 15 | | | GC | include rhyolite, matrix includes coarse sand.<br>15': Clayey Gravel, reddish yellow (7.5YR 6/8), clasts |
| 16.5 | Grab | | 16.5 | 16.5 | | | | comprise limestone, rhyolite, & mudstone within a yellowish orange clay matrix, clasts subangular to subrounded, low plasticity, moist. |
| 18.5 | Grab | | 18.5 | 18.5 | | | Bedrock | 18': Limestone Bedrock, gray (7.5YR 5/1) crystalline silty limestone, angular broken chips. |
| 20 | Grab | | 20 | 20 | | | | |
| | | | | | | | | **20': TOTAL DEPTH (TD)**<br>***Rock coring from top of bedrock to 220', see Appendix A (Stone Report) within Appendix B (matrix Diffusion Data Report) of the IR for rock core lithologic logs.** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-07

**SITE COORDINATES (ft.)** **N:** 552302.42 **E:** 1532479.38

**GROUND ELEVATION (ft. MSL):** 4885.83

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)

**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)

**DATE STARTED:** 6/11/14 **DATE COMPLETED:** 6/12/14

**FIELD REPS.:** P. Egan, S. Maestas, G. Giles

**TOTAL DEPTH*(see end of log):** 55'

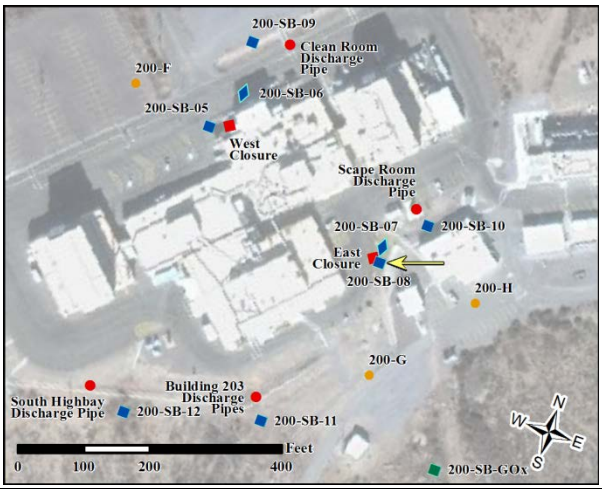
**COMMENTS:** 200-SB-07 is located in the parking lot west of Bldg. 803 at the location of the former chemistry lab tanks and within the marked post-closure care area. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | Sample Depth (ft) To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) | USCS Group | |
| 0 | Hand Excavate | 100% | 3" | 4 | | | | 0-3": Asphalt parking lot/closure cap.<br>3": Gravel Fill, brown (7.5YR 5/3), imported fill. |
| 5 | Grab | | 5 | 5 | | | SW | 5': Sand with Gravel, light gray (7.5YR 7/1), clasts |
| 10 | Core Barrel | 100% | 8 | 10 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Chem (ms) | 1406111335<br>1406111435 – 1444<br>1406111455 – 1508<br>" | GP | comprise fragments of limestone, caliche, and rhyolite, loose, dry.<br>10': Sandy Gravel, medium gray (7.5YR 6/1), gravel |
| 15 | | | 15 | 15 | | | | clasts to 3" diameter., subangular, comprised of limestone, volcanics, & mudstone, loose, dry. |
| 20 | Core Barrel<br>Grab | 90% | 18<br>20 | 20<br>20 | Soil Chem<br>Soil Geotech | 1406111630 – 1636<br>Sample refusal | CL | 20': Clay with Gravel, light brown (7.5YR 6/4), 85% |
| 25 | | | 25 | 25 | | | | clay and 10% coarse gravel clasts to 3" in diameter, low plasticitiy, slightly moist. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) | USCS Group | |
| **30** | Grab | | 30 | 30 | | | GM | 30': Silty Sandy Gravel, light brown (7.5YR 6/4), |
| **35** | | | 35 | 35 | | | | gravel clasts 50%, up to 1" in diameter, subangular to subrounded, primarily limestone, sandy limestone, and siltstone, loose, dry. |
| **40** | Core Barrel<br>Grab | 50% | 38<br>40 | 40<br>40 | Soil Chem<br>Soil Geotech | 1406120930 – 0936<br>No Sample | | 40': As above, gravel clasts to 2" in diameter, |
| **45** | Grab | | 45 | 45 | | | | primarily limestone, micrite, siltstone, and sandstone, slightly moist.<br><br>42': As above, gravel clasts reduced to 1" in diameter. |
| **50** | Core Barrel<br>Grab | 80% | 47<br>50 | 49<br>50 | Soil Geotech | 200-SB-07 (47-49') | | 47': As above, gravel clasts increase to 60%, ¼"- 1" in diameter.<br>50': As above, gravel includes pale red (7.5YR 6/4) |
| **55** | Grab | | 53 | 53 | | | Bedrock | angular rhyolitic clasts.<br><br>53': Shaley Limestone Bedrock, gray (7.5YR 5/1), Fine-grained with disseminated silt and sand grains. |
| **60** | | | | | | | | **55': TOTAL DEPTH (TD)**<br>***Rock coring from top of bedrock to 220', see Appendix A (Stone Report) within Appendix B (matrix Diffusion Data Report) of the IR for rock core lithologic logs.** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-08

**SITE COORDINATES (ft.)** **N:** 552278.57 **E:** 1532482.84

**GROUND ELEVATION (ft. MSL):** 4885.88

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)

**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)

**DATE STARTED:** 6/12/14 **DATE COMPLETED:** 6/13/14

**FIELD REPS.:** G. Giles, S. Maestas **TOTAL DEPTH:** 57'

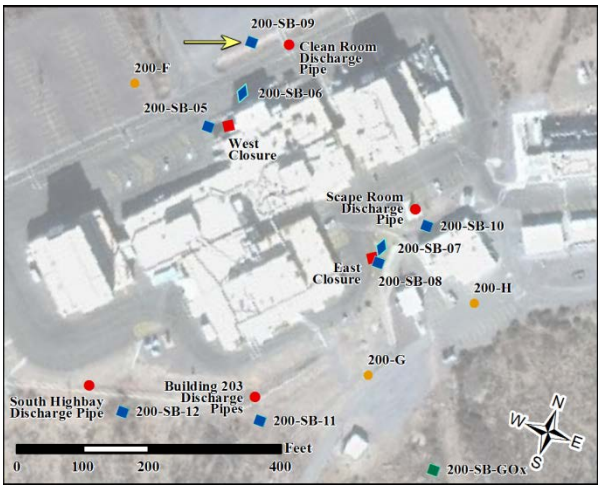
**COMMENTS:** 200-SB-08 is located adjacent to and west of the west corner of Bldg. 203. The boring targets former Chem Lab tanks that were located within this post-closure area. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | Sample Depth (ft) To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
| 0 | Hand Excavate | 100% | 4" | 4 | | | GM | 0-4": Asphalt parking lot/closure cap.<br>4": Silty Sandy Gravel, light brown (7.5YR 6/4), silt 20%, sand 40%, gravel 40%, clasts ¼"-1" diameter, subangular to subrounded, clasts comprise limestone, mudstone, and siltstone, loose, slightly moist, poorly sorted, moderately graded. |
| 5 | Grab | | 5 | 5 | | | | |
| 10 | Core Barrel | 100% | 8 | 10 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Chem (dup) | 1406130700<br>1406130720 – 0729<br>1406130800 – 0806<br>1406130810 - 0816 | | 10': As above, 90% of clasts are limestone, loose, dry. |
| 15 | Grab | | 12 | 12 | | | | |
| 20 | Grab | | 20 | 20 | | | SP | 20': Gravelly Silty Sand, light brown (7.5YR 6/4), gravel 20%, silt 20%, sand 60%, subangular to subrounded clasts to ½" diameter, mainly limestone and siltstone, loose, slightly moist. |
| 25 | | | | | | | | |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 25 | Core Barrel | 100% | 28 | 30 | Soil Chem<br>Soil Geotech | 1406130940 – 0946<br>200-SB-08 (28-30') | GM | 28': Silty Sandy Gravel, light brown (7.5YR 6/3), silt and sand 40%, gravel clasts 60%, clasts ¼" – 1¼" diameter, subangular to subrounded, primarily |
| 30 | Grab | | 30 | 30 | | | | limestone and mudstone, loose, slightly moist. |
| 35 | | | | | | | | |
| 40 | Grab | | 40 | 40 | | | | 40': As above, limestone clasts increase to 80% of sample. |
| 45 | Core Barrel<br>Grab | 100% | 43<br>45 | 45<br>45 | Soil Chem | 1406131300 - 1306 | | 43-45': As above. |
| 50 | Grab | | 50 | 50 | | | | 50': As above, clast size increases resulting in broken clast fragments, clasts comprise limestone and rhyolite, inferred to be proximal to bedrock. |
| 55 | | | | | | | | |
| 60 | Grab | | 56 | 56 | | | | 56': Calcareous Mudstone Bedrock, yellow (10YR 7/6), small (< ½") broken and angular chips.<br>**57': TOTAL DEPTH (TD)** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-09

**SITE COORDINATES (ft.)** **N:** 552530.27 **E:** 1532182.89

**GROUND ELEVATION (ft. MSL):** 4885.56

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)

**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)

**DATE STARTED:** 6/30/14 **DATE COMPLETED:** 6/30/14

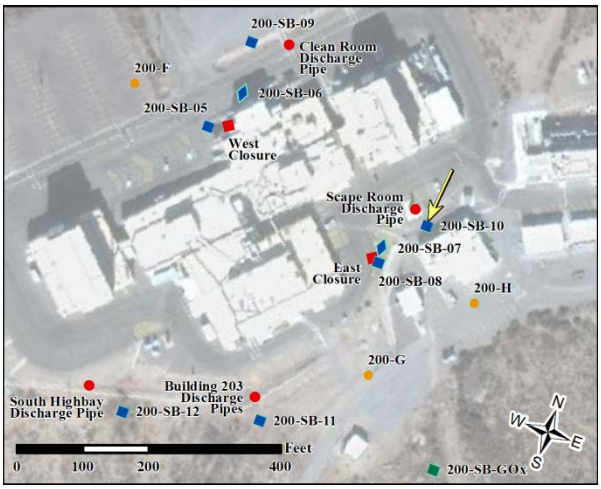
**FIELD REPS.:** J. Lawrence, S. Maestas **TOTAL DEPTH:** 26'

**COMMENTS:** 200-SB-09 is located on the northwest corner of Apollo Blvd and Road L, within the 200 Area gravel parking lot, and adjacent to the Clean Room discharge pipe trench. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0<br>0.5 | 0<br>0.5 | | | GM | 0-0.5': Imported Gravel Fill for parking lot.<br>0.5': Silty Sandy Gravel, light reddish brown (5YR 6/4), 40% gravel clasts to 1.5" in diameter, subangular, primarily limestone, loose, dry, poorly sorted. |
| 5 | Grab | | 5 | 5 | | | | 5': As above, gravel clasts coarsening with depth. |
| 10 | Core Barrel | 80% | 8 | 10 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Geotech | 1406301500<br>1406301525 – 1534<br>1406301545 – 1551<br>200-SB-09 (8-10') | SP-SM | 10': Poorly Graded Sand with Silt and Gravel, light brown (7.5YR 6/4), 40% sand, 30% silt, 30% gravel, gravel clasts ¼" – 1", subangular, limestone and siltstone, loose, slightly moist, poorly sorted, moderately graded. |
| 15 | | | | | | | | 15': As above, clasts comprise gray limestone (7.5YR 5/1), red mudstone (10R 5/6), and brown siltstone (10YR 5/3). |
| 20 | Grab | | 20 | 20 | | | | |
| 25 | Grab | | 25 | 25 | | | Bedrock | 22': Siltstone Bedrock, pale red (10R 6/3), broken angular chips ¼" – ½" diameter, interbedded with dark gray micritic limestone (10YR 5/1).<br>**26': TOTAL DEPTH (TD)** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-10

**SITE COORDINATES (ft.) N:** 552344.34 **E:** 1532517.86

**GROUND ELEVATION (ft. MSL):** 4884.45

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)

**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)

**DATE STARTED:** 6/28/14 **DATE COMPLETED:** 6/29/14

**FIELD REPS.:** G. Giles, S. Maestas, P. Egan

**TOTAL DEPTH:** 60' **COMMENTS:** 200-SB-10 is located within a ditch on the west side of Bldg. 803 in the 200 Area. Approximately 18" of imported fill was installed in the ditch for rig acess and setup, then removed upon completion. 0' represents ground surface in the ditch, not top of fill. All grab samples collected from ARCH Rig cyclone.

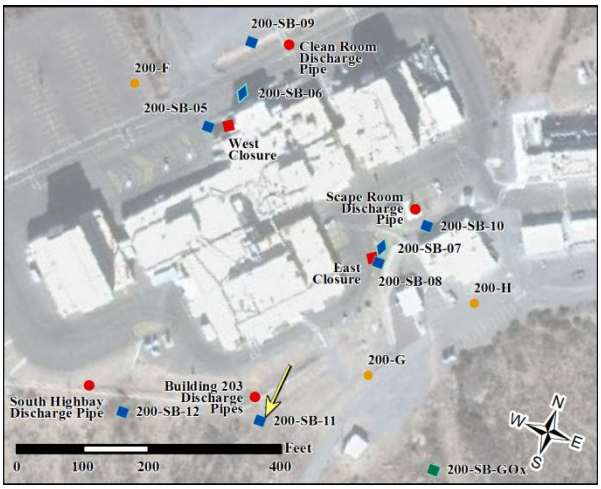
| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | | ML | 0': Gravelly Silt with Sand, light brown (7.5YR 6/3), clasts comprise 20% of soil and are ¼" – 1½" in diameter, subangular, primarily limestone, very loose, dry, poorly sorted, poorly graded. |
| 5 | Grab | | 5 | 5 | | | GM | 5': Silty Sandy Gravel, light brown (7.5YR 6/4), clasts comprise 50% of sample, ½" – 2" in diameter, sugangular, primarily limestone, siltstone, and mudstone, loose, slightly moist. |
| 10 | Grab | | 10 | 10 | | | | 10': As above, clasts reduced in size to ¼" to 1", subangular to subrounded, fine-grained dark gray (7.5YR 4/1) limestone is predominant. |
| 15 | Grab | | 15 | 15 | | | | |
| 20 | Core Barrel<br>Grab | 100% | 16<br>20 | 18<br>20 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Geotech | 1406280630<br>1406280940 – 0948<br>1406281018 – 1024<br>200-SB-10 (16-18') | ML | 16-18': Gravelly Silt with Sand, brown (7.5YR 5/4), gravel clasts 20%, subangular to subrounded, ¼" – 1" diameter, limestone. Silt comprises 70% of sample, soft, moist, medium plasticity, moderately |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **25** | Grab | | 25 | 25 | | | GM | sorted, poorly graded. Moisture may be derived from utility pipe discharge.<br><br>20': Silty Sandy Gravel, light brown (7.5YR 6/4), 40% gravel clasts, ¼" – ½", subangular to subrounded, limestone, medium, dense, moist. |
| **25**<br><br>**30** | Core Barrel<br><br>Grab | 100% | 26<br><br>30 | 28<br><br>30 | Soil Chem | 1406281200 - 1206 | GM | 25': As above, gravel clasts increase in diameter to 1½".<br>26-28': As above, brown (7.5YR 4/2), gravel clasts subrounded, ⅛" – 2½", limestone suspended in a sandy silt matrix, loose, moist, poorly sorted.<br><br>30': As above, subrounded clasts now include red |
| **35** | Grab | | 35 | 35 | | | | (10R 5/6) mudstone. |
| **40** | Core Barrel<br><br>Grab | 100% | 36 | 38 | Soil Chem | 1406281505 – 1511 | GM<br><br>SM | 38': Sandy Gravel, light brown (7.5YR 6/3), gravel 50%, subangular to subrounded clasts ¼" – 1¾", micritic limestone, siltstone, mudstone, very loose, dry, poorly sorted, moderately graded.<br>40': Silty Sand, reddish yellow (7.5YR 6/6), |
| **45** | Grab | | 45 | 45 | | | SM | subangular to subrounded sand grains (50%) with silt (50%), loose, dry.<br><br>45': Silty Sand with Gravel, brown (7.5YR 5/4), |
| **50** | Grab | | 50 | 50 | | | GC | appearance of 25% gravel clasts, ⅛" – ½", subangular to subrounded, loose, dry.<br><br>50': Clayey Gravel, pinkish white (7.5YR 8/2), gravel |
| **55** | Grab | | 55 | 55 | | | GM | clasts comprise 30%, subangular to subrounded, limestone, siltstone, and mudstone, loose, dry.<br><br>55': Silty Gravel with Clay, pinkish gray (7.5YR 7/2), |
| **60** | | | | | | | Bedrock | 40% gravel clasts comprising limestone, mudstone, some volcanics, loose, dry.<br><br>57': Limestone bedrock, gray (7.5YR 5/1) angular fine-grained chips ¼" – ½". |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 65 | | | | | | | | 60': TOTAL DEPTH (TD). |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-11

**SITE COORDINATES (ft.) N:** 55198.41 **E:** 1532396.87

**GROUND ELEVATION (ft. MSL):** 4869.40

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)

**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)

**DATE STARTED:** 7/1/14 **DATE COMPLETED:** 7/2/14

**FIELD REPS.:** J. Lawrence, S. Maestas, G. Giles

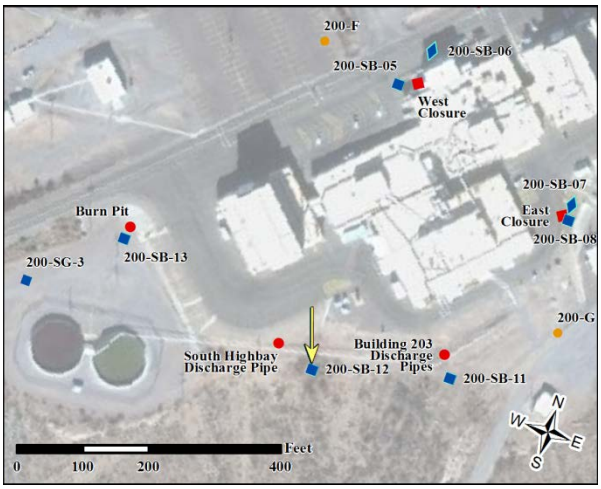
**TOTAL DEPTH:** 46' **COMMENTS:** 200-SB-11 is located southeast of the southeast corner of Bldg. 203 in the 200 Area. This location corresponds to the former location of the Bldg. 203 Discharge Pipe SWMU. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | | GM | 0": Silty Sandy Gravel, light brown (7.5YR 6/4), gravel clasts comprise 40%, ½" – 2" in diameter, subangular to subrounded, limestone, siltstone, mud-stone, very loose, dry, poorly sorted, moderately graded. |
| 5 | Grab | | 5 | 5 | | | | 5': As above, gravel clasts ¼" – ¾" in diameter. |
| 10 | Core Barrel<br>Grab | 100% | 8<br>10 | 10<br>10 | Trip Blank<br>Equip Rinsate<br>Soil Chem | 1407011240<br>1407011355 – 1403<br>1407011410 - 1416 | | 8-10': As above, light brown (7.5YR 6/3), gravel clasts to 50%, ⅛" – ¼" in diameter, subangular, very loose, dry, poorly sorted. |
| 15 | | | | | | | | |
| 20 | Grab | | 20 | 20 | | | SW | 20': Sand with Gravel: Brown (7.5YR 5/4), gravel |
| 25 | | | | | | | | clasts comprise 20% of sample, ⅛" – ¼ " in diameter, subangular to subrounded, limestone, siltstone, and mudstone, sand primarily medium to coarse-grained, very loose, dry. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **25** | Core Barrel | 50% | 28 | 30 | Soil Chem<br>Soil Geotech | 1407011600 – 1606<br>200-SB-11 (28 – 30') | GM | 28: Silty Sandy Gravel, Light brown (7.5YR 6/4), gravel clasts comprise 40%, ½" – 2" in diameter, subangular to subrounded, primarily limestone, |
| **30** | Grab | | 30 | 30 | | | | loose, dry, poorly sorted, moderately graded. |
| **35** | Grab | | 35 | 35 | | | | @35': As above, gravel clasts are ¼" – ½" in |
| **40** | Grab | | 40 | 40 | | | Bedrock | diameter, micritic limestone, silty limestone, coarse-grained fossiliferous limestone (with shell hash), and mudstone.<br>40': Silty Limestone Bedrock, Gray (10YR 5/1), |
| | Grab | | 43 | 43 | | | | angular broken chips, ⅛" – ¼ " in diameter, fine grained, competent with some reddish yellow (7.5YR 7/6) sand and silt grains visible. |
| **45** | Grab | | 45 | 45 | | | | |
| **50** | | | | | | | | **46': TOTAL DEPTH (TD)**. |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-12

**SITE COORDINATES (ft.) N:** 551930.58 **E:** 1532196.04

**GROUND ELEVATION (ft. MSL):** 4865.80

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)

**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)

**DATE STARTED:** 7/17/14 **DATE COMPLETED:** 7/17/14

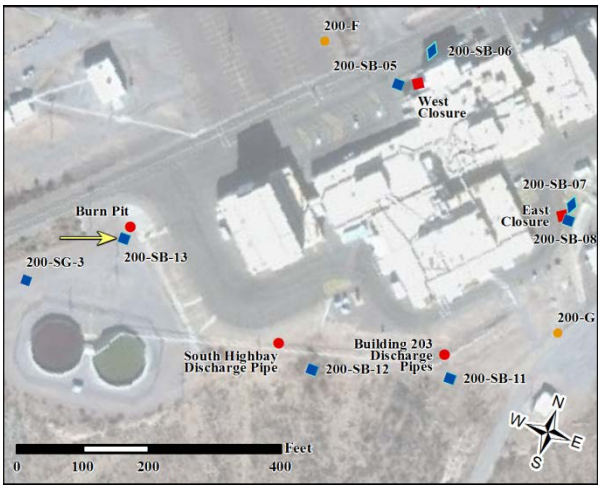
**FIELD REPS.:** J. Lawrence, S. Maestas **TOTAL DEPTH:** 23'

**COMMENTS:** 200-SB-12 is located southeast of the South Highbay in the 200 Area. This location corresponds to the former location of the South Highbay Discharge Pipe SWMU. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | | ML | 0': Silt with Gravel, light brown (7.5YR 6/4) gravel clasts comprise 25% of sample, ¼" – 1" in diameter, subangular, limestone and mudstone, loose, dry, poorly sorted. |
| 5 | Grab | | 5 | 5 | | | GM | 5': Silty Sandy Gravel, light brown (7.5YR 6/3), gravel clasts comprise 40% of sample, ½" – ¾" in diameter, subangular, clasts comprised of grainy fossiliferous limestone and pale brown (10YR 8/3) silt-stone, loose, dry. |
| | Core Barrel | Low % | 8 | 10 | Trip Blank<br>Equip Rinsate | 140717100<br>1407171130 – 1138 | | |
| 10 | Grab | | 10 | 10 | Soil Geotech | 200-SB-12 (8-10') | | 10': As above, clasts increasing in diameter to 2", typically broken into smaller angular pieces of gray (7.5YR 5/1) limestone, very loose, dry. |
| 15 | Grab | | 15 | 15 | | | | 15': As above, abundant clasts of limestone and shale, angular to subangular, broken. |
| | Core Barrel | 0% | | | | No sample recovery | | |
| 20 | Grab | | 20 | 20 | | | Bedrock | 20': Calcareous Shale Bedrock, gray (7.5YR 5/1), shaley partings between 1/32" – 1/8" apart, fissile. |
| 25 | | | | | | | | **23': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-13
**SITE COORDINATES (ft.)** **N:** 552017.11 **E:** 1531856.95
**GROUND ELEVATION (ft. MSL):** 4867.02
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 6/16/14 **DATE COMPLETED:** 6/16/14
**FIELD REPS.:** J. Hennessey, S. Maestas **TOTAL DEPTH:** 48'
**COMMENTS:** 200-SB-13 is located at the northwest corner of the former Evaporation Treatment Unit pad. This soil boring targets the former location of the 200 Area Burn Pit SWMU. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | Sample Depth (ft) To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | | GM | 0': Silty Gravel, light brown (7.5YR 6/3), clasts comprise 40% of sample, ½" – 1½" in diameter, angular to subrounded, predominantly dark gray (10YR 4/1) limestone with some granite also present, very loose, dry, poorly sorted, moderately graded. |
| 5 | Grab | | 5 | 5 | | | | |
| | Core Barrel | 50% | 8 | 10 | Trip Blank<br>Equip Rinsate<br>Soil Chem | 1406160730<br>1406161340 – 1348<br>1406161400 - 1406 | | 8-10': As above, gravel clasts increase to 50% of sample, ⅛– ⅝" in diameter, subangular, limestone, siltstone, rhyolite. |
| 10 | Grab | | 10 | 10 | | | | 10': As above, some yellowish (10YR 7/6) silty inclusions within limestone clasts. |
| 15 | Grab | | 15 | 15 | | | | @15': As above, a wide variety of clast lithologies include limestone, micrite, mudstone, siltstone, and rhyolite. |
| 20 | Grab | | 20 | 20 | | | | 20': As above, gravel clasts ¼" – ¾" in diameter, subangular to subrounded, loose, moist. |
| 25 | Grab | | 25 | 25 | | | SM | 25': Silty Sand with Gravel, light brown (7.5YR 6/4), gravel clasts comprise 20% of sample, ⅛" – ¼" in |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **25** | Core Barrel | 50% | 28 | 30 | Soil Chem | 1406161540 - 1553 | | diameter, primarily limestone and siltstone, 60% of sample is coarse sand, loose, dry.<br><br>28-30': As above, brown (7.5YR 4/3), gravel clasts comprise 15% of sample, ⅛" – 1" in diameter, subrounded, loose, moist, moderately sorted, poorly graded. |
| **30** | Grab | | 30 | 30 | | | GM | 30': Silty Gravel with Sand, light brown (7.5YR 6/3), |
| | Core Barrel | 50% | 30 | 32 | Soil Chem (ms) | As Above | | gravel clasts comprise 50% of sample, ⅛"– 1" in diameter, subangular to subrounded, limestone, siltstone, and mudstone, loose, slightly moist. |
| **35** | Grab | | 35 | 35 | | | SP-SM | 35': Sand with Silt, strong brown (7.5YR 5/6), gravel |
| **40** | | | | | | | | clasts comprise <10% of sample, sand is fine to medium grained, loose, slightly moist. |
| **45** | Grab | | 45 | 45 | | | Bedrock | 45': Volcanic Tuff Bedrock, pink (7.5YR 7/3), micro- |
| **50** | | | | | | | | brecciated rock fragments and crystals suspended in a clay-rich matrix, indurated to soft.<br><br>47': Siltstone Bedrock, brown (7.5YR 5/3), hard calcareous siltstone.<br><br>**48': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-14
**SITE COORDINATES (ft.) N:** 550471.70 **E:** 1530990.38
**GROUND ELEVATION (ft. MSL):** 4798.44
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 6/18/14 **DATE COMPLETED:** 6/18/14
**FIELD REPS.:** P. Egan, S. Maestas **TOTAL DEPTH:** 8'
**COMMENTS:** 200-SB-14 is located approximately 1,800 feet southwest of the 200 Area South Highbay. This soil boring targets "Area of Interest I" presented in the 200 Area Phase I Investigation Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | No soil samples recovered due to poor sample recovery and shallow depth to bedrock. | GM | 0': Silty Gravel, light brown (7.5YR 6/4), gravel clasts comprise 40% of sample, ½ " – 1" in diameter, angular to subrounded, comprised of weathered lime-stone, siltstone, and granite, silt and trace of sand comprise matrix, loose, dry, poorly sorted, caliche-coated clasts. |
| 5 | Grab | | 5 | 5 | | | | 5': As above, gravel clasts increase to 50%, primarily dark gray (10YR 4/1) to brownish yellow (10YR 6/6) broken limestone, siltone, quartzite, and rhyolite. |
| 7 | Grab | | 7 | 7 | | | Bedrock | 7': Gravel clasts increase to 90%, broken limestone predominant. 8': Limestone Bedrock, dark gray (10YR 4/1), angular broken chips, ¼" – 1". |
| 10 | | | | | | | | **8': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-15
**SITE COORDINATES (ft.)** **N:** 551205.48 **E:** 1530710.23
**GROUND ELEVATION (ft. MSL):** 4812.07
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 7/11/14 **DATE COMPLETED:** 7/30/14
**FIELD REPS.:** G. Giles, J. Lawrence, P. Egan, S. Maestas
**TOTAL DEPTH:** 127' **COMMENTS:** 200-SB-15 is located 150 ft south of Well 200-E* and 700 ft southwest of the 200 Area Sewage Lagoons. This soil boring targets "Area of Interest II" presented in the 200 Area Phase I Investigation Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | Sample Depth (ft) To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0<br>5 | Hand Excavate | | 0 | 0 | | | ML | 0": Gravelly Silt, light brown (7.5YR 6/4), gravel clasts comprise 30% of sample, ¼" – 3" diameter, subangular, limestone and mudstone, loose, slightly moist (recent precipitation), moderately sorted, poorly graded. |
| 10 | Core Barrel<br>Grab | 100% | 8<br>10 | 10<br>10 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Chem (ms)<br>Soil Geotech | 1407111130<br>1407111340 – 1348<br>1407111410 – 1423<br>"<br>200-SB-15 (8-10') | | 10': As above, gravel clasts comprise 20% of |
| 15 | | | | | | | | sample, ¼" – ¾" diameter, subangular, limestone, siltstone, and mudstone, slightly moist, silt locally clumping into balls within sample matrix. |
| 20 | Grab | | 20 | 20 | | | | |
| 25 | | | | | | | GM | 22': Silty Gravel, light brown (7.5YR 6/4), clasts sub-angular to subrounded, primarily micritic limestone and siltstone, gravel detectable in drilling: greater chatter on bit with decreased advancement rate. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 25<br>30 | Grab | | 30 | 30 | | | | |
| 35 | | | | | | | GM | 35': Silty Sandy Gravel, light brown (7.5YR 6/4), |
| 40 | | | | | | | | gravel clasts comprise 40% of sample, ⅛" – ¼" diameter, subangular, abundant limestone with mudstone and siltstone, very loose, dry. |
| 45 | | | | | | | | |
| 50 | | | | | | | | |
| 55 | | | | | | | | |
| 60 | Grab | | 60 | 60 | | | | 58': Silty Gravel, light brown (7.5YR 6/4), gravel clasts comprise 40% of sample, ½" – ¾" diameter, subangular, limestone and mudstone, loose, dry. |
| 65 | | | | | | | | 65': Fine clay horizon, pinkish white (5YR 8/2), cemented, dry, disintergrates to a powder when broken. |
| 70 | Core Barrel | 10% | 66 | 68 | **No Chem (see note at right)** Soil Geotech | 200-SB-15 (66-68') | CL | 66': Gravelly Caliche, white (10YR 8/1), gravel clasts comprise 30% of sample, 1/8" – ¼" diamter, sub-rounded, limestone and mudstone suspended in a cemented caliche matrix, powders when broken. ***Note: caliche is not conducive to soil chem analysis therefore samples not collected at this interval.*** |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **70** | Grab | | 70 | 70 | | | GM | 70': Silty Sandy Gravel, light brown (7.5YR 6/4), gravel clasts comprise 40% of sample, ½ " – 1" diameter, subangular, micritic limestone, loose, dry. |
| **75** | | | | | | | | |
| **80** | Grab | | 80 | 80 | | | | |
| **85** | | | | | | | | |
| **90** | Grab | | 90 | 90 | | | | 90': Gravel clasts ¼" – ½" diameter, multiple |
| **95** | | | | | | | | lithologies including fossiliferous limestone, micrite, red mudstone and yellow siltstone. |
| **100** | Core Barrel<br>Grab | 70% | 98<br>100 | 100<br>100 | Soil Chem<br>Soil Geotech | 1407161200 – 1206<br>200-SB-15 (98-100') | SP | 98': Sand with Gravel, light brown (7.5YR 6/3), gravel clasts comprise 15% of sample, subangular, micrite, loose, dry, poorly sorted. |
| **105** | | | | | | | | |
| **110** | Grab | | 110 | 110 | | | | |
| **115** | | | | | | | GM | 112': Silty Sandy Gravel, light brown (7.5YR 6/4), gravel clasts 35% of sample, ¼ " – 1" diameter, subangular, limestone and micritic limestone, loose, dry. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **115** | | | | | | | | |
| **120** | Grab | | 120 | 120 | | | | 120': As above, gravel clasts increasing in size to >1", angular to subangular, limestone, micrite, siltstone, and mudstone. |
| | Grab | | 121 | 121 | | | | |
| **125** | Grab | | 124 | 124 | | | | 124-126': Clayey horizon with soil cuttings comprising 80-90% clay. |
| | Grab | | 126 | 126 | | | Bedrock | 127': Limestone Bedrock, gray (7.5YR 5/1), fine-grained, broken, agular chips. |
| **130** | Grab | | 127 | 127 | | | | **127': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-16
**SITE COORDINATES (ft.) N:** 551228.40 **E:** 1530326.78
**GROUND ELEVATION (ft. MSL):** 4811.84
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 7/21/14 **DATE COMPLETED:** 7/23/14
**FIELD REPS.:** J. Lawrence, S. Maestas, G. Giles
**TOTAL DEPTH:** 123' **COMMENTS:** 200-SB-16 is located 400 ft southwest of well 200-E* and 1,000 ft southwest of the 200 Area Sewage Lagoons. This soil boring targets "Area of Interest II" presented in the 200 Area Phase I Investigation Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | | ML | 0": Sandy Silt, light brown (7.5YR 6/4), gravel clasts comprise <15% of sample, ¼" – 1" diameter, sub-angular, limestone and micritic limestone, loose, dry, moderately sorted, poorly graded. |
| 5 | Grab | | | | | | GM | 5': Silty Gravel, light brown (7.5YR 6/4), clasts comprise 35% of sample, ¼" – ¾" diameter, sub-rounded clasts of limestone, siltstone, & rhyolite, loose, dry, poorly sorted, moderately graded. |
| 10 | Grab | | 10 | 10 | | | | |
| 15 | | | | | | | | |
| 20 | Core Barrel<br>Grab | 50% | 18<br>20 | 20<br>20 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Geotech | 1407211030<br>1407211250 – 1258<br>1407220800 – 0807<br>200-SB-16 (18-20') | | 20': As above, clast size is ¼" – ½" diameter, becoming finer with depth. |
| 25 | | | | | | | | |

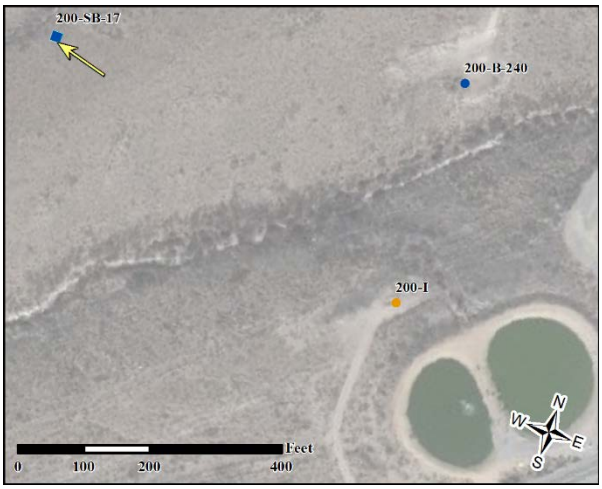
| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 25 | Core Barrel | 70% | 28 | 30 | Soil Chem | 1407220940-0947 | | |
| 30 | Grab | | 30 | 30 | | | | |
| 35 | | | | | | | | |
| 40 | Grab | | 40 | 40 | | | SM | 40': Silty Gravelly Sand, light brown (7.5YR 6/4), |
| 45 | | | | | | | | gravel clasts comprise 25% of sample, ¼" – ½" diameter, subangular, primarily limestone (70%) with quartzite and rhyolite. |
| 50 | Core Barrel | 70% | 48 | 50 | Soil Chem | 1407221135 - 1142 | | |
| | Grab | | 50 | 50 | | | | |
| 55 | | | | | | | | |
| 60 | Core Barrel | 80% | 58 | 60 | Soil Chem<br>Soil Geotech | 1407230750 – 0757<br>200-SB-16 (58-60') | GM | 58': Sandy Silty Gravel, light brown (7.5YR 6/3), gravel clasts ¼" – 1½" comprise 35% of sample, subangular, micrite, mudstone, & volcanics, loose, |
| | Grab | | 60 | 60 | | | | |
| 65 | | | | | | | | dry, poorly sorted, moderately graded. |
| 70 | Grab | | 70 | 70 | | | GM | 70': Silty Sandy Gravel, light brown (7.5YR 6/3), |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 70 | | | | | | | | gravel clasts comprise 40%, ⅛“ – ⅝“diameter, limestone, sitstone, and sandstone, very loose, dry. |
| 75 | | | | | | | | |
| 80 | Grab | | 80 | 80 | | | | |
| 85 | | | | | | | GM | 82’: Silty Gravel, light brown (7.5YR 6/4), gravel clasts comprise 45% of sample, ¼“ – ½“ diameter, subangular, primarily limestone and shaley limestone, loose, dry. |
| 90 | Grab | | 90 | 90 | | | | 90’ – 96’: As above, pinkish white (7.5YR 8/2), |
| 95 | | | | | | | | abundant caliche powder in matrix and coating clasts. |
| 100 | Core Barrel<br>Grab | 0% | 98<br>100 | 100<br>100 | | No sample recovery | | 100’: Subangular clasts increase in size to ¼“ – |
| 105 | | | | | | | | 1½“diameter, clasts comprise 50% of sample, predominantly limestone and silty limestone. |
| 110 | Grab | | 110 | 110 | | | | 110’: Clasts are angular to subangular, often |
| 115 | | | | | | | | broken, ¼“ – ½“ diameter, primarily limestone, loose. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **120** | Grab | | 120 | 120 | | | | 120': Cemented alluvium within caliche matrix, gray (7.5YR 5/1), abundant micritic limestone, indurated, dry. |
| **125** | | | | | | | Bedrock | 123': Silty Limestone Bedrock, dark gray (10YR 4/1), broken chips ⅛" – ⅜"diameter, caliche-coated surfaces.<br><br>**123': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-17
**SITE COORDINATES (ft.) N:** 552089.14 **E:** 1530496.92
**GROUND ELEVATION (ft. MSL):** 4820.90
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 8/2/14 **DATE COMPLETED:** 8/4/14
**FIELD REPS.:** J. R. Hennessey, S. Maestas
**TOTAL DEPTH:** 147' **COMMENTS:** 200-SB-17 is located 750 ft northwest of the 200 Area Sewage Lagoons. This soil boring targets a location specified by the New Mexico Environmental Department. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0<br>5 | Hand Excavate | | 0 | 0 | Trip Blank<br>Equip Rinsate | 1408010700<br>1408020900-0908 | ML | 0': Gravelly Silt, light brown (7.5YR 5/3), gravel clasts comprise 20% of sample, ¼ " – 2½ " diameter, subangular, limestone and mudstone, sample predominantly silt; loose, moist (due to recent rains), poorly sorted and graded. |
| 10 | Core Barrel | 75% | 8 | 12 | Soil Chem<br>Soil Chem (dup)<br>Soil Geotech | 1408020915-0930<br>"<br>200-SB-17 (8-12') | | 10': As above, light brown (7.5YR 6/4), gravel |
| 15 | | | | | | | | clasts comprise 25% of sample, ⅛" – 1" diameter, poorly sorted, moderately graded. |
| 20 | Grab | | 20 | 20 | | | GM | 20': Sandy Gravel, light brown (7.5YR 7/4), gravel |
| 25 | | | | | | | | fraction increases to 60%, clasts up to ½" diameter, subangular, limestone, siltstone, and mudstone; loose, dry. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 25 | | | | | | | | |
| 30 | Grab | | 30 | 30 | | | SM | 30': Silty Sand with Gravel, light brown (7.5YR 7/4), |
| 35 | Grab | | 35 | 35 | | | | gravel clasts comprise 20% of sample, clasts up to ¼" diameter, limestone and mudstone, fine to coarse sand and silt comprise 80% of the sample, loose, dry. |
| 40 | Grab | | 40 | 40 | | | GM | 40': Silty Gravel, light brown (7.5YR 7/4), clasts |
| 45 | | | | | | | | comprise 50% of sample, are ¼" – ¾" diameter, subrounded, approximately 50% limestone and 50% rhyolite, matrix comprised of silt with 15% sand; loose, dry. |
| 50 | Core Barrel<br>Grab | 90% | 48<br>50 | 50<br>50 | Soil Chem | 1408030843-0852 | | 48'-50': As above, tan (7.5YR 7/2) silty gravel with traces of clay, gravel comprises 50% of sample, clasts up to 2" diameter, subrounded to rounded, |
| 55 | | | | | | | | primarily silty limestone. |
| 60 | Grab | | 60 | 60 | | | | 60': As above, white (5YR 8/1), clasts comprise |
| 65 | | | | | | | | 40% of sample, up to 1" diamter, subrounded, limestone coated in fine caliche dust. |
| 70 | Grab | | 70 | 70 | | | | @70': As above, pinkish gray (5R 7/1), clasts |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 70<br>75 | | | | | | | | comprise 40% of sample within a silty sand matrix, ½" – 1" diamter, subrounded, limestone. |
| 80 | Grab | | 80 | 80 | | | | 80': As above, clasts increase to 1" – 1½" diameter. |
| 85 | | | | | | | | |
| 90 | Core Barrel<br>Grab | 90%<br> | 88<br>90 | 90<br>90 | Soil Chem<br> | 1408031315-1322<br> | | 90': As above, clasts are subangular to subrounded, |
| 95 | | | | | | | | 90% of clasts are limestone, increasing to 1" – 4" in diameter. |
| 100 | Grab | | 100 | 100 | | | | 100': As above, gray (5YR 8/3), gravel clasts |
| 105 | | | | | | | | comprise 60% of sample in a silty sand matrix, clasts are ¼" – 1" diameter, subrounded, limestone; loose, dry. |
| 110 | Grab | | 110 | 110 | | | | 110': As above, pink (5YR 8/3), clasts comprise |
| 115 | | | | | | | | 50% of sample, ¼" – ½" diameter, subangular to subrounded, increasing rhyolite (30% of clasts); loose, dry. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **115** | | | | | | | | |
| **120** | Grab | | 120 | 120 | | | | 120': As above, pinkish gray (5YR 7/2), clasts |
| **125** | | | | | | | | comprise 70% of sample, ¼" – 1" diameter, sub-rounded, limestone and rhyolite; loose, dry. |
| **130** | Grab | | 130 | 130 | | | GP | 130': Poorly Graded Gravel, pinkish gray |
| **135** | Grab | | 135 | 135 | | | | (5YR 7/2), gravel clasts comprise 85% of sample, clasts ½" – 1" diameter, subrounded, tan to gray silty limestone, silty sand matrix <15%; loose, dry. |
| **140** | Grab | | 137 | 137 | | | GM | 140': Silty Gravel, pinkish gray (5YR 7/2), gravel clasts comprise 60% of sample, clasts ¼" – ½" |
| **145** | Grab<br>Grab | | 143<br>144 | 143<br>144 | | | | diameter, broken (angular), primarily limestone; loose, dry.<br><br>143': As above, clasts are broken (angular), with 20% silty sandy matrix, proximal to bedrock. |
| **150** | Grab | | 147 | 147 | | | Bedrock | 146': Limestone Bedrock, dark gray (5YR 4/1), micritic limestone and silty limestone.<br><br>**147': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-18
**SITE COORDINATES (ft.)** **N:** 551587.96 **E:** 1531093.83
**GROUND ELEVATION (ft. MSL):** 4837.01
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 7/7/14 **DATE COMPLETED:** 7/10/14
**FIELD REPS.:** G. Giles, S. Maestas, J. Lawrence
**TOTAL DEPTH:** 98' **COMMENTS:** 200-SB-18 is located 200 ft southwest of the 200 Area Sewage Lagoons. This soil boring targets "Area of Interest II" presented in the 200 Area Phase I Investigation Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0<br>5 | Hand Excavate | | 0 | 0 | Trip Blank<br>Equip Rinsate | 1407071250<br>1407071400-1408 | ML | 0': Gravelly Silt, light brown (7.5YR 6/3), gravel clasts comprise 30% of sample within a silty matrix, clasts ¼" – 1" diameter, subangular to subrounded, limestone and mudstone predominate; loose, dry, poorly sorted and graded.<br>@5': Drilling rate slows, gravel increasing. |
| 10 | Grab | | 10 | 10 | | | GM | 6': Silty Gravel with Sand, light brown (7.5YR 6/4), gravel clasts increase to 45% of sample, ½" – 2" diameter, subangular, limestone, mudstone, siltstone, and quartzite (rhyolite); very loose, dry. |
| 15 | | | | | | | | |
| 20 | Grab | | 20 | 20 | | | | |
| 25 | | | | | | | | 21': Driller reports moisture in soil, possibly related to proximity to 200 Area Sewage Lagoon. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 25 | Core Barrel | 50%* | 28 | 30 | *Gravel (no matrix in sample) | No Samples Collected | | |
| 30 | Grab | | 30 | 30 | | | GM | 30': Silty Gravel, light brown (7.5YR 6/3), gravel |
| 35 | | | | | | | | comprises 50% of sample, clasts ¼" – 3" diameter, subangular, limestone, siltstone, sandstone, mudstone, and rhyolite; very loose, dry. |
| 40 | Core Barrel Grab | 0% | 38 40 | 40 40 | | No samples collected | | 40': As above, abundant gravel precludes collection |
| 45 | | | | | | | | of a BLN core sample. Potential gravel bar in alluvium sequence. |
| 50 | Core Barrel Grab | | 48 50 | 50 50 | Soil Geotech | 200-SB-18 (48-50') | | 50': As above, pinkish gray (7.5YR 7/2), gravel |
| 55 | | | | | | | | clasts predominantly comprise broken silty limestone with quartzite and rhyolite; very loose, dry. |
| 60 | Core Barrel Grab | | 58 60 | 60 60 | Soil Geotech | 200-SB-18 (58-60') | | 60': As above, light brown (7.5YR 6/3), clasts |
| 65 | | | | | | | | comprise 60% of sample, ½" – 2" diameter, sub-angular, multi-compositional with felsic volcanics comprising 25% of sample. |
| 70 | Core Barrel Grab | 0% | 68 70 | 70 73 | | No samples collected | | |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **70** | | | | | | | | |
| **75** | Grab | | 73 | 77 | | | | 73-80': As above, light gray (7.5YR 7/1), abundant rhyolite clasts to 50% of sample, clasts >1" diameter, angular, broken, often breaking down to clay. |
| | Core Barrel | 0% | 78 | 80 | | No samples collected | | |
| **80** | Grab | | 80 | 80 | | | | 80': As above, gray (7.5YR 5/1), clasts comprise 60% of sample, ¼" - >2" size, angular to subangular, predominantly limestone and silty limestone; loose, dry. |
| | Grab | | 80 | 83 | | | | |
| **85** | Grab | | 83 | 87 | | | | |
| | Core Barrel | 60% | 88 | 90 | Soil Chem<br>Soil Geotech | 1407091135-1140<br>200-SB-18 (88-90') | | |
| **90** | Grab | | 90 | 90 | | | | 90': As above, gravel-rich sample. Difficult to collect. |
| | Grab | | 90 | 93 | | | | |
| **95** | Grab | | 93 | 96 | | | | |
| | Grab | | 96 | 98 | | | Bedrock | 96': <u>Micritic Limestone Bedrock</u>, dark gray (7.5YR 4/1), broken angular fragments, ¼" – 1" diameter, caliche coatings on several fragments.<br><br>**98': TOTAL DEPTH (TD).** |
| **100** | | | | | | | | |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-19
**SITE COORDINATES (ft.) N:** 551218.08 **E:** 1531204.41
**GROUND ELEVATION (ft. MSL):** 4819.70
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 7/18/14 **DATE COMPLETED:** 7/20/14
**FIELD REPS.:** G. Giles, S. Maestas, J.R. Hennessey
**TOTAL DEPTH:** 46' **COMMENTS:** 200-SB-19 is located 500 ft south of the 200 Area Sewage Lagoons. This soil boring targets "Area of Interest II" presented in the 200 Area Phase I Investigation Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | Sample Depth (ft) To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0<br>5 | Hand Excavate | | 0 | 0 | | | ML | 0': Gravelly Silt, light brown (7.5YR 6/3), gravel clasts comprise 25% of sample, clasts ¼" – ⅝"diameter, subangular, limestone, siltstone, and mudstone; loose, dry, trace roots. |
| 10 | Core Barrel<br>Grab | 100% | 8 | 10 | Trip Blank<br>Equip Rinsate<br>Soil Chem<br>Soil Chem (dup)<br>Soil Geotech | 1407200630<br>1407200755-0804<br>1407200845-0900<br>"<br>200-SB-19 (8-10') | | 8': Silty Gravel, light brown (7.5YR 6/4), gravel clasts increase to 40% of sample, clasts ¼" – ⅞", subangular, limestone, siltstone, and mudstone; loose, slightly moist. |
| 15 | Grab | | 15 | 15 | | | ML | 15': Silt, light brown (7.5YR 6/4), gravel clasts absent; loose, dry. |
| 20<br>25 | Grab | | 20 | 20 | | | SM | 20': Silty Sand, light brown (7.5YR 6/4), gravel clasts comprise <15% of sample, ⅛" – ¾ "diameter, subangular, limestone, siltstone, mudstone, and volcanics, matrix includes very fine to coarse sand; loose, dry. |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **25** | Grab | | 25 | 25 | | | GM | 25': Silty Sandy Gravel, light brown (7.5YR 6/3), gravel clasts comprise 60% of sample, clasts ½" – 2" diameter, subangular to subrounded, micritic limestone, silty limestone, mudstone, siltstone, and rhyolite; very loose, dry. |
| **30** | Core Barrel | 0% | 28 | 30 | | No samples collected | | |
| | Grab | | 30 | 30 | | | GW | 30': Gravel with Sand: light brown (7.5YR 8/2), gravel clasts comprise 70% of sample, clasts ½" – 3" diameter, subangular, limestone, mudstone, siltstone and quartz; very loose, dry. |
| **35** | Grab | | 35 | 35 | | | GM | 35-43': Silty Gravel, pinkish white (7.5YR 8/2), |
| **40** | Grab | | 40 | 40 | | | | gravel clasts comprise 40% of sample, 1/16" – ⅛" diameter, broken, cemented with caliche; hard, dry. |
| **45** | Grab | | 43 | 43 | | | | 43': Cemented Alluvial Breccia, pink (7.5YR 8/3), gravel clasts comprise 50% of sample, clasts 1/16" – ½" diameter, broken and angular, comprise limestone, siltstone, mudstone, and sandstone, cemented with caliche; hard, dry. |
| **50** | | | | | | | Bedrock | 46': Mudstone Bedrock, pink (7.5YR 7/3), fine-grained, indurated, dry.<br>**46': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-20
**SITE COORDINATES (ft.) N:** 552947.50 **E:** 1532434.69
**GROUND ELEVATION (ft. MSL):** 4900.23
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 6/3/14 **DATE COMPLETED:** 6/5/14
**FIELD REPS.:** J. Lawrence, S. Maestas, P. Egan
**TOTAL DEPTH:** 60' **COMMENTS:** 200-SB-20 is located 350 ft north of the 200 Area North Highbay. This soil boring targets "Area of Interest IV" presented in the 200 Area Phase I Investiga-tion Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | | | ML | 0': Gravelly Silt, light brown (7.5YR 6/4), gravel clasts comprise 25% of sample, clasts ½" – 1½" diameter, subangular, silty limestone, mudstone, and siltstone; loose, slightly moist, poorly sorted and graded. |
| 5 | Grab | | 5 | 5 | | | | 3-5': Caliche horizon, white (7.5YR 8/1), small gravel clasts to ¼", cemented within indurated caliche. |
| | | | | | Trip Blank | 1406040730 | | 5': As above, gravel clasts ⅛" – 1" diameter, subangular to subrounded. |
| | | | | | Equip Rinsate | 1406040810 – 0819 | | |
| | Split Spoon | 60% | 9 | 10 | Soil Chem | 1406040940 - 0942 | GM | 9': Silty Sandy Gravel, light brown (7.5YR 6/3), clasts comprise 45% of sample, ⅛" – 1" diameter, |
| 10 | | | | | | | | |
| | | | | | | | | subangular, limestone, siltstone, mudstone, and sandstone; loose, slightly moist, poorly sorted and graded. |
| 15 | | | | | | | | |
| 20 | Grab | | 20 | 20 | | | | 20': As above, multiple clast lithologies include |
| | | | | | | | | limestone, mudstone, siltstone, sandstone, quartzite, and rhyolite. |
| 25 | | | | | | | | |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 25 | | | | | | | | |
| | Split Spoon | 60% | 29 | 30 | Soil Chem<br>Soil Geotech | 1406041200 - 1207<br>200-SB-20 (28-30') | | |
| 30 | | | | | | | | 30': As above, clasts comprise 40% of sample, ¼"-1" |
| | | | | | | | | diameter, subangular, predominantly limestone, siltstone, and mudstone; very loose, dry, poorly sorted, moderately graded. |
| 35 | | | | | | | | |
| 40 | Grab | | 40 | 40 | | | | 40': As above, clasts increasing in size, chips |
| | | | | | | | | typically broken, predominantly micritic limestone and silty limestone. |
| 45 | | | | | | | | |
| | Split Spoon | 60% | 49 | 50 | Soil Chem | 1406041720 - 1726 | | |
| 50 | | | | | | | | 50': As above, clasts comprise 50% of sample, ¼"- |
| | | | | | | | | 2" diameter, subangular, loose, dry. |
| 55 | Grab | | 55 | 55 | | | | |
| 60 | Grab | | 60 | 60 | | | | 60': Limestone Bedrock, dark gray (10YR 4/1), |
| | | | | | | | | broken angular chips to ⅜" diameter.<br><br>**60': TOTAL DEPTH (TD).** |
| 65 | | | | | | | | |
| 70 | | | | | | | | |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**

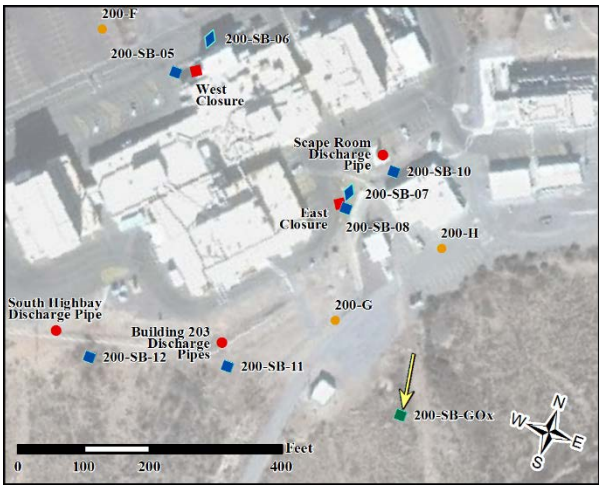
**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-21
**SITE COORDINATES (ft.) N:** 553208.93 **E:** 1532847.08
**GROUND ELEVATION (ft. MSL):** 4914.67
**STATE:** New Mexico **COUNTY:** Doña Ana
**DRILLING METHOD:** Air Rotary Casing Hammer (ARCH)
**DRILLING CONTR.:** National EWP (Del Leavitt – Driller)
**DATE STARTED:** 6/9/14 **DATE COMPLETED:** 6/10/14
**FIELD REPS.:** J. Lawrence, S. Maestas **TOTAL DEPTH:** 45'
**COMMENTS:** 200-SB-21 is located 700 ft northeast of the 200 Area North Highbay adjacent and north of Apollo Blvd. This soil boring targets "Area of Interest V" presented in the 200 Area Phase I Investigation Report. All grab samples collected from ARCH Rig cyclone.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Hand Excavate | | 0 | 0 | Trip Blank<br>Equip Rinsate | 1406090811<br>1406090810 - 0819 | ML | 0': Sandy Silt with Gravel, light brown (7.5YR 6/4), gravel clasts comprise 20% of sample, clasts ¼" – 2" in diameter, subangular, predominantly limestone, very loose, dry, poorly sorted, moderately graded. |
| 5 | Grab | | 5 | 5 | | | | 5': As above, gravel clasts comprise 15% of sample, moderately graded. |
| 10 | Core Barrel<br>Grab | 60% | 7.5<br>10 | 10<br>10 | Soil Chem | 1406091135 - 1141 | ML | 7': Silty Sandy Gravel, light brown (7.5YR 6/3), clasts comprise 40% of sample, ¼" – 2" diameter, subangular, limestone, siltstone, mudstone, and rhyolite; very loose, dry. |
| 15 | | | | | | | | |
| 20 | Core Barrel | 60% | 17.5 | 22.5 | Soil Chem | 1406091610 - 1616 | | 17': As above, gravel clasts increase to 50% of sample, ¼" – 2" diameter, predominantly silty limestone; loose, dry, poorly sorted and graded. |
| 25 | | | | | | | | |

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| **30** | Core Barrel | 60% | 27.5 | 32.5 | Soil Chem<br>Soil Geotech | 1406091745 – 1751<br>200-SB-21 (32.5-33') | | 30': As above, gravel clasts ½" – 1" diameter, |
| **35** | | | | | | | | subangular, various lithologies include limestone, siltstone, mudstone, rhyolite, quartzite, and granite. |
| **40** | Grab | | 40 | 40 | | | | 40': As above, gravel increases to 60% of sample, |
| **45** | | | | | | | Bedrock | clasts increase in size based on abundance of broken chips, drilling rate slows.<br><br>44': Limestone Bedrock, dark gray (2.5Y 4/1), broken, angular chips of silty limestone to ¼" in diameter. |
| **50** | | | | | | | | **45': TOTAL DEPTH (TD).** |

# SOIL BORING LITHOLOGIC LOG

**LOCATION MAP:**




**SITE ID:** NASA-WSTF **LOCATION ID:** 200-SB-GOx

**SITE COORDINATES (ft.)** **N:** 552353.33 **E:** 1532532.30

**GROUND ELEVATION (ft. MSL):** 4864.00

**STATE:** New Mexico **COUNTY:** Doña Ana

**DRILLING METHOD:** Hollow Stem Auger (HSA)

**DRILLING CONTR.:** Raba Kisner (Manuel Dueñez – Driller)

**DATE STARTED:** 8/22/14 **DATE COMPLETED:** 8/22/14

**FIELD REPS.:** J. Lawrence, S. Maestas **TOTAL DEPTH:** 12'

**COMMENTS:** 200-SB-GOx is located 300 feet southeast of Building 203 in the 200 Area. The soil boring targets one of the former 200 Area burn pits as specified in the final NMED-approved Phase I Investigation Report. No well installed in this boring.

| DEPTH (ft. bgs) | LITH. (Core Length, Depths start/ stop) | SAMPLE | | | | | | LITHOLOGIC DESCRIPTION (color, sorting/grading, consistency/density, grain size proportions (%), rounding/shape, consolidation/cementation, moisture content, distinguishing features) |
|---|---|---|---|---|---|---|---|---|
| | | % Rec. | Sample Depth (ft) From | To | TYPE (Soil, Soil Gas, Soil Chemical, Soil Geotechnical, Hex. Chrom.) | WSTF 10-DIGIT SAMPLE NUMBER(S) (yrmmddtttt) | USCS Group | |
| 0 | Grab (Augers) | | 0 | 2 | Equip Rinsate | | ML | 0': Silt with Gravel, brown (7.5YR 5/3) gravel clasts comprise 15% of sample, ⅛"- ¼" in diameter, subangular to subrounded, trace clay in matrix; loose, slightly moist, moderately sorted, poorly graded. |
| 5 | | | | | | | GM | 5': Silty Gravel, brown (7.5YR 5/3), gravel clasts |
| | Split Spoon | | 5 | 7 | Soil PFOC | 1408220850 | | comprise 15% of sample, ⅛"– ¼ " in diameter, subangular to subrounded, predominantly limestone with some caliche coating; loose, slightly moist, poorly sorted and graded. |
| 10 | Grab (Augers) | | 8 | 10 | | | | 10': As above, light grey (10YR 7/1), abundant |
| | Split Spoon | | 10 | 12 | Soil PFOC | 1408220900 | | caliche forms a powder around clasts and locally cements clasts together, clasts include limestone and rhyolite; indurated, slightly moist. **12: TOTAL DEPTH (TD).** |
| 15 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# Appendix B
# Matrix Diffusion Data Report

National Aeronautics and
Space Administration

# 200 Area Matrix Diffusion Data Report

May 2015

NM8800019434
NASA Johnson Space Center White Sands Test Facility
12600 NASA Road Las Cruces, New Mexico 88012

# 200 Area Matrix Diffusion Data Report

May 2015

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Timothy J. Davis
Chief, NASA Environmental Office

Date

## Executive Summary

The 200 Area matrix diffusion study fieldwork was performed at the National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) between June 17 and June 25, 2014 during the 200 Area Phase II investigation. This study was performed to evaluate whether matrix diffusion within fractured bedrock could provide a mechanism for the retention of contaminants, potentially impacting groundwater quality over time. Potential residual volatile organic compound (VOC) contamination was evaluated within the fractured bedrock vadose zone below the WSTF 200 Area. The interval targeted by the study extended from the top of fractured Permian limestone (the bedrock surface) to the water table, and incorporated the entire fractured bedrock vadose zone section. The matrix diffusion study targeted two of the primary hazardous waste management units (HWMUs) in the 200 Area as identified in the WSTF Permit:

- The former Clean Room tanks (West Closure) with adjacent soil boring 200-SB-06; and,
- The former Chemistry Lab tanks (East Closure) with soil boring 200-SB-07.

These soil borings were installed to the bedrock surface as part of the New Mexico Environment Department (NMED)-approved Phase II investigation (NMED, 2014a). The soil borings were subsequently lined with PQ-sized steel surface casing of approximately five inches in diameter to two feet below the bedrock surface and secured. A coring rig was then mobilized onto each location (200-SB-06 and 200-SB-07), and the borehole was continued in bedrock to depth into the upper aquifer. Rock core samples extracted from the boreholes in fractured bedrock were then evaluated to provide a comprehensive matrix diffusion evaluation.

A total of 178.1 linear feet (ft) of core from 200-SB-06 and 147 linear ft from 200-SB-07 was collected, for a total recovery for the two boreholes of 325.1 ft out of 328.5 total ft of core attempted. Rock core runs were evaluated using the characterization of rock environments discrete fracture network™ (CORE$^{DFN}$) approach by Stone Environmental, Inc. (Stone). This approach pairs the evaluations of the core and borehole walls with VOC analyses of fractures and rock matrix. The matrix diffusion study primarily utilized the core sample evaluation combined with borehole information that included drilling observations and camera logging of the open borehole.

Multi-port Soil Vapor and Groundwater Monitoring (MSVGM) wells were installed in the two boreholes following the collection of rock cores and will be used to further support evaluation of the CORE$^{DFN}$ data as part of the Phase II investigation. Borehole 200-SB-06 was renamed well 200-LV-150, and boehole200-SB-07 was renamed well 200-KV-150. Samples were collected for the analysis of several VOCs, including Trichloroethene (TCE), Tetrachloroethene (PCE), Trichlorofluoromethane (Freon 11), and 1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113), in fractures and the rock matrix. These samples were analyzed by Stone using Environmental Protection Agency (EPA) Method 8260. Inorganic analyses were not part of the chemical evaluation for cores.

The coring process generated PQ-sized cores (3.35-inch diameter). The core was photographed and logged. VOC and physical properties samples were then identified, collected, recorded, processed, labeled, and shipped to the off-site laboratory. A total of 268 rock core samples were collected, at a rate of approximately one sample every one to two feet of recovered core. Core analytical results were processed through the Stone data management system and evaluated by Stone and NASA personnel.

Rock core and equivalent pore water analytical results (in µg/kg and µg/L respectively) were reviewed, and the maximum concentrations for contaminants of potential concern (COPCs) summarized. A total of

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10 VOCs were identified and located preferentially along fractures and fracture zones: Freon 11; Chloromethane; Freon 113; 2-Butanone; Benzene; TCE; Toluene; 1,1,2-Trichloroethane; PCE; and, m,p,-xylenes. With the exception of Freon 11, the frequency of detection of these compounds was greater in the former Clean Room tanks borehole 200-SB-06. The majority of maximum VOC detections in both boreholes were observed from locations adjacent to or below the water table, and the concentrations of VOCs in the matrix pore water were greater than VOC concentrations in 200 Area groundwater, with the exception of Freon 113 in 200-SB-06. The actual volume of pore water present within the rock matrix of the limestone, however, is limited by the average primary porosity of 0.06 in the rock matrix derived from physical properties testing of the rock core samples.

There is no direct exposure pathway for matrix pore water, since it is underground and immobile by nature. However, because the VOC concentrations for pore water in the rock matrix at 200-SB-06 and 200-SB-07 are mostly higher than the current concentrations for fracture-controlled groundwater, contaminant mass will potentially diffuse slowly back out of the matrix into the groundwater of adjacent fractures. This diffusion from the pore water to the adjacent groundwater is not considered significant, due to the steadily declining groundwater contaminant concentrations in the 200 Area since groundwater monitoring was initiated in 1987. Groundwater concentrations in the rock fractures (not pore water) is the medium to which regulatory criteria should be applied, as is currently performed for the 200 Area.

The application of available remediation techniques to address the potential removal of containated pore water is impractical for the 200 Area given the limited amount of pore water present, low COPC concentrations in the pore water relative to active remediation sites, and the absence of a direct exposure pathway. Based on these factors, combined with the remote location of the 200 Area, declining groundwater contaminant concentrations in the 200 Area over time, and the presence of two downgradient groundwater remediation systems at WSTF located in the Mid-plume and Plume Front areas, no additional subsurface matrix diffusion work is recommended for the 200 Area.

Continued monitoring of the significant decline in COPC concentrations in 200 Area groundwater monitoring wells relative to groundwater cleanup standards remains the most important assessment tool in the area. Discreet fracture network modeling may be applied to establish projected rates of contaminant decline in the local groundwater.

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## List of Acronyms

| | |
|---|---|
| µg | Microgram |
| 2AMDDR | 200 Area Matrix Diffusion Data Report |
| AOI | Area of Interest |
| ARCH | Air Rotary Casing Hammer |
| Bgs | Below ground surface |
| CFR | Code of Federal Regulations |
| CoC | Chain of Custody |
| COPC | Contaminant of Potential Concern |
| CORE$^{DFN}$ | Core Discreet Fracture Network |
| DOT | Department of Transportation |
| DQO | Data Quality Objectives |
| EB | Equipment Blank |
| EPA | Environmental Protection Agency |
| FD | Field Duplicate |
| Freon 11 | Trichlorofluoromethane |
| Freon 113 | 1,1,2-Trichloro – 1,2,2-Trifluoroethane |
| ft | feet |
| HIS | Historical Information Summary |
| HPLC | High-Performance Liquid Chromatography |
| HWMU | Hazardous Waste Management Unit |
| ID | Identification |
| IDW | Investigation-Derived Waste |
| in | Inch(es) |
| JSC | Johnson Space Center |
| kg | Kilogram |
| L | Liter |
| MB | Method Blank |
| mg | milligram |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| MSVGM | Multi-port Soil Vapor and Groundwater Monitoring |
| MSVM | Multi-port Soil Vapor Monitoring |
| NAPL | Non-Aqueous Phase Liquid |
| NASA | National Aeronautics and Space Administration |
| National | National Environmental, Wells, & Pumps |
| NLCID | No Longer Contained In Determination |
| NMED | New Mexico Environment Department |
| NMSSL | New Mexico Soil Screening Level |
| PCE | Tetrachloroethene |
| Permit | Hazardous Waste Permit |
| ppb | Parts per billion |
| PPE | Personal Protective Equipment |
| PVC | Polyvinyl Chloride |
| RL | Reporting Limit |
| RQD | Rock Quality Designation |
| Stone | Stone Environmental, Inc. |
| SWMU | Solid Waste Management Unit |
| TB | Trip Blank |
| T-C | Time–Concentration |

| | |
|---|---|
| TCE | Trichloroethene |
| VOA | Volatile Organic Analysis |
| VOC | Volatile Organic Compound |
| WB | Wash Blank |
| WSTF | NASA White Sands Test Facility |

# 1.0 Introduction

## 1.1 Matrix Diffusion

The permeability of fractured limestone bedrock in the 200 Area is attributed to openings such as fractures, bedding plane solution channels, and porosity associated with openings in the rock matrix. When the permeability resulting from fractures and bedding planes greatly exceeds the rock matrix permeability, the flow of groundwater or the advective transport of contaminants occurs almost exclusively through the fractures. The occurrence of chemical concentration gradients between fractures and the rock matrix will result in mass transfer of contaminants either from fractures into the relatively immobile water in the rock matrix or vise versa depending on the relative concentrations. The advancement of any contaminant from fractures slowly into the rock matrix and subsequently back out of the matrix into the groundwater in the fractures is known as matrix diffusion. It is important to consider this form of potential contamination within the 200 Area vadose zone.

## 1.2 Regulatory

The National Aeronautics and Space Administration (NASA) is required by a Hazardous Waste Permit (Permit) issued by the New Mexico Environment Department (NMED; NMED, 2009) to perform a vadose zone investigation at the Johnson Space Center (JSC) White Sands Test Facility (WSTF; Figure 1) that includes the 200 Area closed hazardous waste management units (HWMUs), solid waste management units (SWMUs), and other areas of interest (AOIs). This investigation is currently ongoing.

Two HWMUs are located within the 200 Area and comprise the Chemistry Lab tanks (east closure) and the Clean Room tanks (west closure). The tanks were removed in 1986 and closed in 1989. These tanks historically released volatile organic compounds (VOCs) to the subsurface in the mid-1960s to the mid-1980s timeframe. As a result, the shallow 200 Area aquifer was impacted by a groundwater plume consisting of trichloroethene (TCE), tetrachloroethene (PCE), and several Freon®[1] compounds with concentrations in the low parts per billion (ppb) range.

NASA is required to determine whether historical releases in the 200 Area adversely affected the soil and bedrock of the vadose zone; therefore, acquisition of matrix diffusion data within the fractured bedrock component of the vadose zone could be helpful for developing conclusions and presenting final recommendations for the 200 Area. If soil, bedrock, and soil vapor monitoring in the 200 Area demonstrate that there is no continuing risk to human health or the environment, NASA may conclude that no further investigation or corrective action is required and recommend a “corrective action complete” status.

## 1.3 200 Area Investigation Status

The 200 Area fieldwork investigation followed a two-phase approach. Phase I of the investigation involved a broad evaluation of the 200 Area and was completed in August 2013. Thirteen geophysical lines were completed with a combined length of approximately 23,581 feet (ft) and utilized for shallow seismic and refraction surveys (NASA, 2013c). A shallow soil vapor survey was also performed to evaluate VOCs in the shallow subsurface using a grid with dimensions of approximately 1,800 ft by 4,500 ft that included 144 individual shallow vapor points. At the conclusion of Phase I, four AOIs were identified in addition to known HWMUs and SWMUs, and these AOIs were targeted for the Phase II investigation using soil boring installation and sampling to the bedrock surface.

[1] The trade name Freon® is a registered trademark of E.I. du Pont de Nemours & Company Corporation (DuPont).

The majority of the Phase II field investigation was performed between June 2 and August 22, 2014 (NASA, 2014d). Phase II included soil boring installation to the alluvial-bedrock interface, soil sampling, and the installation of multi-port soil vapor monitoring (MSVM) wells or multi-port soil vapor and groundwater monitoring (MSVGM) wells within the borings. The MSVM and MSVGM wells were subsequently purged and allowed to equilibrate with the vadose zone. A comprehensive set of soil vapor samples were then collected from each port within all MSVM and MSVGM wells in the 100, 200, and 600 Areas during the week of October 6, 2014. Corresponding groundwater samples were collected from MSVGM wells during the same timeframe, concluding fieldwork activities.

As part of the 200 Area Phase II investigation, 18 soil borings were advanced from ground surface to the alluvium-bedrock interface (Figure 2), to depths ranging from 8 ft to 147 ft below ground surface (bgs). The individual locations comprised:

- Two soil borings installed as close as possible to the 200 West Closure (former Clean Room tanks; 200-SB-05 and 200-SB-06).
- Two soil borings installed through the 200 East Closure (former Chemistry Lab tanks; 200-SB-07 and 200-SB-08).
- One soil boring located in the center of each of five 200 Area SWMUs identified in the Permit (200-SB-09 through 200-SB-13).
- Eight soil boring locations related to the five AOIs identified during the Phase I investigation (200-SB-14 through 200-SB-21).
- One soil boring located through a former 200 Area Burn Pit location (200-SB-GOx).

## 1.4 Matrix Diffusion Study

This 200 Area Matrix Diffusion Data Report (2AMDDR) describes an evaluation supplemental to the NMED-approved 200 Area Phase II investigation. NASA determined additional study was warranted relative to the investigation of the 200 Area vadose zone to address the interval between the bedrock surface and the groundwater table. The matrix diffusion study was performed at two of the Phase II soil borings (200-SB-06 and 200-SB-07) installed to bedrock. The study was designed to evaluate bedrock core sample results and prepare a study report that describes the procedures and the results and any observations/conclusions. This data report was designed to be submitted to NMED as an addition to the 200 Area Phase II Investigation Report.

## 1.5 Purpose

The matrix diffusion study was performed in conjunction with the 200 Area Phase II investigation to determine if matrix diffusion within fractured bedrock of the vadose zone between the top of bedrock (bedrock surface) and the water table at the two 200 Area HWMU locations provides a mechanism for the retention and slow release of contaminants that may impact groundwater quality for extended periods of time. Because fractures and interstitial space within the bedrock matrix may potentially retain sufficient contaminant concentrations to act as a continuing source of contaminant release, a comprehensive investigation that included the fractured bedrock component of the vadose zone was considered significant.

# 2.0 Background

## 2.1 200 Area Operations

Testing operations at the WSTF 200 Area commenced following construction in 1964 in support of the NASA Apollo project. Past industrial practices resulted in the release of VOCs including TCE, PCE, and Freon compounds. Releases of VOCs continued into the mid-1980s as presented in the historical information summary (HIS; NASA, 2012) for the area, at which time a stringent waste management program was implemented. Historical capabilities for the 200 Area between 1964 and the removal of the underground storage tanks at the East Closure and West Closure HWMUs in 1986 included: precision cleaning; analytical laboratory operations; materials testing of flight hardware; environmental testing for shock, acceleration, temperature, humidity, and altitude/vacuum conditions; electrical and mechanical fabrication; electronic component failure analysis; mechanical and electrical calibrations; and photography (NASA, 2012). Current test capabilities are oriented toward evaluating material and component behaviors in hazardous environments in five major areas of expertise: oxygen systems; propellant systems; hypervelocity impact testing; composite overwrapped pressure vessels; and standard materials testing.

## 2.2 Previous Investigations

The 200 Area has been the focus for a number of previous vadose zone and groundwater investigations between 1987 and the present. Analytical results evaluated for previous investigations in the 200 Area (NASA, 2012) including vadose zone soil, vadose zone soil vapor, and groundwater have not indicated that bedrock matrix diffusion presents a significant continuing source of groundwater contamination.

Historical soil chemical samples collected during the installation of soil borings in the 200 Area vadose zone (NASA, 1996) did not indicate VOC concentrations in soils above New Mexico soil screening levels (NMSSLs). Soil geotechnical samples collected in conjunction with the chemical samples are characterized by properties conducive to the infiltration of contaminants down to the bedrock surface (coarse soil texture, high porosity, low moisture, and low organic content). The absence of significant contamination in vadose zone soils coupled with widespread declining VOC concentration trends in groundwater wells (NASA, 2014b) and declining soil vapor concentrations (NASA, 2013b) do not indicate continuing contaminant sources. High interconnectivity of transmissive pathways within the fractured Permian limestone and mudstone bedrock of the 200 Area represent secondary porosity and take the form of bedding plane solution channels and widespread fracturing (NASA, 1995). These pathways are also less conducive to the retention of VOCs relative to a less transmissive geological lithology such as poorly fractured igneous, volcanic, and intrusive rocks.

NASA previously performed a limited investigation of the vadose zone bedrock surface within the 200 Area to evaluate the potential for Non-Aqueous Phase Liquids (NAPLs) between August and November 1994 (NASA, 1995). This investigation was performed during the borehole installation for multi-port groundwater monitoring wells 200-F, 200-G, and 200-H (Figure 2). The field evaluation consisted of the collection of drill cuttings from the alluvial-bedrock interface, and up to 5 ft of core from the top of bedrock immediately below the bedrock surface. The field evaluation included the following:

- Monitoring the drilling discharge for organic vapors using a flame ionization detector.
- Monitoring the drill cuttings within sealed plastic bags for the presence of organic vapors using a flame ionization detector.
- Applying hydrophobic dye to drill cuttings in order to field test, screen, and identify hydrophilic samples to be submitted for laboratory analysis.

- Collecting an alluvium-bedrock interface core sample for VOC analysis by United States Environmental Protection Agency (EPA) Method 8240.
- Evaluating the bottom of each completed borehole for the presence of free phase NAPLs using an interface probe. A groundwater sample, collected from the top of the water table with a clear bailer was visually inspected and dye tested.

The limited investigation at the bedrock surface for wells 200-F, 200-G, and 200-H indicated that the "test results provide no indications of NAPLs during the installation of these wells".

## 2.3 Matrix Diffusion Research and Strategy

The evaluation of matrix diffusion in bedrock was not a requirement of the NMED-approved Phase II IWP due to the absence of existing evidence for residual VOCs in the vadose zone from previous soil boring investigations, and the impracticality of performing remediation in fractured bedrock with overlying alluvial deposits. Subsequent to the development of the Phase II IWP, the advantages of performing a supplemental bedrock matrix diffusion study as part of the 200 Area Phase II investigation were evaluated in an internal white paper prepared in July 2013 titled "Potential Benefit and Feasibility of Evaluating Matrix Diffusion in the Fractured Bedrock of the 200 Area" (Roland, Lawrence & Giles, 2013). It was concluded that a limited matrix diffusion study performed contemporaneously with the 200 Area Phase II Investigation would be cost effective, serve to provide additional information about the fractured bedrock within the 200 Area vadose zone, and help fill a potential data gap in the conceptual site model.

As a follow up to the conclusion of the matrix diffusion white paper, NASA decided to evaluate the entire fractured bedrock vadose zone interval to the water table at the two primary locations of concern in the 200 Area based on the 200 Area HIS (NASA, 2012); the HWMUs at 200-SB-06 (West Closure) and 200-SB-07 (East Closure). The Characterization of Rock Environments Discrete Fracture Network™[2] (CORE$^{DFN}$) Approach (Parker, 2007) was selected for the study.

## 2.4 CORE$^{DFN}$ Approach

CORE$^{DFN}$ is recognized as one of the most comprehensive evaluation methods currently available in the industry for matrix diffusion analysis in fractured rock. The approach pairs the evaluations of rock core and VOC analyses of fractures and rock matrix. Depending on the amount of information collected, sites investigated using the CORE$^{DFN}$ approach can be evaluated using numerical models (e.g., FRACTRAN [Sudicky & McLaren, 1992]) to simulate flow and contaminant transport in the subsurface. The models take into account the fate of contaminants through the physical processes of advection, dispersion and diffusion, sorption, and in some cases, biotic or abiotic degradation. Input parameters include fracture apertures and fracture network geometry.

From previous rock core analysis (Parker, 2007), it is evident that NAPL initially flows primarily downward through a network of many interconnected fractures, and that over subsequent years the immiscible phase liquid is transferred by dissolution and diffusion into the rock matrix between the fractures where the mass can reside in the dissolved and sorbed phases. The contaminant concentrations in the fractures and in the matrix may not be in equilibrium (Hurley & Parker, 2002).

The CORE$^{DFN}$ approach has two objectives:

[2] CORE$^{DFN}$ is a registered trademark of Stone Environmental, Inc. (Stone).

- Utilize several field methods for determining the nature, extent, and controls of the transport and fate of organic contaminants.
- Develop a field-verified conceptual model for contaminant migration and fate in fractured sedimentary rock.

Stone provides the CORE$^{DFN}$ technology on a commercial basis under agreement with Beth Parker, Ph.D. (University of Guelph, Ontario, Canada) and Tadeusz Gorecki, Ph.D. (University of Waterloo, Ontario, Canada). This type of investigation has been performed at a variety of sites in the United States and Canada as part of ongoing research projects. Previous investigations have been performed in sedimentary bedrock such as sandstone, shale, and dolomite; as well as in granite. The CORE$^{DFN}$ approach was initially developed by Parker following a literature search for information on such methods used by others, and from previous studies conducted by the University of Waterloo at a variety of fractured bedrock sites with chlorinated solvent contamination. The process and equipment have evolved over the last decade during the course of many research projects, resulting in a high level of data quality and efficiency. The technical informational sources that can be included in the CORE$^{DFN}$ approach are shown in Figure 3.

Stone was contracted by NASA to perform the 200 Area matrix diffusion study at WSTF using this CORE$^{DFN}$ technology. The WSTF matrix diffusion study focused primarily on the rock core component of the CORE$^{DFN}$ approach. Information collected from the borehole component was limited to observations recorded during drilling and camera logging of the open borehole using NASA's downhole camera.

## 3.0 Scope of Activities

The list of activities performed for this investigation included:

- Decontamination and mobilization of a core drilling rig, supporting equipment, and crew by National Exploration, Wells, & Pumps (National) to the two matrix diffusion study locations (200-SB-06 and 200-SB-07).
- Mobilization of portable core evaluation, sampling and processing equipment, and a crew from StoneStone to the two matrix diffusion study locations.
- Borehole installation and continuous core sampling to the target depths by National.
- Lithological logging of the core extracted from each borehole location (Environmental Contractor personnel and Stone).
- Identification, collection, recording, processing, labeling, shipment, and tracking of core samples (Stone).
- Chemical analysis of core samples by a Stone laboratory.
- Physical analysis of core samples by a Stone subcontractor laboratory.
- Processing of core analytical results through the Stone data management system.
- Evaluation and interpretation of the lithological logs and core analytical results by Stone and Environmental Contractor personnel.

## 3.1 Site Conceptual Model

Piedmont slope alluvial fan deposits of the Quaternary Camp Rice Formation overlie the Permian Hueco limestone bedrock surface, and are derived from erosion of the San Andres Mountains located less than one mile to the east of the 200 Area (Figure 4). The 200 Area buildings were constructed on an elevated bedrock block (horst block) with depths as shallow as 17 ft bgs (well 200-F) and 18 ft bgs (soil boring 200-SB-06). Bedrock is faulted to depth along half-graben normal faults on both the east (Gardner Spring Arroyo) and west (200-B-240 Arroyo) sides of the central 200 Area. VOCs discharged to the shallow subsurface from the Chemistry Lab tanks (200-SB-07) on the east side infiltrated porous alluvial soils (typically 20 to 50% porosity), migrated downward through the vadose zone, and contacted fractured bedrock matrices. Migration rates in the vadose zone are dependent in part on contaminant volume, slope of terrain, soil lithology, and soil geotechnical parameters. At this time, contaminants are inferred to have migrated down the relatively low-permeability bedrock surface, or infiltrated secondary bedrock porosity pathways in the form of fractures and bedding planes. From the Clean Room tanks (200-SB-06) on the west side, contaminants migrated downward through the alluvium and subsequently west toward well 200-F along the bedrock surface and through secondary porosity pathways. Individual bedding planes enhance downgradient movement within the fractured bedrock groundwater aquifer that is under the influence of a steep hydraulic gradient of 0.05 (1 ft vertical per 20 ft horizontal).

The fractured Hueco limestone bedrock within the 200 Area is well-bedded, with individual beds typically between 6 inches (in) and 4 ft thick. Limestone outcropping in the 200 Area strikes northeast and dips to the southwest at approximately 22 to 28 degrees and continues along this trend in the subsurface. Camera logs of open boreholes performed prior to the construction of existing groundwater monitoring wells 200-F, 200-G, and 200-H (NASA, 1996, 1995) show high conductivity bedding plane solution channels with highly turbid flow observed along the bedding planes, and abundant fractures with a variety of orientations within the limestone. Relatively high hydraulic conductivities calculated for the 200 Area limestone bedrock (2.45 x 10-8 ft/sec to 2.03 x 10-4 ft/sec), along with decreasing contaminant concentrations over time for all groundwater monitoring wells in the area (NASA, 1995), have been used to support the interpretation of contaminated groundwater movement out of the 200 Area and west toward the WSTF Mid-plume and Plume Front groundwater treatment systems. The inferred movement of TCE through the alluvial vadose zone, bedrock vadose zone, and below the water table in fractured rock is shown in Figure 4. Residual traces of VOCs within the rock matrix (primary porosity) and along fractures and bedding planes are also identified.

VOCs that subsequently migrated through the alluvial soils and limestone bedrock reached the water table and resulted in the formation of a dissolved phase VOC groundwater plume. The groundwater plume in the 200 Area has been monitored since the mid-1980s using a comprehensive network of groundwater monitoring wells. The cross-section in Figure 4 incorporates monitoring wells 200-B-240 (installed in 1988), 200-F (1994), and 200-H (1994). All 200 Area wells show continuously declining trends for VOCs in groundwater (NASA, 2014a). The 200 Area historically contained the highest concentrations for TCE on site (2,600 ppb for well 200-D-109 in 1994). The current maximum TCE concentration is 460 ppb for the same well in 2014. Concentrations for TCE within monitoring wells for 2014 are provided in Figure 4, with a maximum of 26 ppb in the upper zone of Westbay multi-port well 200-F at 225 ft bgs. Multi-port wells 200-F and 200-H have not identified TCE contamination at depth below the uppermost ports.

Migration rates for the groundwater plume within the fractured limestone aquifer are inferred to be relatively high compared to other aquifer bedrock lithologies at WSTF based on high flow velocity calculations in Post-Closure Care Reports (NASA, 1995) and significant declines in groundwater contaminant concentrations in the 200 Area. Declines in contaminant concentrations have also been

observed for 200 Area MSVM well vapor ports for samples collected semi-annually between August 2010 and March 2013 (NASA, 2013b).

## 3.2 Contaminants of Potential Concern

Contaminants of potential concern (COPCs) are those substances likely to be present in environmental media affected by a release. The known operational history for the 200 Area documented in the HIS (NASA, 2012), results of previous site investigations, and results from the ongoing groundwater monitoring evaluation were used to develop a comprehensive list of COPCs (NASA, 2012; Table 2). The purpose of the comprehensive COPC list is to help confirm appropriate analytical methods and sampling techniques for the matrix diffusion evaluation. COPCs included chemicals and wastes known to have been released at this site. In addition, contaminants that were detected during previous soil and soil vapor investigations, irrespective of frequency or concentration, were included.

COPCs managed in the 200 Area during historical operations include: TCE; PCE; trichlorofluoromethane (Freon 11); 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113); 2-butanone (methyl ethyl ketone); 1,1,1-trichloroethane; chloroform; benzene; ethylbenzene; toluene; xylenes; acetone; and 2-propanol (isopropyl alcohol). The only screening that was applied was to exclude inorganic analytes considered to be essential nutrients (i.e., magnesium, potassium, iron, sodium, and fluoride). Calcium and chloride are retained as COPCs based on the past use of calcium hypochlorite trihydrate to oxidize hydrazine fuels. However, these analytes are nontoxic and are being analyzed only for informational purposes. Hexavalent chromium was not historically used for operations in the 200 Area, however, it is retained as a COPC as required by the Permit, Section V.B.6.a.iii.

A subset of samples was collected specifically for VOCs in fractures and the rock matrix for chemical analyses for the CORE$^{DFN}$ evaluation. The subset included as many of the VOCs listed as COPCs for the 200 Area as was feasible. Inorganic analyses were not part of the chemical evaluation for cores. Following a review of the VOC analyte list by Stone, it was recommended performing these analyses using EPA Method 8260. From the list provided, acetone and 2-propanol could not be included. Stone had the capability to include Freon 11 and 113, but due to additional work associated with ordering standards and performing test runs Freons 21, 123, and 123a were omitted. The COPCs for the study comprised: Freon 11; chloromethane; Freon 113; 1,1-Dichloroethene; methylene chloride; t-butyl-methyl ether; chloroform; 1,1,1,-trichloroethane; 2-butanone; benzene; 1,2-dichloroethane; TCE; bromodichloromethane; toluene; 1,1,2-trichloroethane; PCE; dibromochloromethane; chlorobenzene; m,p-xylenes; and, bromoform.

## 3.3 Field Investigation

The matrix diffusion study utilized borehole drilling and core collection services provided by National followed by CORE$^{DFN}$ core logging, sampling, and processing services provided by Stone. The following borehole installation strategy was followed. First, an ARCH drilling rig provided by National was used at each of the two locations (200-SB-06 and 200-SB-07) to install and sample a soil boring to the bedrock surface. PQ-sized surface casing (of approximately 5 in diameter) was then installed from approximately 2 ft below the bedrock surface to the ground surface, and secured. A coring rig was subsequently mobilized onto each location and a borehole continued into the upper part of the shallow aquifer to obtain core samples. Finally, core samples were collected and processed using Stone’s established procedures. The matrix diffusion fieldwork was performed in one, 10-day shift between June 17, 2014 and June 26 2014.

### 3.3.1 Mobilization, Decontamination, and Environmental Measures

National's Air Rotary Casing Hammer (ARCH) drilling rig and associated equipment was mobilized to WSTF on June 2, 2014. Soil boring installation was performed at 200-SB-07 on June 11 and 12, 2014 and at 200-SB-06 on June 15, 2014. National's core drilling rig and associated equipment were mobilized to WSTF on June 16, 2014 and operated through June 25, 2014. Equipment that had the potential to leak fuels or oils was underlain with 6-mil (minimum) plastic sheeting and bermed at the sides to contain any leaks. The drilling rigs and supporting mechanical equipment were also staged on bermed 6-mil (minimum) plastic sheeting upon siting at the drilling location to minimize the possibility for releases of any lubricating media. Extreme care was taken to avoid the release of any fuel, lubricants, or other chemicals to the environment. Open-top 55-gallon drums were available (but not required) on site for minor cleanups. Investigation-derived waste comprising water, soil, debris, and contact waste were generated during the investigation activities. Regulated waste (soil cuttings, drilling mud, and development water) was contained in either 1-ton environmental bulk bags, 55-gallon drums, or trailer-mounted poly tanks and managed within 90-day hazardous waste management areas until it was demonstrated to be non-hazardous through environmental sampling.

### 3.3.2 Soil Boring and Borehole Installation

National utilized an ARCH coring rig, operation crews for each rig, support equipment, and the tools/appurtenances required to support the sampling and evaluation activities for installation activities. The two drilling rigs were scheduled so that they were able to move sequentially into the two drilling locations. Drilling conditions in the 200 Area were challenging due to the coarse alluvial gravels encountered above bedrock, with boulders locally up to a few feet in diameter.

Soil samples were collected by the ARCH rig using a robust 3-inch by 5-ft direct push core barrel at prescribed intervals during drilling, with samples managed by Environmental Contractor personnel. The ARCH drilling process was used due to its proven compatibility with the expected geologic conditions and overall investigation objectives. Compressed air was used as the fluid to clean the boring of cuttings during drilling as a 9 5/8-in diameter casing was advanced behind the bit to prevent borehole collapse. A water mist setup was utilized when necessary for dust suppression in and around the vicinity of the cyclone discharge from the ARCH rig during drilling.

Prior to Stone's arrival on site, the PQ-sized surface casing was installed to a depth of approximately 20 ft bgs in 200-SB-6 and 55 ft bgs in 200-SB-7. The casing was set approximately 2 ft into the top of competent bedrock. Once the surface casing had been installed into the upper bedrock surface for stability and the ARCH rig was relocated to an alternate soil boring location, the coring rig was mobilized onto the 200-SB-06 site (Figure 5) and 200-SB-07 site (Figure 6) to collect core samples from the top of bedrock to groundwater. Core samples were collected using 5-in by 5-ft PQ core barrels. Cores were retracted from the borehole, and were logged and sampled by Stone personnel. The core rig was used to advance the boreholes to a satisfactory depth below the water table that allowed installation of MSVGM wells with 20 ft screens and 5 ft well sumps in each of the two boreholes. Both boreholes were drilled to a total depth of 202 ft bgs. Groundwater encountered in the boreholes subsequently stabilized at approximately 156 ft bgs at 200-SB-06 and 154 ft bgs at 200-SB-07.

### 3.3.3 Core Collection and Lithologic Logging

Coring was conducted using PQ-sized tooling with core barrels that generate 5-ft long by 85 mm (3.35-inch) diameter cores. A triple-tube core barrel (PQ3) was used to minimize disturbance to the core. The PQ3 tooling allows core samples to be retained within a second inner stainless steel tube, split lengthwise within the core barrel. The liners are extruded from the outer core barrel after each core run using water

pressure. This method limits the disturbance of the core samples, and provides cores that better reflect the in situ fracture distribution. Appendix A, Table 1 summarizes the drilling progression, amount of core, and the number of samples collected.

Coring was performed using diamond impregnated and tungsten carbide drill bits as dictated by bedrock conditions. PQ cores were used to maximize the diameter of the borehole in order to provide sufficient diameter to accommodate construction and installation of a 1.5-in diameter polyvinyl chloride (PVC) MSVGM well. The matrix diffusion study involved the collection, detailed evaluation, and sampling of drill cores from the bedrock surface to the water table. The bedrock geology comprised the lower member of the Permian Hueco limestone that primarily consists of interbedded limestone, shaley limestone, mudstone, and siltstone (Seager, 1981). A total of 178.1 linear ft of rock core was recovered from 182 ft of core from 200-SB-06 and 147 linear ft of rock core was recovered from 146.5 ft of core from 200-SB-07. Total recovery was 325.1 ft of 328.5 total ft cored. The discrepancy in recovery versus rock cored is due to minor differences related to measuring the coring intervals at the rig and measuring recovery once the core was extruded from the core barrel. The high level of core recovery indicated strong retention of the core, including the more fractured portion of the rock and, as a result, the samples collected provide an accurate picture of the more fractured portions of the bedrock.

In order to collect relatively undisturbed core samples at specific depths, the borehole was cleaned of any cuttings and a sampling core barrel drilled into the undisturbed bedrock. In order to core the borehole efficiently, limited amounts of non-chlorinated water obtained on site from a WSTF water supply well (Well J) were added to the borehole as a drilling fluid. Core samples were collected using rock cutting bits that generate heat and require fluid lubrication and cooling. The drill bit rotation speed, amount of water used to lubricate the bit, and selection of the relatively wide diameter of the PQ cores were managed appropriately to minimize the potential for VOC loss within the core barrel. Core samples were collected within decontaminated triple tube core barrels and extruded within an area adjacent to the core rig (Figure 7). Immediately following retrieval, the core was transferred from the liners to a PVC tray lined with aluminum foil.

Cores within the PVC tray were subsequently moved to an adjacent covered staging area (Figure 8), where a Stone hydrogeologist evaluated the core for select sample locations based on the lithology, presence of fractures, weathering, and evidence of groundwater and/or NAPL fluid flow. Professional judgment was exercised during sampling to provide a target sample frequency of one sample every 1 to 2 ft.

Core samples were handled diligently to maintain their integrity. Core was photographed prior to handling, and the following procedures were used during the sample acquisition process:

- Core management areas were located upwind of the drilling rig. All gasoline or diesel engines were turned off whenever possible near the sample locations to protect sample integrity and prevent the introduction of VOCs into the sample.
- Downhole coring equipment decontamination procedures specified by Stone were performed between individual sample collection locations to prevent contamination and cross-contamination of samples (Figure 7). Reusable triple tube core sampling equipment was decontaminated after each core run with a scrub brush using Alconox®[3] and water followed by a rinse with purified water.

[3] Alconox® is a registered trademark of Alconox, Inc.

- All cores were collected in a manner that minimized the introduction of foreign material (e.g., dust and/or precipitation).
- Dedicated chemical resistant gloves were donned prior to core evaluation to prevent contamination.
- Following sample location identification and subsample selection from the cores, Stone personnel trimmed the outer edges off the subsamples where they had been in contact with the barrel and shoe to reduce the chance for drill string cross-contamination.

The core was photographed with labels indicating the site name, borehole name, run number, depth bgs of the top and bottom of the run, recovery, and Rock Quality Designation (RQD), a rough measure of the degree of jointing or fracture in a rock mass measured as a percentage of the core recovery in lengths of 4 in or more. Wooden blocks indicating the approximate locations of VOC and physical properties samples were inserted at sample locations for future reference.

### 3.3.4 Core Sample Collection, Evaluation, and Management

Samples were collected both from fracture surfaces and from the intervening unfractured rock matrix at the locations flagged by the wooden blocks (Figure 8). Samples approximately 0.1 ft thick were broken from the core using a hammer and chisel at the selected sample depths (Figure 9). The samples were then wrapped in aluminum foil, and given a unique field identification number (ID). Immediately following sampling and wrapping, the samples were delivered to the sample processing area located adjacent to the Stone data acquisition vehicle (Figure 10). Details on sample depths, collection times, position relative to fractures, and other relevant information were recorded on forms in Stone's CORE$^{DFN}$ field database on a hand-held computer. After completion of geologic logging and sample collection, the remainder of the core was transferred into wax-impregnated core boxes for NASAs future reference.

Samples were individually unwrapped and placed in a stainless steel trimming cell immediately after arriving at the processing area. The outer portion of the sample (that had been exposed to drill tooling and fluids) was removed with a hammer and chisel (Figure 9). The remaining subsample was then placed in a stainless steel cell (Figure 10) and crushed using a hydraulic press under a pressure of approximately 6,000 psi (Figure 11). The crushed subsample was then immediately transferred to a pre-labeled 40 mL Volatile Organic Analysis (VOA) vial containing 15 mL of purge-and-trap grade methanol.

Trimming cells, crushing cells, chisels, and all other equipment associated with sample processing were decontaminated between preparation of each subsample. Five sets of trimming cells, crushing cells, and chisels enabled staff to process all samples from a given run before starting the five step decontamination process. The five step decontamination process involves: (1) full immersion in detergent (Alconox) wash with scrubbing to remove sediment, (2) full immersion or rinse in distilled water, (3) spray rinse with clean wash-grade methanol, (4) spray rinse with clean distilled water to remove any traces of methanol, and (5) drying with clean/disposable towels before next use. Equipment Blanks (EBs) were collected at the beginning and end of each day and at a minimum of every 20th sample. To collect EBs to be evaluated for VOCs, Kimwipes®[4] were removed from a pre-prepared and pre-labeled vial containing 15 mL of purge-and-trap grade methanol then used to wipe the inside of decontaminated crushing cells and other equipment that had come in contact with subsamples. The Kimwipes were then returned to their pre-labeled vials and analyzed.

Sample vials were prepared in the field at the beginning of each day during field work. Vials were labeled and weighed before the addition of methanol, after the addition of 15 mL of purge-and-trap grade

[4] Kimwipes® is a registered trademark of Kimberly-Clark Worldwide, Inc.

methanol, and again after the addition of crushed rock. Calibration of the balance was checked at least daily. Sample vial IDs were cross-referenced with the field ID, which in turn referenced a sample depth. Sample depths were used to generate sample IDs which are unique to each sample depth and drilling location. Each sample was labeled with its sample ID then packaged for storage and transport to the Stone laboratory in Barre, VT. For sample storage and transport, VOA vial screw caps were wrapped with Teflon tape. Samples were kept in a temperature-verified freezer and shipped under chain-of-custody (CoC) to the Stone lab several times throughout the duration of the project (daily, excepting weekends). At the Stone lab, they were stored in a temperature-verified freezer until being extracted and analyzed.

In total, 268 samples were collected for VOC analysis from 325.1 ft of rock core retrieved, including approximately 20% for Stone quality assurance/quality control protocol. Twelve field duplicates (FDs) were collected by crushing additional mass of selected field samples. Thirteen matrix spike/matrix spike duplicates (MS/MSD) sample pairs were collected by crushing additional mass of selected field samples. Twelve trip blanks (TBs) were prepared and packed with each shipment. Twelve methanol blanks (MBs) were collected from the six 1-L bottles of purge-and-trap grade methanol used to prepare the 40-mL VOA vials. Two wash blanks (WBs) were prepared from the high-performance liquid chromatography (HPLC) grade methanol used for decontamination of crushing equipment. MBs were stored and shipped separately from all other samples. MBs are used to determine possible contamination in the methanol used to preserve and extract samples. Results of VOC analysis for EBs, TBs, WBs and MBs are presented in Appendix A, Table 6. Results for FDs and their corresponding parent sample are presented in Appendix A, Table 7.

Physical properties samples were collected on approximately 20 ft intervals. Fifteen intact core samples (ranging in length from 0.5 to 0.7 ft) were collected from the cores for analysis of physical properties (porosity, bulk density, percent moisture, specific gravity, and total organic carbon). Physical property samples were not collected until after VOC sample collection was completed for each applicable run. A summary of the samples collected for these physical property analyses is included in Appendix A, Table 2, and the results of these analyses are presented in Appendix A, Table 3.

Following the collection, sampling, and processing of the core samples from each borehole, the core rig was demobilized, and the ARCH rig again mobilized over the borehole. A MSVGM well was designed, approved by the NMED, and installed in each of the two boreholes. Boring 200-SB-06 was installed as 200-LV-150, and boring 200-SB-07 was installed as 200-KV-150. The longer term soil vapor analytical data collected through sampling of the MSVGM wells will subsequently be compared to observations made during the CORE$^{DFN}$ approach analysis.

### 3.3.5 Investigation Derived Waste Management and Disposal

Investigation-derived waste (IDW) generated for this project was managed and disposed of in accordance with Federal and State regulations and NASA waste management procedures. The types of IDW generated during this part of the investigation included drilling fluid (water mixed with a limited amout of mud), disposable sampling equipment, personal protective equipment (PPE), plastic sheeting, and non-chlorinated potable water used for equipment decontamination. The IDW was managed in a less than 90-day accumulation area and in accordance with 40 Code of Federal Regulations (CFR) 262.34.

IDW was stored in appropriately sized, Department of Transportation (DOT)-compliant containers that met compatibility standards for the waste generated and that meet 40 CFR 264.34(a)(1)(i) as well as 40 CFR 265 Subpart I. Analytical results from the drilling mud generated at boreholes 200-SB-06 and 200-SB-07 were used to identify toxicity characteristics and land disposal restrictions for the waste generated. NASA subsequently submitted a request for a “No Longer Contained-In Determination” (NLCID) for a suite of IDW that included the drilling mud on September 3, 2014 (NASA, 2014c). This request was

approved by NMED on September 10, 2014 (NMED, 2014b). The drilling mud was subsequently managed as non-hazardous waste along with soil cuttings from the 200 Area Phase II investigation and thinly spread on the 200-SB-20 well pad located approximately 400 ft northeast of 200-SB-06. IDW debris generated during the core collection and evaluation process (gloves, wipes, and disposable sampling equipment) was characterized as non-hazardous and was disposed as a solid waste at a Subtitle D landfill. Decontamination water was characterized as non-hazardous and was processed through the Mid-plume Interception and Treatment System.

Approximately 325.1 linear ft of rock core from 200-SB-06 and 200-SB-07 has been preserved as investigation sample and is not treated as IDW. These rock cores were preserved in approximately 80 wax impregnated, corrugated, core boxes following evaluation and sampling. The wax will not melt during hot conditions and will not crack when cold. Each box holds approximately four feet of core. The core boxes have been stored on pallets for future reference and evaluation.

## 3.4 Laboratory Analysis and VOC Extraction

Following the completion of CORE$^{DFN}$ field investigation activities, support services for the laboratory analysis of cores were provided by Stone due to their unique capabilities with the CORE$^{DFN}$ process. Sample extraction and analysis were performed in July, 2014 at the Stone laboratory in Barre, VT. Samples were extracted into methanol for analysis by SOP SEI-10.17.1: Microwave Assisted Extraction (MAE) of Volatile Organic Compounds from Rock Samples. The methanol extracts were analyzed (via SW846 USEPA Method 8260C) for 20 target VOCs: chloromethane; Freon 113; 1,1-dichloroethene; methylene chloride; t-butyl-methyl ether; chloroform; 1,1,1-trichloroethane; benzene; 1,2-dichloroethane; TCE; bromodichloromethane; 1,1,2-trichloroethane; PCE; dibromochloromethane; chlorobenzene; m,p-xylenes; bromoform; Freon 11; toluene; and 2-butanone. Physical properties analyses were conducted by Golder Associates in Mississauga, Ontario, Canada. A full laboratory report is included in Appendix A. The results of VOC analyses are summarized in Appendix A, Table 4.

# 4.0 Field Investigation Results

Investigation results were developed through the evaluation of the field data and analytical results performed by the NASA Environmental Contractor and Stone. In addition to the 268 rock samples collected for VOC analysis (129 from 200-SB-07; 139 from 200-SB-06), 15 intact core samples were collected for physical property analyses, in accordance with CORE$^{DFN}$ procedure (SEI-SOP- 6.37.1). Results of physical property analyses for bulk density, porosity, and organic carbon content were used in conjunction with the VOC data in phase partitioning calculations of estimated rock pore water concentrations. A full description of the methods used for the estimation of pore water concentrations is provided in a report from Stone in Appendix A.

## 4.1 Rock Core VOC Analysis and Pore Water Estimates

All data related to the rock core analytical results are provided in the Stone report in Appendix A. A summary of core sample depths is provided in Appendix A, Table 1. VOC concentrations in rock core samples (in µg/kg) are provided in Appendix A, Table 4. Estimates of pore water concentrations (in µg/L) are provided in Appendix A, Table 5. Results for EBs, TBs, WBs and MBs are presented in Appendix A, Table 6. Results for FD samples and their corresponding parent sample are presented in Appendix A, Table 7.

The concentrations of the analytes extracted into methanol were measured using GC/MS (SW-846 Method 8260C) and reported as µg/L in methanol. The analyte concentrations in the bulk rock sample were then calculated in µg/kg using the analysis of the methanol extract, mass of crushed rock in sample,

and the volume of methanol as defined in Appendix A, Equation 1. Reporting limits (RL) are calculated for each sample by setting the concentration of analytes extracted into methanol to the respective values for each analyte. For samples where analyte concentrations are between the method detection limit and the RL, an estimated value is assigned and the results flagged with a "J" flag. This calculation includes VOC mass present in all phases (dissolved, sorbed, and NAPL).

The bulk rock VOC concentrations are then converted to matrix pore water concentrations in µg/L of pore water using the wet rock bulk density in g/cm$^3$; the dry rock bulk density in g/cm$^3$; matrix porosity, a unitless factor; and the soil-water partitioning coefficient in mL/g as shown in Appendix A, Equation 2. This equation assumes that the matrix porosity (i.e., primary porosity) is 100% water saturated and that the VOC mass occurs in only the dissolved and sorbed phases (i.e., no NAPL is present). The partitioning coefficient is based on the assumption that sorption is rapid, reversible, and that there is no variation with concentration. This coefficient is calculated using the organic carbon partitioning coefficient for each compound obtained by Stone from the literature, and fraction of organic carbon obtained through physical property analysis using Appendix A, Equation 3. This coefficient assumes that sorption is entirely dependent upon solid phase organic carbon in the rock matrix.

Full laboratory reports for the physical parameter analyses are provided in Appendix A. Physical properties sample results were within the range considered representative of the Permian limestone bedrock. The values for porosity, bulk density, and fraction of organic carbon used to estimate matrix pore water concentrations are based on the nearest physical property sample, or the one that most closely reflects the lithology of the VOC sample. Physical property data is provided in Appendix A, Table 2 and Table 3.

## 4.2 Field Blanks and Duplicates

Blank and duplicate results, including EBs, MBs, WBs, and TBs, are provided in Appendix A, and summarized in Appendix A, Table 6. Comparisons for 12 field samples (six each from 200-SB-06 and 200-SB-07) with corresponding field duplicate samples are provided in Appendix A, Table 7. Variability can be attributed to the difficulty in collecting true duplicates, given the spatial variability in concentrations and rock matrix properties expected at the scale of subsampling. Field duplicates also test and reflect the repeatability of the entire sample processing, extraction and analytical procedures, and thus are expected to show more variability than lab duplicates.

## 4.3 Physical Properties Samples

The bedrock encountered in boreholes 200-SB-06 and 200-SB-07 was predominantly Permian Hueco limestone and shaley limestone, with intercalated zones of Abo Formation mudstone most predominant in the upper portion of borehole 200-SB-07. Fracturing varied from narrow hairline (<0.01 in) fractures to wider brecciated zones up to several in thick. A summary of the physical properties samples is provided in Appendix A, Table 2. Results of physical properties analyses are presented in Appendix A, Table 3. Maximum, minimum, and average results for a total of 15 physical properties samples are also presented in Appendix A, Table 3. Total porosity is the ratio of the pore volume to the total volume of the representative sample. Porosity is a dimensionless quantity and can be reported as a decimal fraction or percentage. The average porosity for samples was 0.06 or 6%, typical of the porosity used for limestone for groundwater modeling at WSTF. The water content (average 2.16%), wet bulk density (average 2.63 g/cm$^3$), dry bulk density (average 2.58 g/cm$^3$), specific gravity (average 2.75), and total organic carbon content (average 0.15%) were all within normal ranges for limestone.

## 4.4 VOC Analytical Data Plots

During the field collection of rock core samples, a Stone geologist photographed and logged information about the features observed in the rock, particularly the location and orientation (angle) of individual fractures, rubble, friable zones, and fracture zones. This information is useful when determining whether VOC concentrations are associated with zones of relative fracture abundance and provides an understanding on the relationship between VOC concentrations and lithological features.

Plots showing the estimated pore water concentrations for four VOCs (Freon 113, PCE, TCE, and Freon 11) and information about lithological features, recovery, and RQD were plotted against depth for boreholes 200-SB-06 and 200-SB-07 (Appendix A, Figures 1 through 8). The approximate depth to water observed within MSVGM wells installed within the boreholes following the study is also provided on the plots.

# 5.0 Investigation Summary and Interpretation of Results

## 5.1 Investigation Summary

The 200 Area matrix diffusion study was performed to evaluate the nature and distribution of residual VOC contamination within the fractured bedrock vadose zone. This zone extended between the alluvial soil-fractured bedrock interface, across the water table, and into the upper part of the local aquifer. Historically, the elevation of the local water table has been variable in the 200 Area, and unconfined to semi-confined in nature, due to the influence of variable interbedded lithologies. Boreholes therefore were advanced a few tens of ft below the anticipated water table and groundwater allowed to recover before a MSVGM well was installed following the coring process. Borehole 200-SB-06 (well 200-LV-150) was advanced immediately downgradient of the former Clean Room tanks HWMU from the vicinity of top of bedrock at 20 ft bgs to a depth of 202 ft bgs. The depth to water during drilling was estimated at 140 ft bgs. The depth to water following purging and re-equilibration of the MSVGM well was approximately 156 ft bgs. Borehole 200-SB-07 (well 200-KV-150) was advanced through the former Chemistry Lab tanks from the vicinity of the top of bedrock at 55 ft bgs to a depth of 202 ft bgs. The depth to water during drilling was estimated at 141 ft bgs. The depth to water following purging and re-equilibration of the MSVGM well was approximately 154 ft bgs.

## 5.2 Interpretation of Results

### 5.2.1 Physical Properties Samples

The physical properties sample results obtained for boreholes 200-SB-06 and 200-SB-07 are within the anticipated range for limestone, silty limestone, and siltstone lithologies. Physical properties sample results (wet rock bulk density, dry rock bulk density, matrix porosity, and total organic carbon) were input parameters to the phase partitioning equation for the estimated pore water concentration calculations (Appendix A, Equation 2). Matrix porosity (or primary porosity) is assumed to be 100% saturated. The physical property values used to estimate pore water concentrations are based on the nearest physical sample collected.

### 5.2.2 VOC Concentrations in Rock Core Samples

The analytical results for VOC concentrations from the 268 rock core samples are presented in Appendix A, Table 4. A summary of the detected VOC concentrations from these analytical results are provided in Table 1. Of the 20 VOCs evaluated, the 10 compounds listed below were either not detected or had one detection within the entire sample suite (both boreholes combined):

- 1,1-dichloroethene
- methylene chloride
- t-butyl-methyl ether
- chloroform
- 1,1,1,-trichloroethane
- 1,2-dichloroethane
- bromodichloromethane
- dibromochloromethane
- chlorobenzene, and;
- bromoform.

A total of 10 VOCs were reported to have more than a single detection. Detections were typically on an irregular basis throughout the core section. A summary of the results for detected VOCs is presented in Table 1. All 10 VOCs were originally presented on the list of COPCs provided in the matrix diffusion IWP (NASA 2014b). The VOCs were identified in association with selected individual fractures and fracture zones within the host limestone lithologies. Rock core analytical results are presented in µg/kg (Table 1). The majority of VOC concentrations were identified from the former Clean Room tanks borehole 200-SB-06. For both boreholes, maximum VOC detections were observed from locations adjacent to or below the water table. In the absence of any regulatory cleanup standards for VOCs in rock core, residential NMSSLs are listed for reference only. Direct comparisons between the two media are not applicable (Seth Pitkin [Stone], personal communication, November 14, 2014). Rock core concentrations for all detected VOCs are generally orders of magnitude below the equivalent NMSSLs.

#### 5.2.2.1 Freon 11

Freon 11 is a common contaminant known to have been discharged in the 200 Area. Freon 11 is more abundant in borehole 200-SB-07, through the former Chemistry Lab tanks, and was detected in 10.9% of samples as opposed to only 1.4% of samples in 200-SB-06, near the former Clean Room tanks (Table 1). Occurrences were correlative to fracture locations, variable in magnitude, and almost entirely observed at depth below the water table (and not in the vadose zone). The maximum concentrations for Freon 11 (107 µg/kg in 200-SB-06 at 187.4 ft bgs and 960 µg/kg in 200-SB-07 at 143.9 ft bgs) both occurred near or below the estimated depth to the capillary fringe or water table estimated during drilling, and could potentially have a groundwater source. The average detected concentrations for Freon 11 in the two boreholes (37.4 and 77.0 µg/kg) were an order of magnitude below the maximum value within each borehole.

#### 5.2.2.2 Chloromethane

Chloromethane was detected in a large number of rock core samples relative to the other VOCs; 58.3% of samples in 200-SB-06 and 9.3% of samples in 200-SB-07 (Table 1). Concentrations consistently occurred within a relatively narrow range; 67.7 µg/kg maximum and 28.8 µg/kg average in 200-SB-06 and 56.7 µg/kg maximum and 29.7 µg/kg average in 200-SB-07. Chloromethane was also detected regularly (18 times) in trip blanks and equipment blanks (Appendix A, Table 6), and is commonly encountered as a laboratory contaminant.

#### 5.2.2.3 Freon 113

Freon 113 is known to have been discharged in the 200 Area and is one of the most common contaminants present within the groundwater contaminant plume. It is more abundant in borehole 200-SB-06 adjacent to the former Clean Room tanks and was detected in 36.0% of samples as opposed to only 14.7% of samples in 200-SB-07 (Table 1). Occurrences were irregular in location and concentration. The maximum concentrations for Freon 113 in each borehole (4,270 µg/kg in 200-SB-06 at 158.0 ft bgs and 2,480 µg/kg in 200-SB-07 at 143.9 ft bgs) were both reported at locations proximal to the estimated depth of the water table (which can fluctuate by up to several feet in depth based on seasonal variations) and could be sourced by groundwater. The average detected concentrations for Freon 113 in the two boreholes were an order of magnitude below the maximum value for each borehole.

#### 5.2.2.4 2-Butanone

2-Butanone was detected in a relatively small number of samples in both boreholes (5.8% in 200-SB-06 and 4.7% in 200-SB-07; Table 1). The number of detections, maximum concentrations (554 µg/kg at 76.1 ft bgs in 200-SB-06 and 475 µg/kg at 67.6 ft bgs in 200-SB-07), average concentrations (294.6 µg/kg in 200-SB-06 and 234.2 µg/kg in 200-SB-07), and maximum concentration detection locations were similar for both boreholes, and lacked any of the irregularity seen with the more historically prevalent VOCs identified in the rock matrix. 2-Butanone was detected in two of the WBs for methanol used for the decontamination of crushing equipment.

#### 5.2.2.5 Benzene

Benzene was detected most predominantly in 200-SB-06 in 36.0% of samples as opposed to 10.1% of samples in 200-SB-07 (Table 1). Benzene concentrations were also correspondingly higher in 200-SB-06 (8,330 µg/kg maximum and 249.1 µg/kg average) than in 200-SB-07 (118 µg/kg maximum and 19.1 µg/kg average).

#### 5.2.2.6 TCE

TCE is one of the primary COPCs associated with the 200 Area and displayed historical highs in WSTF groundwater at the 200-D well cluster in the early to mid-1990s. It was reported more commonly in 200-SB-06 (41.0% of samples) than 200-SB-07 (6.2% of samples; Table 1). The attained maximum measured value of TCE was 2,350 µg/kg at 108.5 ft bgs in 200-SB-06 (Figure 12). TCE was found at significantly lower concentrations in 200-SB-07 (maximum 35.5 µg/kg, 25.7 µg/kg average). Occurrences were irregular in depth and highly variable in magnitude, and the maximum detection was within the same order of magnitude as the NMSSL (8,770 µg/kg). The maximum concentrations for TCE occurred at a location above the water table in 200-SB-06, which suggests residual contamination in the fractured bedrock vadose zone.

#### 5.2.2.7 Toluene

Toluene was detected in 200-SB-06 in 20.8% of samples and at 200-SB-07 in 16.0% of samples. Toluene concentrations were also correspondingly higher in 200-SB-06 (2,180 µg/kg maximum and 203.7 µg/kg average) than in 200-SB-07 (218 µg/kg maximum and 37.4 µg/kg average). The irregular occurrence and concentrations for toluene frequently coincided with benzene, and the detection of maximum concentrations for both compounds were on the same fractures (174.1 ft bgs in 200-SB-06 and 115.8 ft bgs in 200-SB-07). This trend is believed to represent the release of the two individual solvents at the same locations based on information presented in the HIS (NASA, 2012). The presence of these aromatics may serve to facilitate the degradation of TCE and PCE.

#### 5.2.2.8 1,1,2-Trichloroethane

1,1,2-Trichloroethane was detected in relatively few samples; 3.6% in 200-SB-06 and 0.8% in 200-SB-07. Concentrations were higher in 200-SB-06 (290 µg/kg maximum, 133.1 µg/kg average) than 200-SB-07 (only one detection at 35.1 µg/kg). The maximum concentrations were detected at locations below the water table within both boreholes (Table 1). Given the limited occurrence of this contaminant and the maximum concentrations below the water table, a groundwater source is probable.

#### 5.2.2.9 PCE

PCE represents another contaminant that was used relatively frequently in the 200 Area. It was only detected in boring 200-SB-06 adjacent to the former Clean Room tanks in 13.6% of samples. Concentrations were relatively low (91.5 µg/kg maximum and 50.4 µg/kg average). The maximum concentration was detected at a relatively shallow depth bgs (55.7 ft bgs) showing residual concentrations in the vadose zone.

#### 5.2.2.10 m,p,-xylenes

m,p,-xylenes represented the most commonly detected VOC (69.1% of the samples in 200-SB-06 and 39.5% of the samples in 200-SB-07). Concentrations were consistent, but relatively low (199 ug/kg maximum and 17.0 ug/kg average in 200-SB-6 and 74.4 ug/kg maximum and 11.5 ug/kg average in 200-SB-07). The distribution of m,p,-xylenes was significantly more widespread than benzene and toluene, and m,p,-xylenes were identified in one EB and two TBs. The m,p,-xylenes may be related in part to solvent releases and possibly to the CORE$^{DFN}$ process.

### 5.2.3 Estimated Pore Water Concentrations

Estimated pore water concentrations were calculated for all rock core samples collected as part of the matrix diffusion study and are presented in Appendix A, Table 5. Maximum and average equivalent pore water sample concentrations presented in µg/L were compared to the current maximum 200 Area groundwater concentrations for the 10 detected VOCs (Table 2). Pore water is essentially immobile and will not flow directly into groundwater. Therefore, direct comparison to groundwater cleanup levels is not applicable. Groundwater cleanup levels should only apply to groundwater in fractures, where water is mobile and flows. However, average concentrations for pore water were observed to exceed the current maximum concentrations in 200 Area groundwater for all of the detected VOCs with the exception of Freon 113 in 200-SB-06 (average concentration 1,181 µg/L, maximum in groundwater 1,400 µg/L). If groundwater comes in contact with this higher concentration pore water, this relationship demonstrates the potential for some back diffusion from the rock matrix to the fracture controlled groundwater for the detected VOCs.

Plots of the estimated pore water concentrations, sample position and features, angle of the feature from the horizontal, recovery, RQD, and lithology were plotted against depth bgs for four of the primary COPCs known to be present in the 200 Area. A summary of these plots are provided in the following sections.

#### 5.2.3.1 Freon 11 Data Plots

Freon 11 data plots for 200-SB-06 and 200-SB-07 are provided in Appendix A, Figures 4 and 8, respectively. Freon 11 was detected infrequently in borehole 200-SB-06 in only two samples (1.4% of samples). Both detections were below the location of the water table, with the maximum pore water concentration of 150 µg/l identified in the sample from 158 ft bgs. The discreet fracture is oriented at 40

degrees from the horizontal within a section of competent core with an RQD of 90% within a depth bgs approximately coincident with the water table.

Borehole 200-SB-07 showed detections of Freon 11 in 10.9% of samples. The detections were irregular and primarily located in the interval between 105 to 165 ft bgs. Detections typically occurred along fractures with angles of 10 to 45 degrees from the horizontal. The maximum pore water concentration was 43,000 µg/L at 143.9 ft bgs, identified along a rubble zone, with a fracture angle of 30 degrees, and located near the capillary fringe area of the vadose zone. The RQD in this area was reduced to 80%, in accordance with the rubble observed within the sample.

5.2.3.2 Freon 113 Data Plots

Freon 113 data plots for 200-SB-06 and 200-SB-07 are provided in Appendix A, Figures 1 and 5, respectively. Freon 113 was detected in 36.0% of samples in borehole 200-SB-06, primarily located in the interval between 55 to 114 ft bgs above the water table. Sample locations corresponded to visible fractures, series of fractures, or rubble zones logged in the limestone section. Fracture angles were variable, and most commonly 15 to 45 degrees from the horizontal. The maximum pore water concentration of 4,700 µg/l was identified in a sample from 73.1 ft bgs along a single fracture just below a rubble zone. This sample was within a core run with a moderate RQD of 60%.

Freon 113 was detected in 14.7% of samples from borehole 200-SB-07; located primarily in the interval between 105 to 172 ft bgs. Detections typically occurred along fractures with angles of 10 to 40 degrees from the horizontal. The maximum pore water concentration was 52,000 µg/l at 143.9 ft bgs, identified along a rubble zone, with a fracture angle of 30 degrees, and located in the vicinity of the groundwater table. The distribution of Freon 113 and Freon 11 and occurrence of the maximum concentrations within the same sample suggest a common source for the two contaminants.

5.2.3.3 TCE Data Plots

TCE data plots for 200-SB-06 and 200-SB-07 (Appendix A, Figures 3 and 7, respectively) illustrate that TCE is more prevalent in 200-SB-06, where it was detected in 41.0% of rock core samples. Detections were primarily located within the shallow vadose zone between 20 to 76 ft bgs, and continued irregularly to a depth of 127 ft bgs. Sample locations corresponded to visible fractures, series of fractures, or rubble zones within the limestone section. Fracture angles were variable, and most commonly 20 to 40 degrees from the horizontal. The maximum pore water concentration was identified within a fracture at 108.5 ft bgs (Figure 12). This concentration was associated with an isolated 30 degree fracture within a competent core run with an RQD of 90%.

Borehole 200-SB-07 showed detections of TCE in 6.2% of samples. These occurred sporadically in the interval between 62 to 150 ft bgs. The majority of detections occurred within shallowly dipping rubble zones. The maximum pore water concentration of 1,800 µg/l at 149.9 ft bgs was identified within a rubble zone approximately coincident with the capillary fringe above the water table. The reported RQD for the corresponding core run was relatively low at 50%.

5.2.3.4 PCE Data Plots

PCE data plots for 200-SB-06 and 200-SB-07 are provided in Appendix A, Figures 2 and 6, respectively. PCE was detected only within borehole 200-SB-06 in 13.6% of rock core samples and is associated exclusively with the former Clean Room tanks. Similar to TCE, PCE detections were primarily located in the shallow vadose zone between 26 to 68 ft bgs. No PCE detections occurred in samples collected from rock matrix that was not located adjacent to a fracture. Fracture angles were variable, and most commonly

20 to 40 degrees from the horizontal. The maximum pore water concentration of 360 µg/l was identified within a rubble zone at 35.8 ft bgs. The rubble zone was reported as a near vertical (90 degrees from horizontal) feature within a moderate quality core run with an RQD of 70%.

## 6.0 Conclusions

A total of 10 VOCs were identified through the VOC analysis of rock core samples performed by Stone. The primary location of contaminants based on frequency of detection was 200-SB-06 (former Clean Room tanks): chloromethane* (58.3% of samples); Freon 113 (36.0% of samples); 2-butanone* (5.8% of samples); benzene (36.0% of samples); TCE (41.0% of samples); toluene (20.8% of samples); 1,1,2-trichloroethane (3.6% of samples); PCE (13.6% of samples); m,p,-xylenes* (69.1% of samples), where * denotes detection in a sample blank. Only one VOC (Freon 11) was predominant at 200-SB-07 (former Chemistry Lab tanks): Freon 11 (10.9% of samples).

Conclusions regarding egulatory criteria, rock matrix diffusion to groundwater potential, and previous investigations are dissussed below.

## 6.1 Comparison to Regulatory Criteria

This matrix diffusion evaluation using the CORE$^{DFN}$ process is expressed quantitatively in terms of rock matrix and pore water VOC concentrations. There are no equivalent regulatory criteria available for direct comparison to these two media. Because pore water is immobile, and groundwater cleanup standards are designed for groundwater flowing through an aquifer,the groundwater in fractures collected from monitoring well samples is the applicable medium to which regulatory groundwater cleanup standards should be applied, not pore water (Seth Pitkin [Stone], personal communication, November 14, 2014).

### 6.1.1 Rock Core Sample Concentrations

No residential receptor pathway exists within the 200 Area relative to coming into contact with bedrock pore water at depth with the exception of the unlikely event of trenching to bedrock. The residential NMSSLs are provided in Table 1 for reference only, and are not intended as a direct comparison. However, of the 10 detected VOCs (Freon 11, chloromethane, Freon 113, 2-butanone, benzene, TCE, toluene, 1,1,2-trichloroethane, PCE, and m,p,-xylenes), rock core concentrations are significantly lower than the referenced residential NMSSLs.

### 6.1.2 Equivalent Pore Water Sample Concentrations

Fractures do not typically have much volume, but can result in significant bulk permeability, dependent on the effective fracture apertures, fracture connectivity, length, and spacing. Field studies using the rock core VOC analysis method (Parker, 2010) show contaminant mass may be stored at significant amounts in the rock matrix, and that contaminant concentrations in the fractures and matrix are not in equilibrium.

The average equivalent pore water sample concentrations encountered in the Permian limestones, silty limestones, and mudstones of boreholes 200-SB-06 and 200-SB-07 generally exceed the current maximum 200 Area concentrations for fracture controlled groundwater in monitoring wells (Table 2). As a result, contaminant mass has the potential to diffuse back out from the rock matrix into the groundwater in fractures or bedding plane solution channels over time. For example, TCE represents the contaminant of greatest concern in the 200 Area from a health risk perspective and has a groundwater cleanup level of 2.6 µg/l. The average equivalent pore water concentration was 1,488 µg/L for 200-SB-06 and 559 µg/L for 200-SB-07. The average pore water concentrations exceed the current maximum concentration for TCE in groundwater for the 200 Area of 460 µg/L in well 200-D-109. In the case of TCE, the majority of

detections occurred in the vadose zone and above the water table. Therefore, the ability to mobilize the pore water TCE contamination into groundwater in the vicinity of boreholes 200-SB-06 and 200-SB-07 is limited at this time due to the low potential for leaching at these two developed and asphalt-covered locations.

Several factors should be considered relative to the significance of the bedrock pore water concentrations of the 200 Area. The volume of pore water present within the rock matrix of the limestone is minimal based on the average porosity of 0.06 or 6% of the rock matrix established through physical properties testing. The concern is not the water in the pore space of the rock matrix, but the contaminant mass in the pore spaces. Only the contaminant mass and not the pore water is mobile, and this will occur at diffusive rates governed by the concentration gradient between pore water and fracture controlled groundwater, if groundwater is in contact with the pore water. The 200 Area will ultimately be managed based on samples that are collected from the groundwater monitoring network. Also, maximum contaminant concentrations of 200 Area groundwater have been decreasing over time, even with potential diffusion-driven chemical mass transfer between the rock matrix and the groundwater (Table 3).

## 6.2 Previous Investigations and Site Comparisons

Previous investigations for soil in the vicinity of the 200 Area and the results from the current 200 Area Phase II investigation have not indicated concerns relative to the identification and concentration of COPCs in soils. The results from soil chemical samples collected during the 200 Area Phase II investigation were used to obtain a NLCID from the NMED for soil cuttings IDW generated during the installation of soil borings, and from drilling mud IDW generated during installation of boreholes 200-SB-06 and 200-SB-07. The soil cuttings and drilling mud were subsequently thinly spread at surface near the boreholes from which they were generated.

Fractured bedrock sites that are currently subject to full-scale remediation (soil, rock, and groundwater) are associated with NAPL and VOC contaminant concentrations that exceed concentrations in the WSTF 200 Area by several orders of magnitude. The TCE concentrations in rock and soil from a site located in the southeastern part of the United States (Heron, 2008) are reported as being as high as 81,000 µg/kg.

## 6.3 Matrix Diffusion Discussion

Pore water in the bedrock matrix is essentially immobile and will not enter a monitoring or supply well. Occurrence of pore water in 200 Area fractured bedrock at a depth of between 20 to 50 ft bgs does not present a direct exposure pathway to the local workforce. Pore water should only be viewed in the context of it serving as a long term, low flux rate source for contamination of groundwater in the adjacent fractures, when applicable. Directly comparing contamination levels in the rock matrix to soil standards or contamination levels in pore water to groundwater standards is inappropriate for this matrix diffusion study. The primary medium for comparison in the 200 Area is the contaminant concentrations in mobile groundwater in fractures measured in 200 Area monitoring wells and the trends over time to regulatory criteria (groundwater cleanup standards).

The concentration of pore water and fracture water are rarely in equilibrium, and this is the case in the 200 Area. Because the average pore water matrix concentrations for detected contamination are higher than the current fracture water concentrations, contaminant mass has the potential to diffuse back out of the matrix into the fractures.

The primary question regarding matrix diffusion is whether or not the mass in the pore water is a long term source of groundwater contamination. If the amount of mass in the matrix keeps the fracture water above the groundwater cleanup standard for any COPC, then the pore water concentrations may have to

be addressed. Matrix diffusion study data from across the country indicates that the majority of the contaminant mass is inaccessible to remedial technologies in an economically feasible manner, and that the concentrations in the fractures will continue to decline slowly over a long time due to the rates of back diffusion from the matrix. The best way to attempt to quantify these declining rates and establish how long it may take to meet cleanup levels is discreet fracture network numerical modeling.

## 7.0 Recommendations

The two borehole locations selected for the matrix diffusion study are adjacent to the former Clean Room Tank (200-SB-06) and through the former Chemistry Lab tank (200-SB-07). These two locations are considered to represent two of the primary sources for contaminants released to the subsurface based on the contaminants managed in the area and the compromised condition of the tanks when removed (NASA, 2012). No additional evidence was identified within the 200 Area Phase I or Phase II investigations that suggest any of the other SWMUs or AOIs present a level of concern at or above at these two locations. The extraction and treatment of contaminant mass stored within 200 Area pore water is impractical given the low concentrations at WSTF relative to NAPL observed at sites where remedial activities are actively in progress. Contaminant treatment is also unnecessary given the incomplete exposure pathway between workers in the 200 Area and subsurface fractured rock.

Based on the remote location of the 200 Area, distance from residential areas, incomplete exposure pathways, relatively low rock core and pore water VOC concentrations, migration of fracture controlled groundwater contaminants out of the 200 Area as shown on time-concentration trends (the primary regulatory criterion), and downgradient presence of two active groundwater remediation systems at WSTF, no further matrix diffusion work or corrective action is recommended for the 200 Area. Continued monitoring of the significant decline in COPC concentrations in 200 Area monitoring wells relative to groundwater cleanup standards remains the most important assessment tool. Groundwater contaminants migrating downgradient from the 200 Area are captured and treated by either the Mid-plume Treatment System in fractured rock, or the Plume Front Treatment System in basin alluvium. The stabilization of 200 Area COPC concentrations for fracture-controlled groundwater relative to the treatment standards will define future work in the 200 Area. The groundwater will continue to decline in concentration over time with declining rates of back diffusion from the rock matrix. Discreet fracture network modeling may be applicable relative to establishing projected rates of contaminant decline in the local groundwater.

## 8.0 References

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# Figures

**Figure 1** **WSTF Location Map**

(SEE NEXT PAGE)

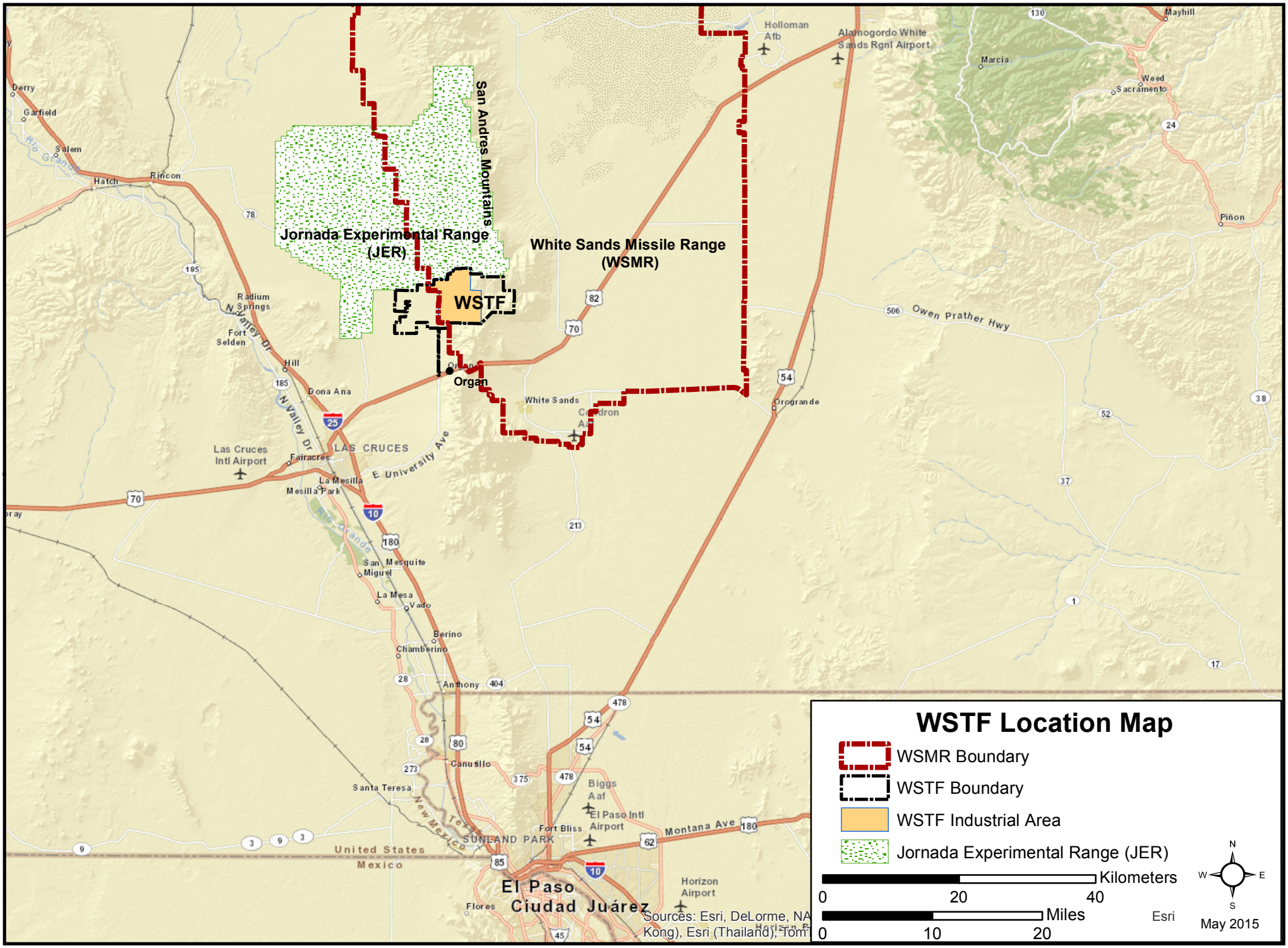
WSTF Location Map
WSMR Boundary
WSTF Boundary
WSTF Industrial Area
Jornada Experimental Range (JER)
Kilometers
0
20
40
Miles
0
10
20
Esri
May 2015
N
S
W
E
Jornada Experimental Range (JER)
San Andres Mountains
White Sands Missile Range (WSMR)
WSTF
Organ
Holloman Afb
Alamogordo White Sands Rgnl Airport
Mayhill
Marcia
Weed
Sacramento
Piñon
Owen Prather Hwy
Orogrande
White Sands
Cardron Af
Derry
Garfield
Salem
Hatch
Rincon
Radium Springs
Fort Selden
Hill
Dona Ana
N Valley Dr
Las Cruces Intl Airport
Fairacres
LAS CRUCES
E University Ave
La Mesilla
Mesilla Park
Rio Grande
San Miguel
Mesquite
La Mesa
Vado
Berino
Chamberino
Anthony
Canutillo
Santa Teresa
New Mexico
Texas
SUNLAND PARK
Fort Bliss
Biggs Aaf
El Paso Intl Airport
Montana Ave
United States
Mexico
El Paso
Ciudad Juárez
Flores
Horizon Airport
Sources: Esri, DeLorme, NA
Kong), Esri (Thailand), Tom

**Figure 2** **200 Area Phase II Soil Borings**

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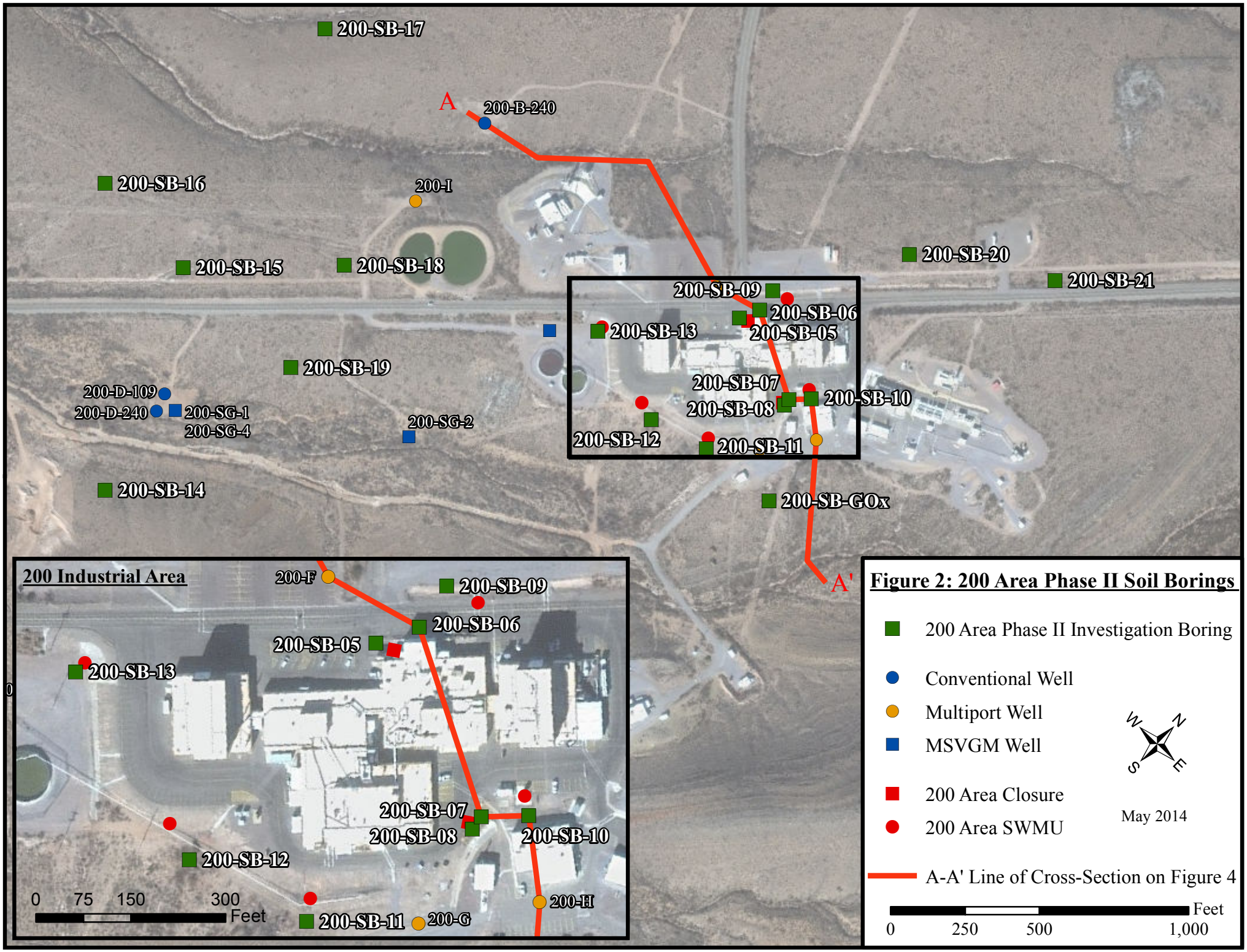

200-SB-17
A
200-B-240
200-SB-16
200-I
200-SB-15
200-SB-18
200-SB-20
200-SB-21
200-SB-09
200-SB-06
200-SB-13
200-SB-05
200-SB-19
200-SB-07
200-SB-10
200-D-109
200-D-240
200-SG-1
200-SG-4
200-SB-08
200-SG-2
200-SB-12
200-SB-11
200-SB-14
200-SB-GOx
A'
200 Industrial Area
200-F
200-SB-09
200-SB-06
200-SB-05
200-SB-13
200-SB-07
200-SB-08
200-SB-10
200-SB-12
200-H
200-SB-11
200-G
0 75 150 300 Feet
Figure 2: 200 Area Phase II Soil Borings
200 Area Phase II Investigation Boring
Conventional Well
Multiport Well
MSVGM Well
200 Area Closure
200 Area SWMU
A-A' Line of Cross-Section on Figure 4
N
S
E
W
May 2014
Feet
0 250 500 1,000

**Figure 3** **DFN Field Approach**

(SEE NEXT PAGE)

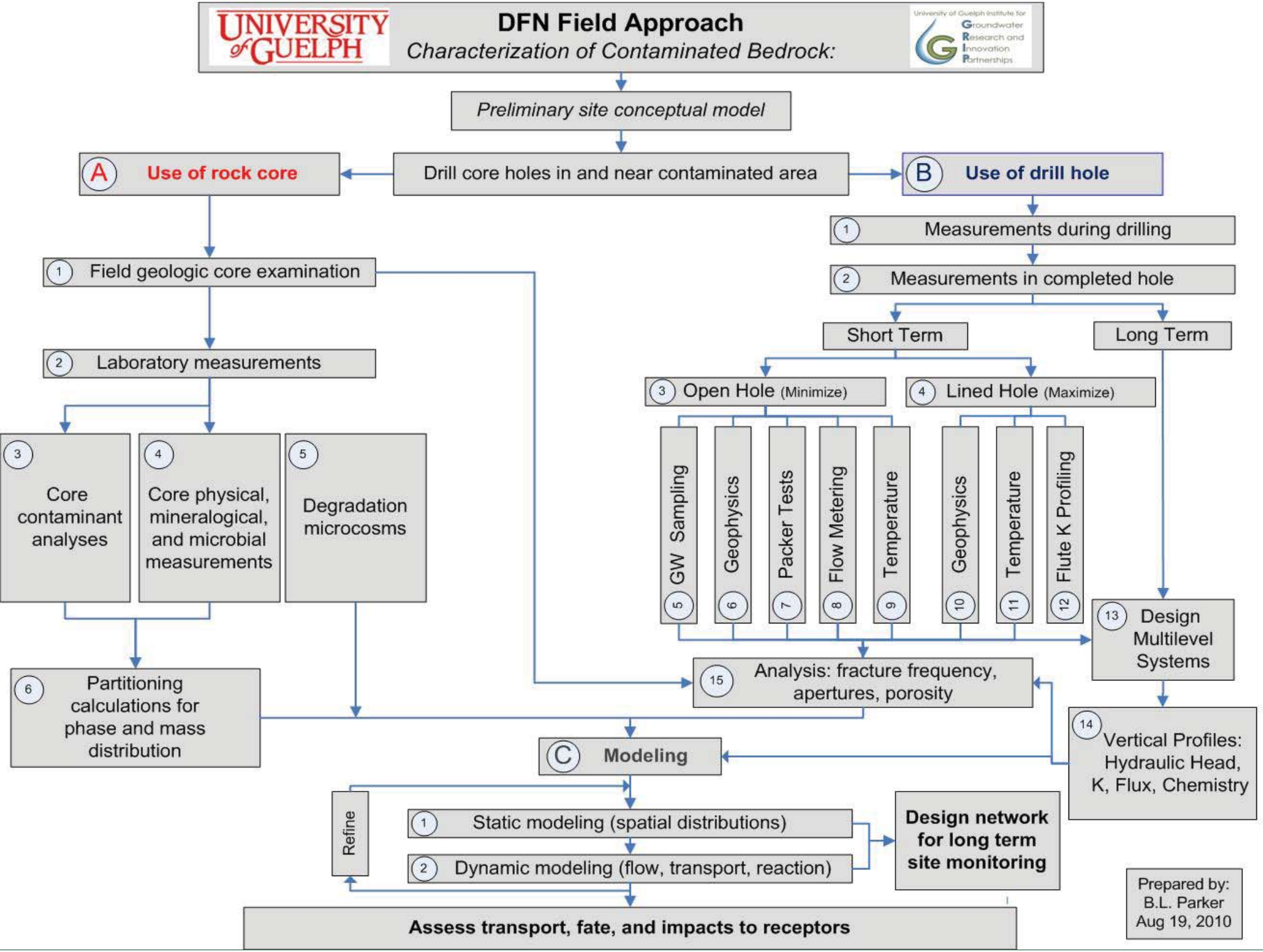

UNIVERSITY of GUELPH
DFN Field Approach
Characterization of Contaminated Bedrock:
University of Guelph Institute for Groundwater Research and Innovation Partnerships
Preliminary site conceptual model
Drill core holes in and near contaminated area
A Use of rock core
B Use of drill hole
1 Field geologic core examination
2 Laboratory measurements
3 Core contaminant analyses
4 Core physical, mineralogical, and microbial measurements
5 Degradation microcosms
6 Partitioning calculations for phase and mass distribution
1 Measurements during drilling
2 Measurements in completed hole
Short Term
Long Term
3 Open Hole (Minimize)
4 Lined Hole (Maximize)
5 GW Sampling
6 Geophysics
7 Packer Tests
8 Flow Metering
9 Temperature
10 Geophysics
11 Temperature
12 Flute K Profiling
13 Design Multilevel Systems
14 Vertical Profiles: Hydraulic Head, K, Flux, Chemistry
15 Analysis: fracture frequency, apertures, porosity
C Modeling
Refine
1 Static modeling (spatial distributions)
2 Dynamic modeling (flow, transport, reaction)
Design network for long term site monitoring
Assess transport, fate, and impacts to receptors
Prepared by: B.L. Parker Aug 19, 2010

**Figure 4** **200 Area Site Conceptual Model**

(SEE NEXT PAGE)

# 200 Area Site Conceptual Model

LEGEND:

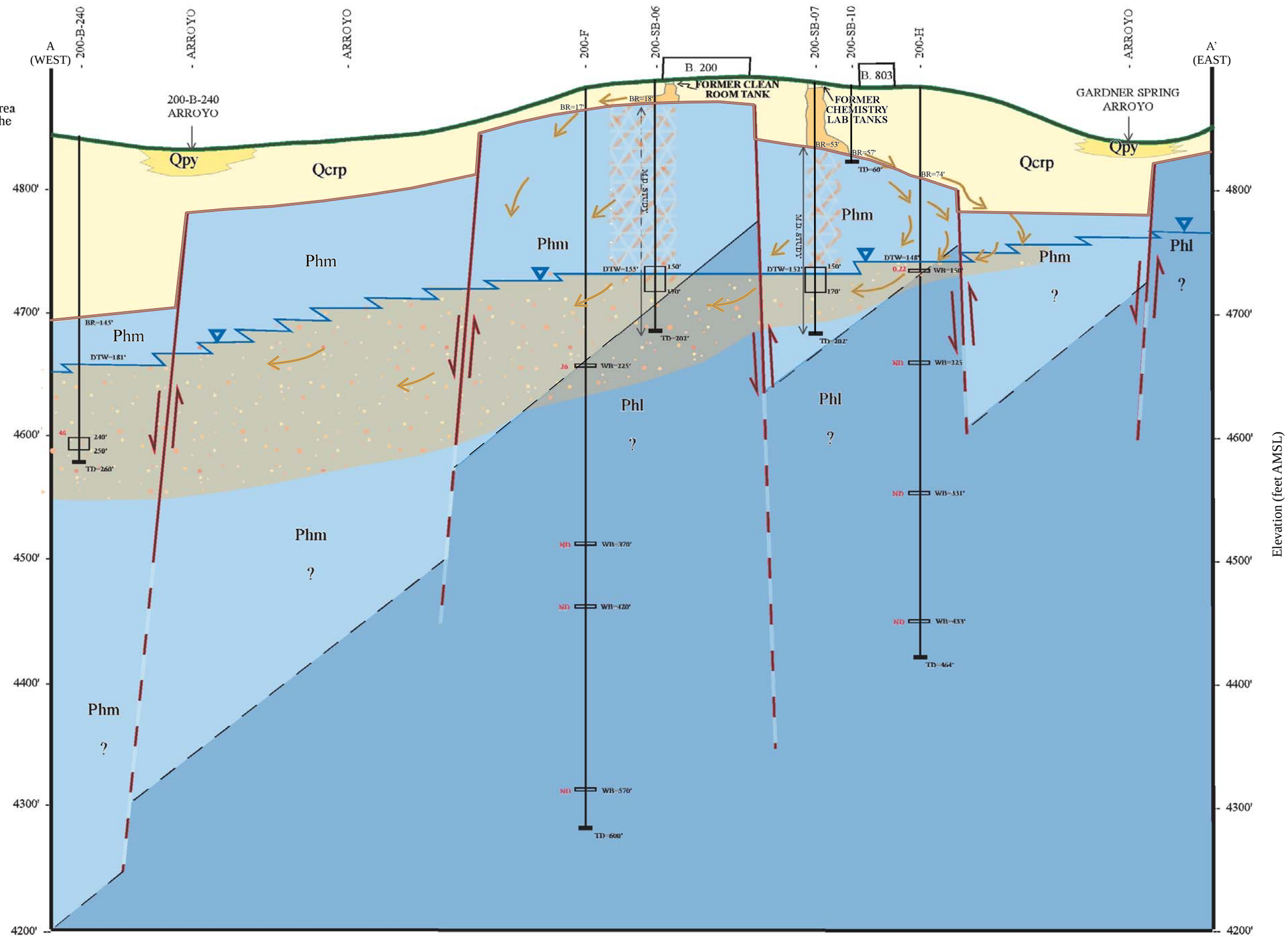
- Soil boring (total depth in feet) — TD=260'
- Monitoring well with monitoring zone(s) and total depth in feet. TCE concentration in ug/L (2014). All 200 Area wells show decreasing T-C Plots since the late 80's / early 90's. — 46, 240', 250', TD=260'
- Inferred Fault with displacement
- Interval covered by Matrix Diffusion Study — M.D. STUDY
- Water Table (Gradient 0.05)
- Ground Surface
- Bedrock Surface (Depth listed in Feet)
- TCE in Groundwater
- TCE in fractured bedrock
- TCE in vadose zone
- Inferred Direction of VOC Migration
- Qpy — Younger Piedmont Slope Alluvium
- Qcrp — Camp Rice Formation
- Phm — Permian Hueco Limestone (Middle)
- Phl — Permian Hueco Limestone (Lower)

SCALE:

100'

VERTICAL EXAGGERATION = 2.5

0 100'




NOTE:

- Question marks indicate inferred lithologies
- Dashed lines indicate inferred lithologic boundaries
- Dip of strata approximately 23° west, adjusted for vertical exaggeration.

**Figure 5 Installation of Borehole 200-SB-06**

Equipment setup (view to the southeast)

Borehole 200-SB-06 was located immediately downgradient of the former Clean Room tank (west closure). The former tank location is now covered by Building 200, located adjacent to the core rig mast. Borehole installation required the closure of the northbound lane of Apollo Boulevard. One of the 200 Area groundwater tracer test investigation dye release pits is located in the right foreground near the former Clean Room Discharge Pipe SWMU.

**Figure 6 Installation of Borehole 200-SB-07**

Equipment setup (view to the southwest)

Borehole 200-SB-07 was installed through the former Chemistry Lab tank location (East Closure), which is located to the northeast of building 203 in the background. Traffic was formerly kept away from the Closure as designated by the yellow hachured lines adjacent to the concrete drainage in the foreground. The access to traffic on the east side of Building 203 was closed during the installation of the borehole. The Stone Environmental, Inc. core evaluation tent is visible in the central background.

**Figure 7 Core Sample from Well 200-SB-07**

Removal of core sample and sampling equipment decontamination (view to the southeast)

A triple-tube PQ core barrel system was used to minimize disturbance to the core. Decontamination of the outer stainless steel tube has already commenced while samples are being removed from the inner stainless steel tubes. Core samples were transferred to an aluminum foil-lined PVC half pipe and relocated to the core evaluation and sampling stations.

**Figure 8 Core Sample Evaluation and Photography at 200-SB-07**

Core within the PVC half-pipe was transferred to a shaded location upwind of the core drilling rig. The core was then logged by Navarro and Stone Geologists and sampled by the Stone field crew. The core was photographed with labels indicating the site name, borehole name, run number, depth, recovery, and RQD. Sample locations were selected for VOC analyses based on fracturing and lithology with a frequency of one sample every two feet. Wooden blocks identifying the location of VOC and physical properties samples were inserted at each of the sample locations.

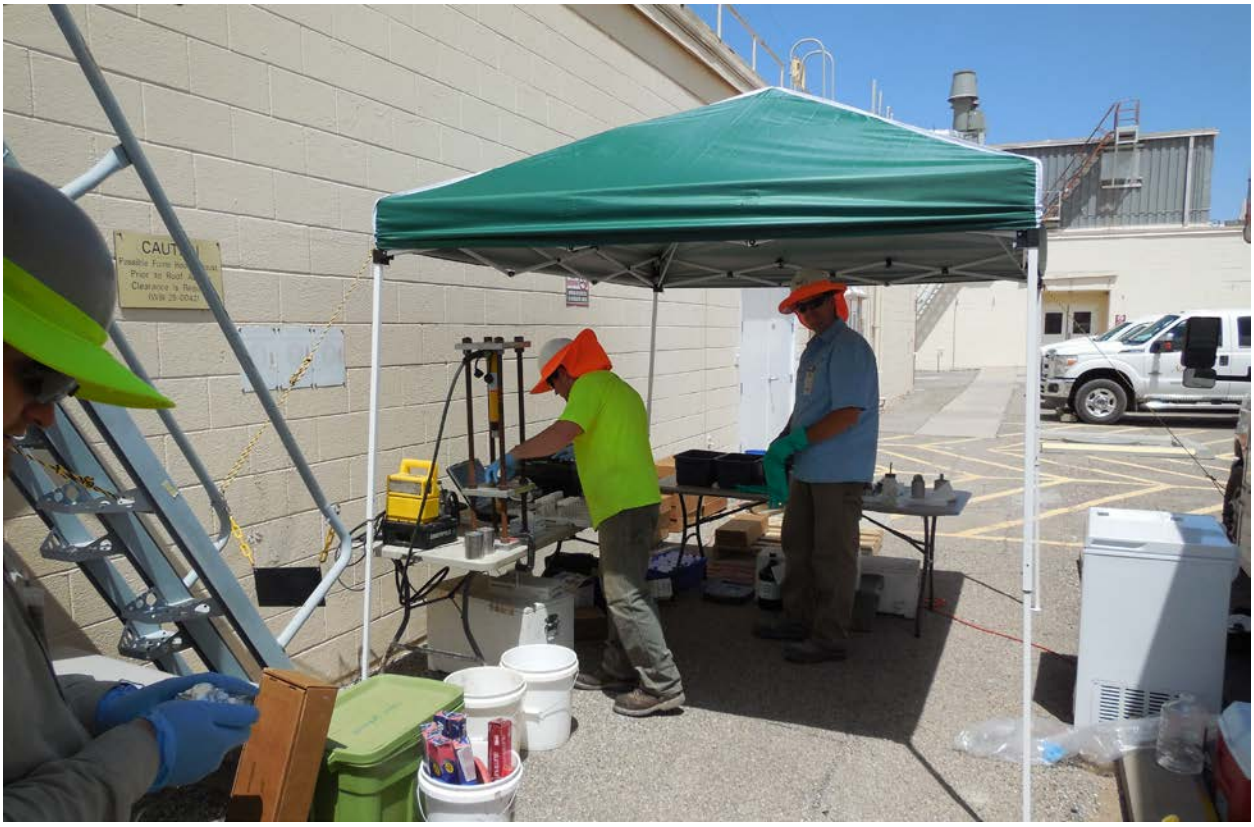
**Figure 9 Core Sample Collection at 200-SB-07**

Rock core samples were approximately 0.1 feet thick and were split from the core using a hammer and chisel at the selected depths. Samples were collected at intervals of approximately 1 – 2 feet along the entire length of the core. Samples were immediately wrapped in aluminum foil and transferred to the sample processing area.

**Figure 10 Rock Core Sample Processing at 200-SB-07**

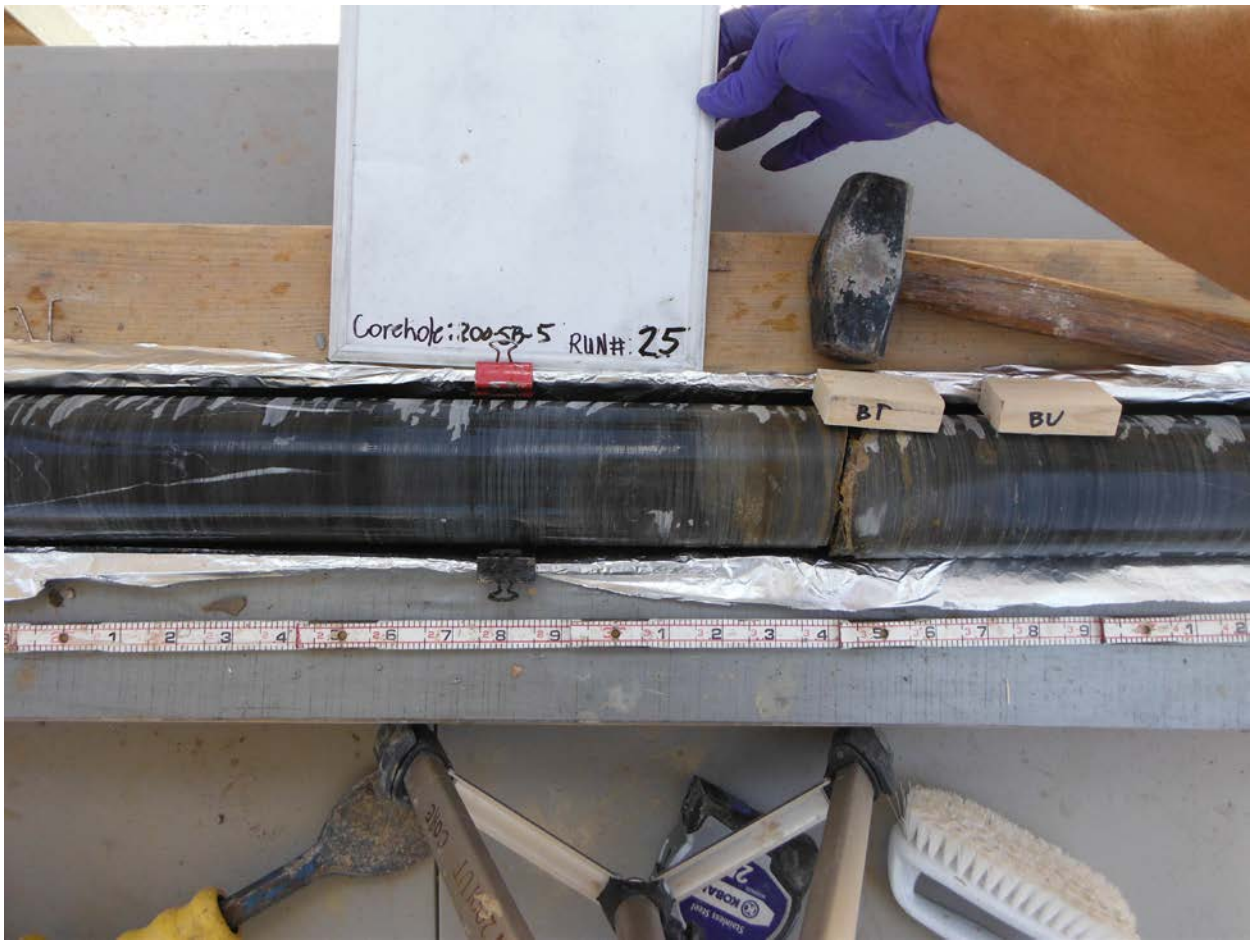
Sample details including the sample depths, collection times, and positions relative to fractures were recorded on forms in Stone's computerized field database. Samples were unwrapped and placed in stainless steel trimming cells. The outer portion of the sample was removed with a hammer and chisel.

**Figure 11 Rock Core Sample Crushing at 200-SB-07**



The remaining rock core subsample is placed in the stainless steel cell and crushed using a hydraulic press with a pressure of approximately 6,000 psi. The sample was then transferred to a pre-labeled 40 mL vial containing 15 mL of purge-and-trap grade methanol. Five sets of crushing cells were available, allowing staff to process all samples from a given core run prior to performing the decontamination of cells.

**Figure 12 Rock Core Photograph Showing Sample at 108.5 Ft BGS in 200-SB-06**




The rock core sample at 108.5 ft bgs in boring 200-SB-06 contained the highest value of TCE in the rock matrix identified for the investigation (2,350 µg/mg). This concentration was an order of magnitude above other TCE concentrations and the average TCE concentrations for the borehole (192.7 µg/kg). The photograph shows the sample location (labeled BT) represented an isolated single fracture in Permian Hueco limestone lined with microcrystalline calcite.

# Tables

**Table 1 Summary of Detected VOC Concentrations in Rock Core Samples**

| VOC | Borehole | Number of Sample Detections (%) | Detection Range (µg/kg) | Average of Detected Values (µg/kg) | Max Value (µg/kg) | Max Value Depth (Ft Bgs) | NM Residential Soil Screening Level (SSL) (µg/kg) |
|---|---|---|---|---|---|---|---|
| Freon 11 | 200-SB-06<br>200-SB-07 | 2/139 = 1.4<br>14/129 = 10.9 | 46.9 – 107<br>23.3 - 960 | 77.0<br>139.4 | 107<br>960 | **187.4**<br>**143.9** | 1,230,000 |
| Chloromethane | 200-SB-06<br>200-SB-07 | 81/139 = 58.3<br>12/129 = 9.3 | 15.4 – 67.7<br>13.6 – 56.7 | 28.8<br>29.7 | 67.7<br>56.7 | **171.3**<br>75.3 | 41,000 |
| Freon 113 | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>19/129 = 14.7 | 19.7 – 4,270<br>19.8 – 2,480 | 381.1<br>245.0 | 4,270<br>2,480 | **158.0**<br>**143.9** | 50,800,000 |
| 2-Butanone | 200-SB-06<br>200-SB-07 | 8/139 = 5.8<br>6/129 = 4.7 | 145 – 554<br>162 - 475 | 294.6<br>234.2 | 554<br>475 | 76.1<br>67.6 | 37,400,000 |
| Benzene | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>13/129 = 10.1 | 2.9 – 8,330<br>4.2 - 118 | 249.1<br>19.1 | 8,330<br>118 | **174.1**<br>115.8 | 17,800 |
| TCE | 200-SB-06<br>200-SB-07 | 57/139 = 41.0<br>8/129 = 6.2 | 12.6 – 2,350<br>16.6 – 35.5 | 192.7<br>25.7 | 2,350<br>35.5 | 108.5<br>**149.9** | 6,770 |
| Toluene | 200-SB-06<br>200-SB-07 | 29/139 = 20.8<br>20/129 = 16.0 | 6.6 – 2,180<br>10.4 - 218 | 203.7<br>37.4 | 2,180<br>218 | **174.1**<br>115.8 | 5,230,000 |
| 1,1,2-Trichloroethane | 200-SB-06<br>200-SB-07 | 5/139 = 3.6<br>1/129 = 0.8 | 53.9 – 290<br>35.1 | 133.1<br>35.1 | 290<br>35.1 | **187.4**<br>**148.7** | 2,610 |
| PCE | 200-SB-06<br>200-SB-07 | 19/139 = 13.6<br>0/129 = --- | 14.2 – 91.5<br>--- | 50.4<br>--- | 91.5<br>--- | 55.7<br>--- | 111,000 |
| m,p,-xylenes | 200-SB-06<br>200-SB-07 | 96/139 = 69.1<br>51/129 = 39.5 | 3.4 – 199<br>4.7 – 74.4 | 17.0<br>11.5 | 199<br>74.4 | **171.3**<br>**148.7** | 764,000 |

Notes: VOC's not detected or with one total detection or less (both boreholes combined) = 1,1-Dichloroethene, Methylene Chloride, t-Butyl-methyl ether, Chloroform, 1,1,1,-Trichloroethane, 1,2-Dichloroethane, Bromodichloromethane, Dibromochloromethane, Chlorobenzene, and Bromoform.

**Bold** = Sample located near or below the static water table during field drilling at 140 - 145 ft bgs in boreholes 200-SB-06 and 200-SB-07.

* Taken from NMED Risk Assessment Guidance for site Investigations and Remediation (NMED, 2014c).

**Table 2 Summary of Estimated Pore Water Concentrations in Rock Core Samples**

| VOC | Borehole | Number of Sample Detections (%) | Detection Range (µg/L) | Average of Detected Values (µg/L) | Max Value (µg/L) | Max Value Depth (Ft Bgs) | Current Maximum Value From 200 Area Wells (µg/L) |
|---|---|---|---|---|---|---|---|
| Freon 11 | 200-SB-06<br>200-SB-07 | 2/139 = 1.4<br>14/129 = 10.9 | 130 – 150<br>84.0 – 43,000 | 140.0<br>5,240 | 150<br>43,000 | **158.0**<br>**143.9** | 100<br>(200-B-240) |
| Chloromethane | 200-SB-06<br>200-SB-07 | 81/139 = 58.3<br>12/129 = 9.3 | 300 – 1,900<br>290 – 5,800 | 745.8<br>2,175 | 5,800<br>1,900 | **100.5**<br>**144.7** | 1.4<br>(200-B-240) |
| Freon 113 | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>19/129 = 14.7 | 7.2 – 4,700<br>40.0 – 52,000 | 1,181<br>4,732 | 4,700<br>52,000 | 73.1<br>**143.9** | 1,400<br>(200-SG-1) |
| 2-Butanone | 200-SB-06<br>200-SB-07 | 8/139 = 5.8<br>6/129 = 4.7 | 2,200 – 12,000<br>1,500 – 11,000 | 4,938<br>5,833 | 12,000<br>11,000 | 76.1<br>**170.1** | Non-Detect<br>(Since 2/1/08) |
| Benzene | 200-SB-06<br>200-SB-07 | 50/139 = 36.0<br>13/129 = 10.1 | 8.0 – 44,000<br>28.0 - 940 | 1,442<br>333.3 | 44,000<br>940 | **174.1**<br>**166.7** | 0.99J<br>(200-F-225) |
| TCE | 200-SB-06<br>200-SB-07 | 57/139 = 41.0<br>8/129 = 6.2 | 13.0 – 13,000<br>90.0 – 1,800 | 1,488<br>559.0 | 13,000<br>1,800 | 108.5<br>**149.9** | 460<br>(200-D-109) |
| Toluene | 200-SB-06<br>200-SB-07 | 29/139 = 20.8<br>20/129 = 16.0 | 4.9 – 4,400<br>26.0 – 3,300 | 496.3<br>437.5 | 4,400<br>3,300 | **174.1**<br>97.3 | 0.8J<br>(200-D-109) |
| 1,1,2-Trichloroethane | 200-SB-06<br>200-SB-07 | 5/139 = 3.6<br>1/129 = 0.8 | 230 – 690<br>--- | 414.0<br>--- | 690<br>--- | **187.4**<br>--- | Non-Detect<br>(Since 2/1/08) |
| PCE | 200-SB-06<br>200-SB-07 | 19/139 = 13.6<br>0/129 = --- | 63 – 360<br>--- | 156.6<br>--- | 360<br>--- | 35.8<br>--- | 26<br>(200-D-109) |
| m,p,-xylenes | 200-SB-06<br>200-SB-07 | 96/139 = 69.1<br>51/129 = 39.5 | 2.5 – 290<br>8.6 – 2,300 | 43.2<br>147.1 | 290<br>2,300 | **171.3**<br>**148.7** | 0.25J<br>(200-SG-1) |

Notes: VOC's not detected or with one total detection or less (both boreholes combined) = 1,1-Dichloroethene, Methylene Chloride, t-Butyl-methyl ether, Chloroform, 1,1,1,-Trichloroethane, 1,2-Dichloroethane, Bromodichloromethane, Dibromochloromethane, Chlorobenzene, and Bromoform.
**Bold** = Sample located near or below the static water table during field drilling at 140 - 145 ft bgs in boreholes 200-SB-06 and 200-SB-07.

**Table 3 Time-Concentration Summary for Four Primary VOCs in 200 Area Groundwater Monitoring Wells Through 2013/2014**

| 200 Area Groundwater Monitoring Wells | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | First Sample | Freon 11 Concentration (µg/L) | | | | Freon 113 Concentration (µg/L) | | | | TCE Concentration (µg/L) | | | | PCE Concentration (µg/L) | | | | T-C Interpretation (NASA, 2014a) |
| | | Max | Year | Last | Year | Max | Year | Last | Year | Max | Year | Last | Year | Max | Year | Last | Year | |
| 200-B-240 | 1989 | 280 | 1996 | 66 | 2013 | 2,200 | 1989 | 150 | 2013 | 290 | 1989 | 46 | 2013 | 15 QD | 1989 | 2.4 | 2013 | Plume Migration (Decreasing) |
| 200-C* | 1993 | 51 | 1996 | 14 | 2014 | 120 | 1996 | 38 | 2014 | 4.3 | 2003 | 2.5 | 2014 | 2.5 RL | 1993 | ND | 2014 | Plume Migration (Decreasing) |
| 200-D-109 | 1988 | 93 | 1988 | 7.4 | 2013 | 5,100 | 1993 | 240 | 2013 | 1,600 | 1993 | 460 | 2013 | 71 | 1992 | 26 | 2013 | Plume Migration (Decreasing) |
| 200-D-240 | 1988 | 240 QD | 1995 | 64Q | 2013 | 11,000 | 1988 | 420Q | 2013 | 110 | 1990 | 21Q | 2013 | 2.5 RL | 1998 | 0.52JQ | 2013 | Plume Migration (Decreasing) |
| 200-F* | 1995 | 41 | 2005 | 6.2 | 2013 | 62 | 1995 | 18 | 2013 | 34 | 2009 | 26 | 2013 | 2.5 RL | 1995 | 0.41 J | 2013 | Plume Migration (Decreasing) |
| 200-G* | 1995 | 55 | 1995 | 5.0 | 2013 | 48 | 1995 | 3.8 | 2013 | 4.8 | 2004 | 1.8 | 2013 | 2.5 RL | 1995 | ND | 2013 | Plume Migration (Decreasing) |
| 200-H* | 1994 | 6.0 | 2003 | 1.2 | 2014 | 7.9 | 1997 | 0.87 J | 2013 | 3.0 J | 1997 | ND | 2013 | 2.5 RL | 1994 | ND | 2013 | Plume Migration (Decreasing) |
| 200-I* | 1997 | 2.4 J | 1999 | 0.23J | 2013 | 190 | 1999 | 19 | 2013 | 33 | 2007 | 26 | 2013 | 2.5 DL | 1997 | 0.35J | 2013 | Plume Migration (Decreasing) |
| 200-JG-110 | 2013 | 17 | 2013 | 5.1 | 2014 | 150 | 2013 | 39 | 2014 | 25 | 2013 | 16 | 2014 | 1.6 | 2013 | 0.95J | 2014 | Plume Migration (Decreasing) |
| 200-SG-1 | 2004 | 81 | 2008 | 11 | 2014 | 2,000 | 2005 | 390 | 2014 | 380 | 2007 | 110 | 2014 | 17 | 2007 | 4.0 | 2014 | Plume Migration (Decreasing) |
| BW-4* | 1993 | 160 | 1993 | 76Q | 2013 | 400 | 1993 | 320 | 2013 | 210 | 1993 | 130 | 2013 | 13 | 1993 | 6.9Q | 2013 | Plume Migration (Decreasing) |

Notes: T-C plot interpretations are based on a review of all contaminant plots for a given well. This table generalizes the historical maximum concentration and last concentrations for four of the primary VOCs in groundwater.
* = Westbay wells utilize maximum concentration value recorded from all individual zones during a single sampling event.
J = Concentration values between the detection limit and practical quantitation limit.
Q = Result for a blind control sample recorded is outside the standard limits.
QD = duplicate error
RL = Concentration presents half of the reporting limit. The maximum reporting limits and most recent year it was used are reported in the table.
DL = Maximum detection limit and most recent year they were used are reported in the table.
ND = Not Detected at method detection limit.

# Appendix A
# Rock Core Sampling and Analysis at the White Sands Test Facility: Location 200-SB-7 and 200-SB-6

# ROCK CORE SAMPLING AND ANALYSIS AT THE WHITE SANDS TEST FACILITY: LOCATION 200-SB-7 AND 200-SB-6

**LAS CRUCES, NM**

**DATA REPORT**
**14-037**

**September 25, 2014**

CORE DFN™

DISCRETE FRACTURE NETWORK APPROACH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STONE ENVIRONMENTAL INC

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# 1. INTRODUCTION

Stone Environmental, Inc. (Stone) was retained by Navarro Research and Engineering to support a program of rock core sampling and laboratory analysis at locations 200-SB-7 and 200-SB-6 at the White Sands Test Facility in Las Cruces, NM. The purpose of this work was to assess the distribution of chlorinated volatile organic compounds (VOCs) within the bedrock matrix. Samples were collected in accordance with Stone CORE$^{DFN\ TM}$ Procedure (SEI-SOP-6.37.1).

Sampling was conducted during drilling of corehole 200-SB-7 from June 17$^{th}$ to June 21$^{st}$, 2014. Sampling was conducted during drilling of corehole 200-SB-6 from June 23$^{rd}$ to June 25$^{th}$, 2014. The locations and terminal depths of the coreholes were selected by Navarro.

A total of 147 linear feet of rock core was recovered from 146.5 feet cored from location 200-SB-7, to a total depth of 202 ft bgs (feet below ground surface). The discrepancy in recovery vs. rock cored is likely due to deficiencies in measuring coring intervals (at the rig) or measuring recovery (once the core has been extruded from the core-barrel). A total of 178.1 linear feet of rock core was recovered from 182 feet cored from location 200-SB-6, to a total depth of 202 ft. bgs. Total recovery was 325.1 feet from 328.5 total feet cored. A total of 268 rock samples were collected for VOC analysis (129 from 200-SB-7; 139 from 200-SB-6). In addition, 12 field duplicates (6 from each hole), 13 MS/MSD sample pairs (26 samples), 25 equipment blank samples, 12 methanol blank samples, and 12 trip blank samples, were also collected for VOC analysis. Fifteen intact core samples were collected for physical property analyses, in accordance with CORE$^{DFN\ TM}$ procedure (SEI-SOP-6.37.1). VOC extraction and analyses of the rock core samples were conducted at the Stone laboratory in Barre, VT. Physical properties samples were analyzed at Golder Associates Laboratory in Mississauga, Ontario.

Results of physical property analyses for bulk density, porosity and organic carbon content are used in conjunction with the VOC data for the calculation of estimated rock porewater concentrations. A full description of the methods used for the estimation of porewater concentrations is contained in Section 4.1.

# 2. FIELD SAMPLE COLLECTION METHODS

The following is a summary of the field methods used for drilling, rock sample collection and processing during the field program. The sampling was undertaken by three Stone staff members working in concert with a Navarro geologist who logged the core and directed drilling operations. Subsequent to the sample collection, Stone performed extraction and analysis of the crushed rock VOC subsamples at the laboratory in Barre, VT. Physical properties analyses were conducted by Golder Associates in Mississauga, Ontario, Canada.

## 2.1. Drilling and Core Collection

Drilling was conducted from June 17$^{th}$ to June 25$^{th}$, 2014 by National Exploration, Wells, and Pumps. Prior to Stone's arrival on site, casing was installed to a depth of approximately 55 feet (below ground surface) in 200-SB-7 and approximately 18 feet (below ground surface) in 200-SB-6. The casing was set at least one foot into top of competent rock, so no samples were collected from top of bedrock surface. Coring was then conducted using PQ size tooling. PQ size core barrels generate 5-foot long by 85 mm (3.35-inch) diameter cores. A triple-tube core barrel (PQ3) was utilized to minimize disturbance to the core. In PQ3 tooling, core samples are retained within a second inner stainless steel tube, split lengthwise (liners), within the core barrel. The liners are extruded from the outer core barrel after each core run using water pressure. This method was used as it limits the disturbance and mechanical breaks of the core samples, and provides cores that better reflect the *in situ* fracture distribution. A Navarro geologist supervised the progression of drilling and terminated drilling at corehole locations upon reaching a depth of 202 ft bgs at 200-SB-7 and 202 feet bgs at location 200-SB-6. Table 1 summarizes the drilling progression and the number of samples collected.

## 2.2. VOC Sample Collection and Processing

Immediately following retrieval, the core was transferred from the liners to a PVC tray lined with aluminum foil. The PVC tray was placed on a table in the vicinity of the drill rig, where the core was logged by a Navarro geologist and sampled by a Stone geologist. Two PVC trays were utilized and decontaminated after each use; the aluminum foil was disposed between uses. Sample locations were selected for VOC analysis based on fracture distributions and lithology with a target frequency of approximately one sample every 2 feet. Prior to sampling, the core was photographed with labels indicating the site name, corehole name, run number, depth bgs of the top and bottom of the run, Recovery, and RQD (Rock Quality Designation: A rough measure of the degree of jointing or fracture in a rock mass; measured as a percentage of the core recovery in lengths of 4 inches or more.). Wooden blocks indicating the approximate locations of VOC and Physical Properties samples were inserted at sample locations for future reference. Samples were collected both from fracture surfaces and from the intervening unfractured rock matrix. Samples approximately 0.1 feet thick were broken from the core using a hammer and chisel at the selected sample depths. The samples were then immediately wrapped in aluminum foil, and given a unique field ID. Immediately following sampling and wrapping, the samples were delivered to the sample processing area, which was located in the vicinity of the sampling table inside a Stone data acquisition vehicle. Details on sample depths, collection times, position relative to fractures, and other relevant information were recorded on forms in Stone's CORE$^{DFN\ TM}$ field database on a hand held computer. After completion of geologic logging and sample collection the remainder of the core was transferred into wax-impregnated core boxes for Navarro's future reference.

Immediately after samples arrived at the processing area, samples were individually unwrapped and placed in a stainless steel trimming cell. The outer portion of the sample (that had been exposed to drill tooling and fluids) was removed with a hammer and chisel. The remaining subsample was then placed in a stainless steel cell and crushed using a hydraulic press under a pressure of approximately 6,000 psi. The crushed subsample was then immediately transferred to a pre-labeled 40 mL VOA vial containing 15 mL of purge-and-trap grade methanol.

Trimming cells, crushing cells, chisels, and all other equipment associated with sample processing were decontaminated between each subsample. Stone provided 5 sets of trimming cells, crushing cells, and chisels enabling staff to process all samples from a given run before starting the five step decontamination process. The five step decontamination process involves: (1) full immersion in detergent (Alconox) wash with scrubbing to remove sediment, (2) full immersion or rinse in distilled water, (3) spray rinse with clean wash-grade methanol, (4) spray rinse with clean distilled water to remove any traces of methanol, and (5) drying with clean/disposable towels before next use. Equipment Blanks (EBs) were collected at the beginning and end of each day and at a minimum of every 20th sample. To collect EBs, Kim-wipes were removed from a pre-prepped and pre-labeled vial containing 15 mL of purge-and-trap grade methanol then used to wipe the inside of decontaminated crushing cells and other equipment that had come in contact with subsamples. Kim-wipes were then replaced into the pre-labeled vials they were taken from. EBs were analyzed for VOCs.

Sample vials were prepared in the field at the beginning of each day during field work. Vials were labeled and weighed before the addition of methanol, after the addition of 15 mL of purge-and-trap grade methanol, and again after the addition of crushed rock. Calibration of the balance was checked at least daily. Sample vial IDs were cross-referenced with the field ID, which in turn references a sample depth. Sample depths were used to generate sample IDs which are unique to each sample depth and drilling location. Each sample was labeled with its sample ID then packaged for storage and transport to the Stone laboratory in Barre, VT. For sample storage and transport VOA vials screw caps were wrapped with Teflon tape. Samples were kept in a temperature verified freezer and shipped under Chain of Custody (COC) to the Stone lab several times throughout the duration of the project (daily, excepting weekends). At the Stone lab, they were stored in a temperature-verified freezer until being extracted and analyzed for VOCs.

In total, 268 samples were collected for VOC analysis from 325.1 ft of rock retrieved. Twelve field duplicates (FDs) were collected by crushing additional mass of selected field samples. Thirteen MS/MSD sample pairs were collected by crushing additional mass of selected field samples. Twelve trip blanks (TBs) were prepared and packed with each shipment. Twelve methanol blanks (MBs) were collected from the six 1-L bottles of purge-and-trap grade methanol used to prepare the 40 mL VOA vials. Two wash blanks (WBs) were prepared from the HPLC grade methanol used for decontamination of crushing equipment. MBs were stored and shipped separately from all other samples. MBs are used to determine possible contamination in the methanol used to preserve and extract samples. Results of VOC analysis for Equipment Blanks, Trip Blanks, Wash Blanks and Methanol Blanks are presented in Table 6. Results for field duplicate samples and their corresponding parent sample are presented in Table 7.

### 2.3. Physical Property Sample Collection

Fifteen intact core samples (ranging in length from 0.5 to 0.7ft) were collected from the cores for analysis of physical properties (porosity, bulk density, percent moisture, specific gravity, and total organic carbon). Physical property samples were not collected until after VOC sample collection was completed for each applicable run. A summary of the samples collected for these physical property analyses is included in Table 2 and the results of these analyses are presented in Table 3. The physical property sample analytical report (from Golder Associates Laboratory) is found in Appendix B.

## 3. LABORATORY ANALYSIS AND VOC EXTRACTION

Sample extraction and analysis were performed in July, 2014 at the Stone laboratory in Barre, VT. Samples were extracted into methanol for analysis by SOP SEI-10.17.1: *Microwave Assisted Extraction (MAE) of Volatile Organic Compounds from Rock Samples*. The methanol extracts were analyzed (via *SW846 USEPA Method 8260c*) for twenty target VOCs: Chloromethane; 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113); 1,1-Dichloroethene; Methylene Chloride; t-Butyl-methyl ether; Chloroform; 1,1,1-Trichloroethane; Benzene; 1,2-Dichloroethane; Trichloroethene; Bromodichloromethane; 1,1,2-Trichloroethane; Tetrachloroethene; Dibromochloromethane; Chlorobenzene; m,p-Xylenes; Bromoform; Trichlorofluoromethane (Freon 11); Toluene; and 2-Butanone.

A Full Laboratory Report is presented in Appendix A. Results of VOC analysis are summarized in Table 4 below.

## 4. RESULTS

The following sections provide the results of the rock core chemical analyses and a discussion of the method of estimation of porewater concentration and total VOC mass estimated from that data. A full laboratory report detailing Stone's VOC Analysis is provided in Appendix A.

### 4.1. Rock Core VOC Results and Porewater Estimates

A summary of core sample depths is provided in Table 1. VOC concentrations in rock are provided in Table 4. Estimates of porewater concentrations are provided in Table 5. Results for equipment blanks (EB), trip blanks (TB), wash blanks (WB) and methanol blanks (MB) are presented in Table 6. Results for field duplicate samples and their corresponding parent sample are presented in Table 7.

The concentrations of the analytes extracted into methanol ($C_{MEOH}$) were measured using GC/MS (EPA m8260c) methods as µg/kg in methanol. The concentration of analytes in the bulk rock ($C_t$) sample was then calculated using the analysis of the methanol extract ($C_{MEOH}$), mass of crushed rock in sample ($M_{rock}$) and volume of methanol ($V_{MEOH}$) as follows (Equation 1):

- Equation 1:

$$C_t = \frac{C_{MeOH} \times V_{MeOH} \times \rho_{MeOH}}{M_{rock}}$$

Sample RLs can be calculated for each sample from the above equation by setting the $C_{MEOH}$ to the respective values for each analyte; for samples where analyte concentrations are between the MDL and the RL, an estimated value has been assigned and the results flagged with a "J". This calculation reflects VOC mass present in dissolved, sorbed, and immiscible phases.

### 4.2. Estimated Porewater Concentration Calculation

The bulk rock VOC concentrations ($C_t$) are converted to matrix pore water concentrations ($C_w$) in µg/L of pore water utilizing the wet rock bulk density in g/cm$^3$ ($\rho_{b(wet)}$); the dry rock bulk density ($\rho_{b(dry)}$) in g/cm$^3$; matrix porosity, a unitless factor ($L^3/L^3$) ($\phi$); and the soil-water partitioning coefficient ($K_d$) in mL/g as shown below (Equation 2):

- Equation 2:

$$C_w = \frac{C_t \rho_{b(wet)}}{K_d \rho_{b(dry)} + \phi}$$

This equation assumes that the matrix porosity (i.e., primary porosity) is 100% saturated with water and that the VOC mass occurs in only the dissolved and sorbed phases (i.e., no NAPL is present). Pore water concentrations that approach or exceed aqueous solubility limits for given compounds may indicate the presence of DNAPL (Feenstra et al, 1991).

The partitioning coefficient ($K_d$) is based on the assumption that sorption is rapid, reversible and that there is no variation with concentration. This coefficient is calculated using the organic carbon partitioning coefficient ($K_{oc}$) for each compound, obtained from the literature (e.g. Pankow and Cherry, 1996) or other sources (see Table A below), and fraction of organic carbon ($f_{oc}$) obtained through physical property analysis using the following equation (Equation 3):

- Equation 3:

$$K_d = K_{oc} f_{oc}$$

This coefficient assumes that sorption is entirely dependent upon solid phase organic carbon in the rock matrix, this being a reasonable assumption for the low molecular weights of the chlorinated ethenes of interest (Schwarzenbach et al. 1993).

Physical parameter tests were conducted by Golder Associates. Full laboratory reports for these analyses are provided in Appendix B. These results will be summarized in Table 3. Physical properties samples were representative of the major rock type encountered on the site (limestone). The values for porosity ($\phi$), bulk density ($\rho_b$), and fraction of organic carbon ($f_{oc}$) used to estimate matrix porewater concentrations are based on the nearest physical property sample, or the one that most closely reflects the lithology of the VOC sample. Physical property data is provided in Tables 2 and 3.

The organic carbon partitioning coefficient ($K_{oc}$) for each compound was obtained from Pankow and Cherry (1996) or other sources. Table A below summarizes the ($K_{oc}$) values used to calculate matrix porewater concentrations.

*Table A: Organic Carbon Partitioning Coefficients ($K_{oc}$)*

| **Compound** | **$K_{oc}$** | **Source** |
|---|---|---|
| 1,1,1-Trichloroethane | 152 | Pankow and Cherry (1996) |
| 1,2-Dichloroethane | 14 | Pankow and Cherry (1996) |
| Benzene | 62 | https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx |
| Bromodichloromethane | 55 | https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx |
| Chloromethane | 6 | http://www.nj.gov/dep/srp/guidance/rs/chemproperties.pdf |
| Trichloroethene | 126 | Pankow and Cherry (1996) |
| Dibromochloromethane | 63.1 | http://www.nj.gov/dep/srp/guidance/rs/chemproperties.pdf |
| Tetrachloroethene | 364 | Pankow and Cherry (1996) |
| Chloroform | 44 | Pankow and Cherry (1996) |
| Bromoform | 87 | http://www.epa.gov/superfund/health/conmedia/soil/pdfs/appd_k.pdf |
| m,p-Xylenes | 255 | https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx |
| 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | 372 | http://www.epa.gov/chemfact/s_freon.txt |
| Chlorobenzene | 330 | Pankow and Cherry (1996) |
| Methylene Chloride | 25 | http://epa.gov/chemfact/s_dcm.txt |
| Toluene | 182 | http://www.epa.gov/superfund/health/conmedia/soil/pdfs/appd_k.pdf |
| t-Butyl-methyl ether | 11 | https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx |
| 1,1,2-Trichloroethane | 56 | Pankow and Cherry (1996) |
| 2-Butanone | 27 | http://epa.gov/chemfact/s_mek.txt |
| Trichlorofluoromethane | 114 | http://www.nj.gov/dep/srp/guidance/rs/chemproperties.pdf |
| 1,1-Dichloroethene | 65 | Pankow and Cherry (1996) |

VOC concentrations in rock (as µg/kg) are shown in Table 4. Estimated pore water concentrations (as µg/L) for each sample are shown in Table 5. These concentrations are calculated using the porosity ($\phi$), bulk density ($\rho_b$), and fraction of organic carbon ($f_{oc}$) as reported by Golder Associates for each separate physical property sample (see Table 3), as described above.

## 4.3. Results from Field Blanks and Duplicates

Field blank results, including equipment blanks (EBs), methanol blanks (MBs), wash blanks (WBs), and trip blanks (TBs), are provided with the Analytical Report in Appendix A, and summarized in Table 6.

Comparisons for the twelve field samples with corresponding field duplicate samples are provided in Table 7. Variability can be largely attributed to the difficulty in collecting true duplicates, given the spatial variability in concentrations and rock matrix properties expected at the scale of sub-sampling. Field duplicates also test and reflect the repeatability of the entire sample-processing, extraction and analytical procedures, and thus are expected to show more variability than lab duplicates.

## 4.4. Physical Properties Sample Results

The rock encountered at the White Sands Test Facility in coring locations 200-SB-7 and 200-SB-6 was predominantly limestone, with zones of mudstone in the upper portion of the core holes. Some brecciated zones were also encountered. Results of Physical Properties tests are presented in Table 3. A summary of the physical properties samples chosen is presented in Table 2. Maximum, Minimum, and Average results for the 15 physical properties samples are presented in Table B below. See Table 3 for individual results.

*Table B – Maximum, Minimum, and Average Results for Physical Properties Samples.*

| | Porosity, $\phi$ (-) | Water Content (%) | Wet Bulk Density ($g/cm^3$) | Dry Bulk Density ($g/cm^3$) | Specific Gravity | TOC (%) |
|---|---|---|---|---|---|---|
| **Minimum** | 0.01 | 0.30 | 2.46 | 2.30 | 2.71 | 0.01 |
| **Maximum** | 0.16 | 6.70 | 2.72 | 2.70 | 2.82 | 0.74 |
| **Average** | 0.06 | 2.16 | 2.63 | 2.58 | 2.75 | 0.15 |

# 5. FEATURE DATA PLOTS

During the collection of sample data in the field, the Stone geologist also logged information about the features observed in the rock, particularly the location and orientation (angle) of fractures, rubble, friable zones, and series of fractures. This information is useful in determining if VOC concentrations are associated with zones of relative fracture abundance. When used in concert with data collected by the Navarro geologist, an understanding can be gained about how the VOC concentrations are associated with lithologic features. Plots showing the estimated porewater concentrations for 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113); Tetrachloroethene (PCE); Trichloroethene (TCE); and Trichlorofluoromethane (Freon 11); information about lithologic features, recovery, and RQD (rock quality designation) are plotted vs. depth for core-holes 200-SB-7 and 200-SB-6 as described in Section 7. Approximate depth to water (provided by client) is also plotted on each figure.

# 6. REFERENCES

Feenstra, S., D.M. Mackay and J.A. Cherry. 1991. A method for assessing residual NAPL based on organic chemical concentrations in soil samples. Ground Water Monitoring Review, 11, 128-136.

Pankow, J.F. and J.A. Cherry. 1996. Dense Chlorinated Solvents and other DNAPLs in Groundwater. Waterloo Press, Portland, Oregon.

Schwarzenbach, R., P. Gschwend, and D. Imboden. 1993. Environmental Organic Chemistry. John Wiley and Sons Inc., New York.

## 6.1. Standard Operating Procedures and Methods

SEI-SOP-6.37.1 - Field Methods for Retrieval, Collection, Handling, and Preservation of Rock Samples to be Analyzed for VOCs and Physical Properties. *Stone Environmental, Inc. Proprietary Method.*

SEI-SOP-10.17.1 – Microwave Assisted Extraction of Volatile Organic Compounds from Rock Samples. *Stone Environmental, Inc. Proprietary Method.*

SW846 USEPA Method 8260c – The Determination of Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry (GC/MS).

# 7. TABLES AND FIGURES

**Table 1: Summary of Drilling Progression and Samples Collected**

**Table 2: Summary of Physical Properties Samples Collected**

**Table 3: Results of Physical Properties Samples and TOC Measurements**

**Table 4: Total VOC Concentrations in Rock Core Samples – µg/kg Rock**

**Table 5: Estimated Pore Water Concentrations - µg/L Pore Water**

**Table 6: Summary of VOC Results for Field and Laboratory Blanks**

**Table 7: Summary of VOC Results for Field Duplicates and Parent Samples**

**Figure 1: Plot of Estimated Porewater 1,1,2-Trichloro-1,2,2-trifluoroethane Concentration and Features: 200-SB-6**

**Figure 2: Plot of Estimated Porewater Tetrachloroethene Concentration and Features: 200-SB-6**

**Figure 3: Plot of Estimated Porewater Trichloroethene Concentration and Features: 200-SB-6**

**Figure 4: Plot of Estimated Porewater Trichlorofluoromethane Concentration and Features: 200-SB-6**

**Figure 5: Plot of Estimated Porewater 1,1,2-Trichloro-1,2,2-trifluoroethane Concentration and Features: 200-SB-7**

**Figure 6: Plot of Estimated Porewater Tetrachloroethene Concentration and Features: 200-SB-7**

**Figure 7: Plot of Estimated Porewater Trichloroethene Concentration and Features: 200-SB-7**

**Figure 8: Plot of Estimated Porewater Trichlorofluoromethane Concentration and Features: 200-SB-7**

**Table 1 Summary of Drilling Progression and Samples Collected**

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7 | 1 | 6/17/2014 | 55.5 | 56.5 | 1 | 0.3 | 0 | 0 | | | | |
| | 2 | | 56.5 | 60.5 | 4 | 4.2 | 52 | 4 | | | | |
| | 3 | | 60.5 | 65.5 | 5 | 4.9 | 61 | 5 | | | | |
| | 4 | 6/19/2014 | 65.5 | 68.5 | 3 | 2.3 | 0 | 3 | 1 | | | |
| | 5 | | 68.5 | 70 | 1.5 | 1.3 | 60 | 1 | | 1 | 1 | |
| | 6 | | 70 | 71 | 1 | 1.7 | 43 | 2 | | | | |
| | 7 | | 71 | 72 | 1 | 0.9 | 60 | 1 | | | | |
| | 8 | | 72 | 75 | 3 | 3 | 47 | 3 | | | | 1 |
| | 9 | | 75 | 77 | 2 | 1.8 | 45 | 1 | | | | |
| | 10 | | 77 | 78 | 1 | 1.3 | 73 | 1 | | | | |
| 200-SB-7 | 11 | | 78 | 79 | 1 | 1.7 | 30 | 0 | | | | |
| | 12 | | 79 | 84 | 5 | 5 | 64 | 5 | | | | |
| | 13 | | 84 | 89 | 5 | 5.1 | 84 | 5 | 1 | | | |
| | 14 | | 89 | 94 | 5 | 5 | 100 | 5 | | 1 | 1 | |
| | 15 | 6/20/2014 | 94 | 99 | 5 | 5.1 | 97 | 4 | | | | |
| | 16 | | 99 | 101 | 2 | 1.8 | 86 | 2 | | | | |
| | 17 | | 101 | 104 | 3 | 3 | 78 | 3 | | | | 1 |
| | 18 | | 104 | 107.5 | 3.5 | 3.6 | 100 | 4 | | | | |
| | 19 | | 107.5 | 107.5 | 0 | 0 | 0 | 0 | | | | |
| | 20 | | 107.5 | 108 | 0.5 | 0.8 | 0 | 0 | | | | |
| 200-SB-7 | 21 | | 108 | 112 | 4 | 3.8 | 35 | 3 | 1 | | | |
| | 22 | | 112 | 115 | 3 | 2.5 | 100 | 2 | | | | |
| | 23 | | 115 | 118.5 | 3.5 | 3.7 | 80 | 4 | | | | 1 |
| | 24 | | 118.5 | 122 | 3.5 | 3.7 | 64 | 3 | | | | |
| | 25 | | 122 | 126.5 | 4.5 | 4.4 | 53 | 4 | | | | |
| | 26 | | 126.5 | 131.5 | 5 | 5.3 | 84 | 5 | | 1 | 1 | |
| | 27 | | 131.5 | 136.5 | 5 | 5.2 | 63 | 4 | 1 | | | 1 |
| | 28 | | 136.5 | 142 | 5.5 | 5.5 | 62 | 5 | | | | |
| | 29 | | 142 | 147 | 5 | 5.1 | 85 | 4 | | | | |
| | 30 | | 147 | 150.5 | 3.5 | 3.4 | 52 | 3 | | | | |
| 200-SB-7 | 31 | 6/21/2014 | 150.5 | 152 | 1.5 | 1.5 | 100 | 0 | | | | 1 |
| | 32 | | 152 | 157.5 | 5.5 | 5.2 | 70 | 5 | 1 | 1 | 1 | |
| | 33 | | 157.5 | 162 | 4.5 | 4.8 | 64 | 5 | | | | |
| | 34 | | 162 | 167 | 5 | 5.4 | 68 | 4 | | | | |
| | 35 | | 167 | 168.5 | 1.5 | 1 | 50 | 0 | | | | 1 |
| | 36 | | 168.5 | 172.5 | 4 | 4.4 | 81 | 4 | | | | |
| | 37 | | 172.5 | 178 | 5.5 | 5.3 | 70 | 5 | | 1 | 1 | |
| | 38 | | 178 | 181 | 3 | 2.8 | 181 | 3 | 1 | | | |
| | 39 | | 181 | 186 | 5 | 5.2 | 0 | 5 | | | | |
| | 40 | | 186 | 191 | 5 | 5.2 | 60 | 4 | | | | |
| | 41 | | 191 | 196 | 5 | 3.7 | 33 | 3 | | | | |

**Table 1 Summary of Drilling Progression and Samples Collected**

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7 | 42 | | 196 | 197 | 1 | 1.7 | 50 | 1 | | | | 1 |
| | 43 | | 197 | 201.5 | 4.5 | 4.7 | 86 | 4 | | 1 | 1 | |
| | 44 | | 201.5 | 202 | 0.5 | 0.7 | 0 | 0 | | | | |
| 200-SB-6 | 1 | 6/23/2014 | 20 | 26 | 6 | 3.6 | 30 | 3 | | | | |
| | 2 | | 26 | 31.5 | 5.5 | 4.9 | 27 | 5 | | | | |
| | 3 | | 31.5 | 36.5 | 5 | 5 | 73 | 4 | | | | 1 |
| | 4 | | 36.5 | 41 | 4.5 | 4.5 | 50 | 4 | | | | |
| | 5 | | 41 | 42.5 | 1.5 | 1.5 | 28 | 1 | | 1 | 1 | |
| | 6 | | 42.5 | 45 | 2.5 | 2.2 | 44 | 2 | 1 | | | |
| | 7 | | 45 | 50.5 | 5.5 | 5.4 | 27 | 5 | | | | |
| | 8 | | 50.5 | 53 | 2.5 | 1.9 | 67 | 2 | | | | |
| | 9 | | 53 | 54 | 1 | 1 | 0 | 1 | | | | |
| | 10 | | 54 | 54.5 | 0.5 | 0.6 | 0 | 0 | | | | |
| 200-SB-6 | 11 | | 54.5 | 57.5 | 3 | 3.7 | 31 | 3 | | | | |
| | 12 | | 57.5 | 62.5 | 5 | 4.7 | 84 | 3 | | | | 1 |
| | 13 | 6/24/2014 | 62.5 | 67.5 | 5 | 4.9 | 69 | 5 | | 1 | 1 | |
| | 14 | | 67.5 | 72 | 4.5 | 4.7 | 54 | 4 | 1 | | | |
| | 15 | | 72 | 75 | 3 | 2.9 | 79 | 3 | | | | |
| | 16 | | 75 | 77 | 2 | 2.3 | 55 | 2 | | | | 1 |
| | 17 | | 77 | 81 | 4 | 4 | 100 | 3 | | | | |
| | 18 | | 81 | 84 | 3 | 3.8 | 87 | 2 | | | | |
| | 19 | | 84 | 89 | 5 | 4.2 | 100 | 3 | | | | |
| | 20 | | 89 | 92 | 3 | 2.9 | 63 | 3 | | 1 | 1 | |
| 200-SB-6 | 21 | | 92 | 97 | 5 | 4.8 | 100 | 5 | 1 | | | 1 |
| | 22 | | 97 | 98 | 1 | 1.2 | 44 | 0 | | | | |
| | 23 | | 98 | 102 | 4 | 3.4 | 100 | 2 | | | | |
| | 24 | | 102 | 107 | 5 | 5.1 | 81 | 5 | | | | |
| | 25 | | 107 | 112 | 5 | 5 | 95 | 4 | | | | |
| | 26 | | 112 | 117 | 5 | 5 | 100 | 5 | | 1 | 1 | 1 |
| | 27 | | 117 | 122 | 5 | 5 | 100 | 5 | 1 | | | |
| | 28 | | 122 | 123 | 1 | 1 | 0 | 0 | | | | |
| | 29 | | 123 | 128 | 5 | 5.2 | 94 | 5 | | | | |
| | 30 | | 128 | 128 | 0 | 0 | 0 | 0 | | | | |
| 200-SB-6 | 31 | | 128 | 132 | 4 | 3.5 | 69 | 2 | | | | |
| | 32 | | 132 | 137 | 5 | 5.3 | 78 | 3 | | | | |
| | 33 | | 137 | 142 | 5 | 4.3 | 100 | 2 | | | | 1 |
| 200-SB-6 | 34 | | 142 | 147 | 5 | 5.2 | 77 | 5 | 1 | 1 | 1 | |
| | 35 | | 147 | 151 | 4 | 5.2 | 95 | 4 | | | | |
| | 36 | | 151 | 156.5 | 5.5 | 5.2 | 100 | 3 | | | | |
| | 37 | | 156.5 | 161.5 | 5 | 4.7 | 91 | 4 | | | | 1 |
| | 38 | | 161.5 | 162 | 0.5 | 0.5 | 0 | 0 | | | | |

**Table 1 Summary of Drilling Progression and Samples Collected**

| Field Location | Core Run | Date (m/dd/yyyy) | Depth From (ft bgs) | Depth to (ft bgs) | Core Run Length (ft) | Recovery (ft) | RQD (%) | # Field VOC Samples | # Field VOC Duplicates | # Field VOC MS | # Field VOC MSD | # Physical Property Samples |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 39 | 6/25/2014 | 162 | 167 | 5 | 5.3 | 86 | 5 | | | | |
| | 40 | | 167 | 172 | 5 | 5.3 | 81 | 5 | | 1 | 1 | |
| 200-SB-6 | 41 | | 172 | 177 | 5 | 5 | 100 | 2 | 1 | | | |
| | 42 | | 177 | 179 | 2 | 1.6 | 100 | 0 | | | | |
| | 43 | | 179 | 184 | 5 | 5.2 | 83 | 4 | | | | |
| | 44 | | 184 | 189 | 5 | 5.1 | 73 | 4 | | | | 1 |
| | 45 | | 189 | 194 | 5 | 5 | 72 | 3 | | | | |
| | 46 | | 194 | 199 | 5 | 4.9 | 100 | 4 | | 1 | 1 | |
| | 47 | | 199 | 202 | 3 | 2.4 | 100 | 0 | | | | |
| | | | | **Totals** | **328.5** | **325.1** | **--** | **268** | **12** | **13** | **13** | **15** |

# Table 2 Summary of Physical Properties Samples Collected

| Sample Name | Date Collected (dd/mm/yy) | Location | Core Run | Core Run Interval (ft bgs) | Sample Interval (ft bgs) | | Sample Mid-Depth (ft bgs) | Sample Length (ft) |
|---|---|---|---|---|---|---|---|---|
| 200-SB-7-73.80-74.35-PHY | 6/19/2014 | 200-SB-7 | 8 | 72-75 | 73.8 | 74.35 | 74.075 | 0.55 |
| 200-SB-7-102.70-103.40-PHY | 6/20/2014 | | 17 | 101-104 | 102.7 | 103.4 | 103.05 | 0.7 |
| 200-SB-7-116.30-117.00-PHY | | | 23 | 115-118.5 | 116.3 | 117 | 116.65 | 0.7 |
| 200-SB-7-136.00-136.50-PHY | | | 27 | 131.5-136.5 | 136 | 136.5 | 136.25 | 0.5 |
| 200-SB-7-151.30-152.00-PHY | 6/21/2014 | | 31 | 150.5-152 | 151.3 | 152 | 151.65 | 0.7 |
| 200-SB-7-167.00-167.50-PHY | | | 35 | 167-1685 | 167 | 167.5 | 167.25 | 0.5 |
| 200-SB-7-196.50-197.00-PHY | | | 42 | 196-197 | 196.5 | 197 | 196.75 | 0.5 |
| 200-SB-6-35.10-35.60-PHY | 6/23/2014 | 200-SB-6 | 3 | 31.5-36.5 | 35.1 | 35.6 | 35.35 | 0.5 |
| 200-SB-6-59.50-60.00-PHY | | | 12 | 57.5-62.5 | 59.5 | 60 | 59.75 | 0.5 |
| 200-SB-6-76.50-77.00-PHY | 6/24/2014 | | 16 | 75-77 | 76.5 | 77 | 76.75 | 0.5 |
| 200-SB-6-96.30-96.80-PHY | | | 21 | 92-97 | 96.3 | 96.8 | 96.55 | 0.5 |
| 200-SB-6-116.40-117.00-PHY | | | 26 | 112-117 | 116.4 | 117 | 116.7 | 0.6 |
| 200-SB-6-136.80-137.30-PHY | | | 32 | 132-137 | 136.8 | 137.3 | 137.05 | 0.5 |
| 200-SB-6-160.70-161.20-PHY | 6/25/2014 | | 37 | 156.5-161.5 | 160.7 | 161.2 | 160.95 | 0.5 |
| 200-SB-6-187.80-188.30-PHY | | | 44 | 184-189 | 187.8 | 188.3 | 188.05 | 0.5 |

**Notes:** Samples submitted to Golder Associates for physical parameter testing (porosity, percent moisture, bulk density, and total organic carbon)

## Table 3 Results of Physical Properties and TOC Measurements

| Sample ID | Depth Interval (ft bgs) | | Lithology Description | Porosity (-) | Water Content (%) | Wet Bulk Density ($g/cm^3$) | Dry Bulk Density ($g/cm^3$) | Specific Gravity (-) | TOC (%) |
|---|---|---|---|---|---|---|---|---|---|
| | Top Depth | Bottom Depth | | | | | | | |
| 200-SB-7-73.80-74.35-PHY | 73.8 | 74.35 | Limestone | 0.07 | 2.25 | 2.69 | 2.63 | 2.82 | 0.13 |
| 200-SB-7-102.70-103.40-PHY | 102.7 | 103.4 | | 0.05 | 1.55 | 2.64 | 2.61 | 2.73 | 0.01 |
| 200-SB-7-116.30-117.00-PHY | 116.3 | 117 | | 0.16 | 6.70 | 2.46 | 2.30 | 2.72 | 0.20 |
| 200-SB-7-136.00-136.50-PHY | 136 | 136.5 | | 0.03 | 0.80 | 2.67 | 2.65 | 2.72 | 0.01 |
| 200-SB-7-151.30-152.00-PHY | 151.3 | 152 | | 0.02 | 0.65 | 2.67 | 2.65 | 2.71 | 0.01 |
| 200-SB-7-167.00-167.50-PHY | 167 | 167.5 | | 0.03 | 0.80 | 2.67 | 2.65 | 2.72 | 0.04 |
| 200-SB-7-196.50-197.00-PHY | 196.5 | 197 | | 0.01 | 0.30 | 2.69 | 2.69 | 2.72 | 0.14 |
| 200-SB-6-35.10-35.60-PHY | 35.1 | 35.6 | Limestone | 0.03 | 0.55 | 2.68 | 2.67 | 2.76 | 0.09 |
| 200-SB-6-59.50-60.00-PHY | 59.5 | 60 | | 0.16 | 6.20 | 2.50 | 2.36 | 2.78 | 0.07 |
| 200-SB-6-76.50-77.00-PHY | 76.5 | 77 | | 0.11 | 3.95 | 2.55 | 2.46 | 2.75 | 0.015 |
| 200-SB-6-96.30-96.80-PHY | 96.3 | 96.8 | | 0.04 | 0.55 | 2.72 | 2.70 | 2.79 | 0.11 |
| 200-SB-6-116.40-117.00-PHY | 116.4 | 117 | | 0.06 | 1.90 | 2.64 | 2.59 | 2.75 | 0.13 |
| 200-SB-6-136.80-137.30-PHY | 136.8 | 137.3 | | 0.08 | 2.70 | 2.62 | 2.55 | 2.76 | 0.33 |
| 200-SB-6-160.70-161.20-PHY | 160.7 | 161.2 | | 0.08 | 2.95 | 2.60 | 2.48 | 2.73 | 0.27 |
| 200-SB-6-187.80-188.30-PHY | 187.8 | 188.3 | | 0.03 | 0.50 | 2.68 | 2.67 | 2.74 | 0.74 |
| | | | **Minimum** | 0.01 | 0.30 | 2.46 | 2.30 | 2.71 | 0.01 |
| | | | **Maximum** | 0.16 | 6.70 | 2.72 | 2.70 | 2.82 | 0.74 |
| | | | **Average** | 0.06 | 2.16 | 2.63 | 2.58 | 2.75 | 0.15 |

**Notes:**

For shaded results, test was run two or more times. Reported value is average of tests.

## Table 4: Total VOC Concentrations in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | | | | | | | | | | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Location ID | Interval (linear feet) | Depth from linear ft | Depth to linear ft | Avg. Depth linear feet | Sample Lithology (2a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-7-57.40-VOC | | 57.4 - 57.5 | 57.4 | 57.5 | 57.45 | mudstone | BF | FS | 24.7 | U | 13.6 | J | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 247 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 5.67 | JB | 24.7 | U |
| 200-SB-7-58.50-VOC | | 58.5 - 58.6 | 58.5 | 58.6 | 58.55 | mudstone | f3 | MAT | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 307 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 8.28 | JB | 30.7 | U |
| 200-SB-7-58.75-VOC | | 58.75 - 58.85 | 58.75 | 58.85 | 58.8 | mudstone | AF | FS | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 231 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 23.1 | U | 4.86 | JB | 23.1 | U |
| 200-SB-7-59.70-VOC | | 59.7 - 59.8 | 59.7 | 59.8 | 59.75 | mudstone | AF | FS | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 292 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 6.71 | JB | 29.2 | U |
| 200-SB-7-61.40-VOC | | 61.4 - 61.5 | 61.4 | 61.5 | 61.45 | mudstone | AF | FS | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 191 | JB | 35.8 | U | 35.8 | U | 17.2 | J | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 35.8 | U | 9.30 | JB | 35.8 | U |
| 200-SB-7-62.00-VOC | | 62 - 62.1 | 62 | 62.1 | 62.05 | mudstone | BF | FS | 31.5 | U | 18.6 | J | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 315 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 31.5 | U | 6.62 | JB | 31.5 | U |
| 200-SB-7-62.40-VOC | | 62.4 - 62.5 | 62.4 | 62.5 | 62.45 | mudstone | f6 | MAT | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 275 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 5.50 | JB | 27.5 | U |
| 200-SB-7-64.00-VOC | | 64 - 64.1 | 64 | 64.1 | 64.05 | mudstone | BF | FS | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 280 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 28.0 | U | 6.15 | JB | 28.0 | U |
| 200-SB-7-64.50-VOC | | 64.5 - 64.6 | 64.5 | 64.6 | 64.55 | mudstone | BF | FS | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 307 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 30.7 | U | 7.05 | JB | 30.7 | U |
| 200-SB-7-65.90-VOC | 200-SB-7 | 65.9 - 66 | 65.9 | 66 | 65.95 | mudstone | BF | FS | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 372 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 8.55 | JB | 37.2 | U |
| 200-SB-7-66.50-VOC | | 66.5 - 66.6 | 66.5 | 66.6 | 66.55 | weathered mudstone | f6 | MAT | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 176 | JB | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 6.17 | JB | 25.7 | U |
| 200-SB-7-67.60-VOC | | 67.6 - 67.7 | 67.6 | 67.7 | 67.65 | weathered mudstone | BF | FS | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 475 | B | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 9.64 | JB | 40.2 | U |
| 200-SB-7-69.70-VOC | | 69.7 - 69.8 | 69.7 | 69.8 | 69.75 | limestone | AF | FS | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 244 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 24.4 | U | 7.82 | JB | 24.4 | U |
| 200-SB-7-70.60-VOC | | 70.6 - 70.7 | 70.6 | 70.7 | 70.65 | mudstone | f2 | MAT | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 353 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 11.6 | JB | 35.3 | U |
| 200-SB-7-70.80-VOC | | 70.8 - 70.9 | 70.8 | 70.9 | 70.85 | mudstone | AF | FS | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 334 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 10.7 | JB | 33.4 | U |
| 200-SB-7-71.30-VOC | | 71.3 - 71.4 | 71.3 | 71.4 | 71.35 | limestone | BF | FS | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 343 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 34.3 | U | 11.3 | JB | 34.3 | U |
| 200-SB-7-72.90-VOC | | 72.9 - 73 | 72.9 | 73 | 72.95 | limestone | BF | FS | 37.2 | U | 26.8 | J | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 372 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 11.2 | JB | 37.2 | U |
| 200-SB-7-73.20-VOC | | 73.2 - 73.3 | 73.2 | 73.3 | 73.25 | limestone | f5 | MAT | 31.3 | U | 23.1 | J | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 313 | U | 31.6 | | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 15.0 | JB | 31.3 | U |
| 200-SB-7-74.70-VOC | | 74.7 - 74.8 | 74.7 | 74.8 | 74.75 | limestone | AF | FS | 78.5 | | 27.9 | U | 19.8 | J | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 279 | U | 27.9 | U | 27.9 | U | 31.9 | | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 8.38 | JB | 27.9 | U |
| 200-SB-7-75.30-VOC | | 75.5 - 75.6 | 75.5 | 75.6 | 75.55 | mudstone weathered | AF | FS | 72.5 | Q | 56.7 | QB | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 386 | U | 38.6 | U | 38.6 | U | 35.1 | J | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 10.0 | JB | 38.6 | U |
| 200-SB-7-77.80-VOC | | 77.8 - 77.9 | 77.8 | 77.9 | 77.85 | limestone | BF | FS | 27.0 | UQ | 27.0 | UQ | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 270 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 27.0 | U | 7.56 | JB | 27.0 | U |
| 200-SB-7-80.70-VOC | | 80.7 - 80.8 | 80.7 | 80.8 | 80.75 | limestone | BF | FS | 31.6 | UQ | 31.6 | UQ | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 316 | U | 6.32 | J | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 9.80 | JB | 31.6 | U |
| 200-SB-7-80.90-VOC | | 80.9 - 81 | 80.9 | 81 | 80.95 | limestone | f3.5 | MAT | 32.7 | UQ | 32.7 | UQ | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 327 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 8.19 | JB | 32.7 | U |
| 200-SB-7-81.30-VOC | | 81.3 - 81.4 | 81.3 | 81.4 | 81.35 | limestone | BF | FS | 37.6 | UQ | 37.6 | UQ | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 376 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 9.01 | JB | 37.6 | U |
| 200-SB-7-82.00-VOC | | 82 - 82.1 | 82 | 82.1 | 82.05 | limestone | BF | FS | 32.4 | UQ | 32.4 | UQ | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 324 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 32.4 | U | 8.42 | JB | 32.4 | U |
| 200-SB-7-83.10-VOC | | 83.1 - 83.2 | 83.1 | 83.2 | 83.15 | limestone | BF | FS | 26.9 | UQ | 26.9 | UQ | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 269 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 26.9 | U | 7.27 | JB | 26.9 | U |
| 200-SB-7-84.60-VOC | | 84.6 - 84.7 | 84.6 | 84.7 | 84.65 | limestone | BF | FS | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 386 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U | 38.6 | U |
| 200-SB-7-84.80-VOC | | 84.8 - 84.9 | 84.8 | 84.9 | 84.85 | limestone | f3.5 | MAT | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 294 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U |
| 200-SB-7-85.90-VOC | | 85.9 - 86 | 85.9 | 86 | 85.95 | limestone | BF | FS | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 421 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U | 42.1 | U |
| 200-SB-7-87.60-VOC | 200-SB-7 | 87.6 - 87.7 | 87.6 | 87.7 | 87.65 | limestone | BF | FS | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 437 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U | 43.7 | U |
| 200-SB-7-88.10-VOC | | 88.1 - 88.2 | 88.1 | 88.2 | 88.15 | limestone | f6 | MAT | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 494 | U | 8.89 | J | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U |
| 200-SB-7-89.50-VOC | | 89.5 - 89.6 | 89.5 | 89.6 | 89.55 | limestone | BF | FS | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 422 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U | 42.2 | U |
| 200-SB-7-89.80-VOC | | 89.8 - 89.9 | 89.8 | 89.9 | 89.85 | limestone | F4 | MAT | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 449 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U | 44.9 | U |
| 200-SB-7-90.90-VOC | | 90.9 - 91 | 90.9 | 91 | 90.95 | limestone | BF | FS | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 608 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U | 60.8 | U |
| 200-SB-7-92.30-VOC | | 92.3 - 92.4 | 92.3 | 92.4 | 92.35 | limestone | BF | FS | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 618 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 61.8 | U | 20.4 | J | 61.8 | U |
| 200-SB-7-92.60-VOC | | 92.6 - 92.7 | 92.6 | 92.7 | 92.65 | limestone | f5 | MAT | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 669 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U | 66.9 | U |
| 200-SB-7-96.90-VOC | | 96.9 - 97 | 96.9 | 97 | 96.95 | limestone | BF | FS | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 460 | U | 46 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U | 46.0 | U |
| 200-SB-7-97.30-VOC | | 97.3 - 97.4 | 97.3 | 97.4 | 97.35 | limestone | f4 | MAT | 56.5 | U | 56.5 | U | 56.5 | U | 56.5 | U | 56.5 | U | 56.5 | U | 56.5 | U | 56.5 | U | 565 | U | 10.2 | J | 56.5 | U | 56.5 | U | 56.5 | U | 121 | | 56.5 | U | 56.5 | U | 56.5 | U | 56.5 | U | 22.6 | J | 56.5 | U |
| 200-SB-7-98.30-VOC | | 98.3 - 98.4 | 98.3 | 98.4 | 98.35 | limestone | BET | FS | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 559 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U | 55.9 | U |
| 200-SB-7-98.70-VOC | | 98.7 - 98.8 | 98.7 | 98.8 | 98.75 | limestone | f4 | MAT | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 539 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 16.7 | J | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U | 53.9 | U |
| 200-SB-7-99.80-VOC | | 99.8 - 99.9 | 99.8 | 99.9 | 99.85 | limestone | BF | FS | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 555 | U | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 17.2 | J | 55.5 | U | 55.5 | U | 55.5 | U | 55.5 | U | 15.0 | J | 55.5 | U |
| 200-SB-7-100.65-VOC | | 100.65 - 100.75 | 100.65 | 100.75 | 100.7 | limestone | AF | FS | 48.2 | U | 48.2 | U | 48.2 | U | 48.2 | U | 48.2 | U | 48.2 | U | 48.2 | U | 48.2 | U | 482 | U | 10.1 | J | 48.2 | U | 48.2 | U | 48.2 | U | 15.9 | J | 48.2 | U | 48.2 | U | 48.2 | U | 48.2 | U | 17.3 | J | 48.2 | U |
| 200-SB-7-102.10-VOC | | 102.1 - 102.2 | 102.1 | 102.2 | 102.15 | limestone | BF | FS | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 571 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 57.1 | U | 12.0 | J | 57.1 | U |
| 200-SB-7-102.40-VOC | | 102.4 - 102.5 | 102.4 | 102.5 | 102.45 | limestone | f4 | MAT | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 655 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 65.5 | U | 20.9 | J | 65.5 | U |
| 200-SB-7-103.70-VOC | | 103.7 - 103.8 | 103.7 | 103.8 | 103.75 | limestone | BF | FS | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 455 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U | 45.5 | U |
| 200-SB-7-104.80-VOC | | 104.8 - 104.9 | 104.8 | 104.9 | 104.85 | limestone | BF | FS | 53.9 | | 40.9 | U | 56.8 | | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 409 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U |
| 200-SB-7-105.10-VOC | | 105.1 - 105.2 | 105.1 | 105.2 | 105.15 | limestone | f4 | MAT | 263 | | 36.8 | U | 283 | | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U | 368 | U | 36.8 | U | 36.8 | U | 16.6 | J | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U | 36.8 | U |
| 200-SB-7-105.70-VOC | | 105.7 - 105.8 | 105.7 | 105.8 | 105.75 | limestone | BF | FS | 24.2 | J | 37.8 | U | 35.9 | J | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U | 378 | U | 37.8 | U | 37.8 | U | 23.4 | J | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U | 37.8 | U |
| 200-SB-7-106.50-VOC | | 106.5 - 106.6 | 106.5 | 106.6 | 106.55 | limestone | BF | FS | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 427 | U | 7.69 | J | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U | 42.7 | U |
| 200-SB-7-108.30-VOC | 200-SB-7 | 108.3 - 108.4 | 108.3 | 108.4 | 108.35 | limestone | BF | FS | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 405 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U |
| 200-SB-7-109.90-VOC | | 109.9 - 110 | 109.9 | 110 | 109.95 | clay | BET | FS | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 574 | U | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 14.3 | J | 57.4 | U | 57.4 | U | 57.4 | U | 57.4 | U | 12.1 | J | 57.4 | U |
| 200-SB-7-111.20-VOC | | 111.2 - 111.3 | 111.2 | 111.3 | 111.25 | limestone | AF | FS | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 376 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 12 | J | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 9.03 | J | 37.6 | U |
| 200-SB-7-112.90-VOC | | 112.9 - 113 | 112.9 | 113 | 112.95 | limestone | BF | FS | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 478 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 47.8 | U | 15.8 | J | 47.8 | U |
| 200-SB-7-113.20-VOC | | 113.2 - 113.3 | 113.2 | 113.3 | 113.25 | limestone | f4 | MAT | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 321 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 105 | | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 18.9 | J | 32.1 | U |

## Table 4: Total VOC Concentrations in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | | | | | | | | | | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear feet | Sample Lithology (2a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-7-115.50-VOC | | 115.5 - 115.6 | 115.5 | 115.6 | 115.55 | limestone | BF | FS | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 339 | U | 16.3 | J | 33.9 | U | 33.9 | U | 33.9 | U | 18.3 | J | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 7.8 | J | 33.9 | U |
| 200-SB-7-115.80-VOC | | 115.8 - 115.9 | 115.8 | 115.9 | 115.85 | limestone | f4 | MAT | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 321 | U | 118 | | 32.1 | U | 32.1 | U | 32.1 | U | 218 | | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 18.9 | J | 32.1 | U |
| 200-SB-7-117.10-VOC | | 117.1 - 117.2 | 117.1 | 117.2 | 117.15 | limestone | BF | FS | 78.7 | | 31.2 | U | 33.7 | | 31.2 | U | 31.2 | U | 31.2 | U | 31.2 | U | 31.2 | U | 312 | U | 5.00 | J | 31.2 | U | 31.2 | U | 31.2 | U | 15.3 | J | 31.2 | U | 31.2 | U | 31.2 | U | 31.2 | U | 5.62 | J | 31.2 | U |
| 200-SB-7-118.20-VOC | | 118.2 - 118.3 | 118.2 | 118.3 | 118.25 | clay | BET | FS | 23.3 | J | 35.4 | U | 35.4 | U | 35.4 | U | 35.4 | U | 35.4 | U | 35.4 | U | 35.4 | U | 354 | U | 35.4 | U | 35.4 | U | 26.9 | J | 35.4 | U | 15.9 | J | 35.4 | U | 35.4 | U | 35.4 | U | 35.4 | U | 6.36 | J | 35.4 | U |
| 200-SB-7-120.50-VOC | | 120.5 - 120.6 | 120.5 | 120.6 | 120.55 | limestone | BF | FS | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 173 | J | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 15.1 | J | 32.8 | U | 32.8 | U | 32.8 | U | 32.8 | U | 5.91 | J | 32.8 | U |
| 200-SB-7-121.00-VOC | | 121 - 121.1 | 121 | 121.1 | 121.05 | limestone | BF | FS | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 369 | U | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 17.0 | J | 36.9 | U | 36.9 | U | 36.9 | U | 36.9 | U | 7.01 | J | 36.9 | U |
| 200-SB-7-121.60-VOC | | 121.6 - 121.7 | 121.6 | 121.7 | 121.65 | limestone | BET | FS | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 335 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 17.1 | J | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 6.36 | J | 33.5 | U |
| 200-SB-7-123.30-VOC | | 123.3 - 123.4 | 123.3 | 123.4 | 123.35 | limestone | BF | FS | 25.9 | U | 21.2 | J | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 259 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 10.4 | J | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 4.66 | J | 25.9 | U |
| 200-SB-7-124.10-VOC | | 124.1 - 124.2 | 124.1 | 124.2 | 124.15 | limestone | BF | FS | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 352 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 15.8 | J | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 6.68 | J | 35.2 | U |
| 200-SB-7-125.10-VOC | | 125.1 - 125.2 | 125.1 | 125.2 | 125.15 | limestone | BF | FS | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 285 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 12.8 | J | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 5.13 | J | 28.5 | U |
| 200-SB-7-125.90-VOC | | 125.9 - 126 | 125.9 | 126 | 125.95 | limestone | AF | FS | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 300 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U |
| 200-SB-7-127.30-VOC | | 127.3 - 127.4 | 127.3 | 127.4 | 127.35 | mudstone | BET | FS | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 479 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U | 47.9 | U |
| 200-SB-7-127.70-VOC | | 127.7 - 127.8 | 127.7 | 127.8 | 127.75 | mudstone | f4 | MAT | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 338 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U | 33.8 | U |
| 200-SB-7-128.10-VOC | | 128.1 - 128.2 | 128.1 | 128.2 | 128.15 | limestone | f9 | MAT | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 402 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U |
| 200-SB-7-129.40-VOC | | 129.4 - 129.5 | 129.4 | 129.5 | 129.45 | limestone | BF | FS | 85.0 | | 40.9 | U | 89.9 | | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 409 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 40.9 | U | 12.3 | J | 40.9 | U |
| 200-SB-7-131.20-VOC | 200-SB-7 | 131.2 - 131.3 | 131.2 | 131.3 | 131.25 | limestone | BF | FS | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 316 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U | 31.6 | U |
| 200-SB-7-133.60-VOC | | 133.6 - 133.7 | 133.6 | 133.7 | 133.65 | limestone | BF | FS | 148 | | 36.3 | U | 202 | | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 363 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U |
| 200-SB-7-135.00-VOC | | 135 - 135.1 | 135 | 135.1 | 135.05 | limestone | BF | FS | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 349 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U |
| 200-SB-7-135.30-VOC | | 135.3 - 135.4 | 135.3 | 135.4 | 135.35 | limestone | AF | FS | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 366 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U |
| 200-SB-7-135.60-VOC | | 135.6 - 135.7 | 135.6 | 135.7 | 135.65 | Sandstone | BF | FS | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 376 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U | 37.6 | U |
| 200-SB-7-137.85-VOC | | 137.85 - 137.95 | 137.85 | 137.95 | 137.9 | limestone | BF | FS | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 293 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U |
| 200-SB-7-138.40-VOC | | 138.4 - 138.5 | 138.4 | 138.5 | 138.45 | limestone | BET | FS | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 219 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U | 21.9 | U |
| 200-SB-7-138.80-VOC | | 138.8 - 138.9 | 138.8 | 138.9 | 138.85 | limestone | BF | FS | 71.0 | | 27.4 | U | 75.4 | | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 274 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U | 27.4 | U |
| 200-SB-7-140.50-VOC | | 140.5 - 140.6 | 140.5 | 140.6 | 140.55 | breccia | BET | FS | 34.2 | U | 34.2 | U | 553 | | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 342 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U | 34.2 | U |
| 200-SB-7-140.80-VOC | | 140.8 - 140.9 | 140.8 | 140.9 | 140.85 | breccia | BF | FS | 32.2 | U | 32.2 | U | 120 | | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 322 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U | 32.2 | U |
| 200-SB-7-143.90-VOC | | 143.9 - 144 | 143.9 | 144 | 143.95 | limestone | BF | FS | 960 | | 29.2 | J | 2480 | | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | 310 | U | 31.0 | U | 31.0 | U | 18.6 | J | 31.0 | U | 31 | U | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U | 31.0 | U |
| 200-SB-7-144.20-VOC | | 144.2 - 144.3 | 144.2 | 144.3 | 144.25 | limestone | f4 | MAT | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 309 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U |
| 200-SB-7-144.70-VOC | | 144.7 - 144.8 | 144.7 | 144.8 | 144.75 | limestone | BF | FS | 29.4 | U | 46.7 | | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 294 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U | 29.4 | U |
| 200-SB-7-146.40-VOC | | 146.4 - 146.5 | 146.4 | 146.5 | 146.45 | limestone | BF | FS | 31.1 | U | 39.8 | | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 311 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U |
| 200-SB-7-148.10-VOC | | 148.1 - 148.2 | 148.1 | 148.2 | 148.15 | limestone | BF | FS | 28.2 | U | 16.1 | J | 25.1 | J | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 282 | U | 4.24 | J | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 5.65 | J | 28.2 | U |
| 200-SB-7-148.70-VOC | | 148.7 - 148.8 | 148.7 | 148.8 | 148.75 | limestone | BF | FS | 26.8 | U | 20.1 | J | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 268 | U | 8.03 | J | 26.8 | U | 26.8 | U | 26.8 | U | 45.0 | | 35.1 | | 26.8 | U | 26.8 | U | 26.8 | U | 74.4 | | 26.8 | U |
| 200-SB-7-149.90-VOC | | 149.9 - 150 | 149.9 | 150 | 149.95 | limestone | AF | FS | 23.4 | J | 33.5 | U | 88.4 | | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 335 | U | 33.5 | U | 33.5 | U | 35.5 | | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U |
| 200-SB-7-152.80-VOC | | 152.8 - 152.9 | 152.8 | 152.9 | 152.85 | clay | BET | FS | 46.1 | U | 46.1 | U | 46.5 | | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 461 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 46.1 | U | 15.2 | J | 46.1 | U |
| 200-SB-7-153.50-VOC | | 153.5 - 153.6 | 153.5 | 153.6 | 153.55 | limestone | BF | FS | 27.8 | U | 27.8 | U | 27.8 | U | 27.8 | U | 27.8 | U | 27.8 | U | 27.8 | U | 27.8 | U | 278 | U | 5.56 | J | 27.8 | U | 27.8 | U | 27.8 | U | 13.6 | J | 27.8 | U | 27.8 | U | 27.8 | U | 27.8 | U | 17.8 | J | 27.8 | U |
| 200-SB-7-154.50-VOC | | 154.5 - 154.6 | 154.5 | 154.6 | 154.55 | limestone | BF | FS | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 300 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U |
| 200-SB-7-155.00-VOC | 200-SB-7 | 155 - 155.1 | 155 | 155.1 | 155.05 | limestone | f5 | MAT | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 367 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U | 36.7 | U |
| 200-SB-7-155.50-VOC | | 155.5 - 155.6 | 155.5 | 155.6 | 155.55 | limestone | BF | FS | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 341 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U |
| 200-SB-7-159.60-VOC | | 159.6 - 159.7 | 159.6 | 159.7 | 159.65 | limestone | BET | FS | 29.2 | J | 42.3 | U | 157 | | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 423 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U | 42.3 | U |
| 200-SB-7-160.20-VOC | | 160.2 - 160.3 | 160.2 | 160.3 | 160.25 | limestone | BF | FS | 35.6 | U | 35.6 | U | 126 | | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 356 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U | 35.6 | U |
| 200-SB-7-160.60-VOC | | 160.6 - 160.7 | 160.6 | 160.7 | 160.65 | limestone | f4 | MAT | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 373 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U | 37.3 | U |
| 200-SB-7-161.10-VOC | | 161.1 - 161.2 | 161.1 | 161.2 | 161.15 | limestone | f10 | MAT | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 317 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U |
| 200-SB-7-162.20-VOC | | 162.2 - 162.3 | 162.2 | 162.3 | 162.25 | limestone | BF | FS | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 374 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U | 37.4 | U |
| 200-SB-7-162.30-VOC | | 162.3 - 162.4 | 162.3 | 162.4 | 162.35 | limestone | BF | FS | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 281 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U |
| 200-SB-7-164.70-VOC | | 164.7 - 164.8 | 164.7 | 164.8 | 164.75 | limestone | BET | FS | 40.9 | | 24.6 | U | 169 | | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 246 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U | 24.6 | U |
| 200-SB-7-166.20-VOC | | 166.2 - 166.3 | 166.2 | 166.3 | 166.25 | limestone | BF | FS | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 162 | J | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U |
| 200-SB-7-166.70-VOC | | 166.7 - 166.8 | 166.7 | 166.8 | 166.75 | limestone | BET | FS | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 318 | U | 31.8 | J | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U |
| 200-SB-7-168.80-VOC | | 168.8 - 168.9 | 168.8 | 168.9 | 168.85 | limestone | BF | FS | 38.0 | U | 44.9 | | 38 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38.0 | U | 380 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38.0 | U | 38.0 | U |
| 200-SB-7-170.10-VOC | | 170.1 - 170.2 | 170.1 | 170.2 | 170.15 | limestone | BF | FS | 35.0 | U | 35.0 | U | 66.5 | | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 228 | J | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U |
| 200-SB-7-171.00-VOC | | 171 - 171.1 | 171 | 171.1 | 171.05 | limestone | BF | FS | 28.1 | U | 28.1 | U | 27.0 | J | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 281 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U |
| 200-SB-7-172.40-VOC | | 172.4 - 172.5 | 172.4 | 172.5 | 172.45 | limestone | BF | FS | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 261 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U |
| 200-SB-7-172.65-VOC | | 172.65 - 172.7 | 172.65 | 172.7 | 172.675 | limestone | BF | FS | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 355 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U |
| 200-SB-7-173.70-VOC | | 173.7 - 173.8 | 173.7 | 173.8 | 173.75 | clay | BET | FS | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 445 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U | 44.5 | U |
| 200-SB-7-174.10-VOC | | 174.1 - 174.2 | 174.1 | 174.2 | 174.15 | limestone | f5 | MAT | 67.5 | U | 169 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 675 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U | 67.5 | U |
| 200-SB-7-175.30-VOC | | 175.3 - 175.4 | 175.3 | 175.4 | 175.35 | clay | BET | FS | 74.8 | U | 187 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 748 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U |

## Table 4: Total VOC Concentrations in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | | | | | | | | | | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear feet | Sample Lithology (2a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-7-176.90-VOC | | 176.9 - 177 | 176.9 | 177 | 176.95 | limestone | BF | FS | 70.0 | U | 175 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 700 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U | 70.0 | U |
| 200-SB-7-178.15-VOC | 200-SB-7 | 178.15 - 178.25 | 178.15 | 178.25 | 178.2 | limestone | NA | MAT | 65.8 | U | 165 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 658 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U | 65.8 | U |
| 200-SB-7-180.10-VOC | | 180.1 - 180.2 | 180.1 | 180.2 | 180.15 | limestone | AF | FS | 56.6 | U | 141 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 566 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U |
| 200-SB-7-180.60-VOC | | 180.6 - 180.7 | 180.6 | 180.7 | 180.65 | clay goudge | f5 | MAT | 84.6 | U | 212 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 846 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U | 84.6 | U |
| 200-SB-7-182.10-VOC | | 182.1 - 182.2 | 182.1 | 182.2 | 182.15 | limestone | BET | FS | 66.1 | U | 165 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 661 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U | 66.1 | U |
| 200-SB-7-182.90-VOC | | 182.9 - 183 | 182.9 | 183 | 182.95 | limestone | BET | FS | 76.5 | U | 191 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 765 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U | 76.5 | U |
| 200-SB-7-183.60-VOC | | 183.6 - 183.7 | 183.6 | 183.7 | 183.65 | limestone | BF | FS | 56.2 | U | 141 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 562 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U | 56.2 | U |
| 200-SB-7-184.20-VOC | | 184.2 - 184.3 | 184.2 | 184.3 | 184.25 | limestone | f6 | MAT | 81.8 | U | 204 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 818 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U |
| 200-SB-7-185.40-VOC | | 185.4 - 185.5 | 185.4 | 185.5 | 185.45 | limestone | BF | FS | 78.0 | U | 195 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 780 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U | 78.0 | U |
| 200-SB-7-187.30-VOC | | 187.3 - 187.4 | 187.3 | 187.4 | 187.35 | limestone | BET | FS | 63.5 | U | 159 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 635 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U | 63.5 | U |
| 200-SB-7-188.20-VOC | | 188.2 - 188.3 | 188.2 | 188.3 | 188.25 | limestone | BF | FS | 57.5 | U | 144 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 575 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U | 57.5 | U |
| 200-SB-7-188.80-VOC | | 188.8 - 188.9 | 188.8 | 188.9 | 188.85 | limestone | BET | FS | 56.0 | U | 140 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 560 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U | 56.0 | U |
| 200-SB-7-189.80-VOC | | 189.8 - 189.9 | 189.8 | 189.9 | 189.85 | limestone | BF | FS | 56.7 | U | 142 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 567 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U | 56.7 | U |
| 200-SB-7-193.10-VOC | | 193.1 - 193.2 | 193.1 | 193.2 | 193.15 | limestone | BET | FS | 89.3 | U | 223 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 893 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U | 89.3 | U |
| 200-SB-7-194.00-VOC | | 194 - 194.1 | 194 | 194.1 | 194.05 | limestone | BET | FS | 69.0 | U | 172 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 690 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U | 69.0 | U |
| 200-SB-7-194.50-VOC | | 194.5 - 194.6 | 194.5 | 194.6 | 194.55 | limestone | BF | FS | 64.9 | U | 162 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 649 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U |
| 200-SB-7-196.50-VOC | 200-SB-7 | 196.5 - 196.6 | 196.5 | 196.6 | 196.55 | limestone | BF | FS | 61.6 | U | 154 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 616 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U | 61.6 | U |
| 200-SB-7-198.60-VOC | | 198.6 - 198.7 | 198.6 | 198.7 | 198.65 | limestone | BF | FS | 49.5 | U | 124 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 495 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U | 49.5 | U |
| 200-SB-7-199.20-VOC | | 199.2 - 199.3 | 199.2 | 199.3 | 199.25 | limestone | BF | FS | 77.8 | U | 194 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 778 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U | 77.8 | U |
| 200-SB-7-200.50-VOC | | 200.5 - 200.6 | 200.5 | 200.6 | 200.55 | limestone | BF | FS | 55.4 | U | 139 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 554 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U | 55.4 | U |
| 200-SB-7-200.80-VOC | | 200.8 - 200.9 | 200.8 | 200.9 | 200.85 | limestone | f4 | MAT | 72.7 | U | 182 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 727 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U | 72.7 | U |
| 200-SB-6-20.50-VOC | | 20.5 - 20.6 | 20.5 | 20.6 | 20.55 | mudstone | BET | FS | 100 | U | 251 | U | 100 | U | 100 | U | 100 | U | 100 | U | 100 | U | 100 | U | 1000 | U | 100 | U | 100 | U | 59.8 | J | 100 | U | 100 | U | 100 | U | 100 | U | 100 | U | 100 | U | 100 | U | 100 | U |
| 200-SB-6-21.60-VOC | | 21.6 - 21.7 | 21.6 | 21.7 | 21.65 | mudstone | BF | FS | 67.0 | U | 168 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 670 | U | 67.0 | U | 67.0 | U | 93.8 | | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U | 67.0 | U |
| 200-SB-6-22.80-VOC | | 22.8 - 22.9 | 22.8 | 22.9 | 22.85 | mudstone | BET | FS | 74.8 | U | 187 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 748 | U | 74.8 | U | 74.8 | U | 83.0 | | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U | 74.8 | U |
| 200-SB-6-26.40-VOC | | 26.4 - 26.5 | 26.4 | 26.5 | 26.45 | mudstone | BET | FS | 67.1 | U | 168 | U | 67.1 | U | 67.1 | U | 67.1 | U | 67.1 | U | 67.1 | U | 67.1 | U | 671 | U | 67.1 | U | 67.1 | U | 120 | | 67.1 | U | 67.1 | U | 67.1 | U | 36.2 | J | 67.1 | U | 67.1 | U | 67.1 | U | 67.1 | U |
| 200-SB-6-27.00-VOC | | 27 - 27.1 | 27 | 27.1 | 27.05 | mudstone | BF | FS | 67.9 | U | 170 | U | 67.9 | U | 67.9 | U | 67.9 | U | 67.9 | U | 67.9 | U | 67.9 | U | 679 | U | 67.9 | U | 67.9 | U | 147 | | 67.9 | U | 67.9 | U | 67.9 | U | 46.2 | J | 67.9 | U | 67.9 | U | 67.9 | U | 67.9 | U |
| 200-SB-6-27.90-VOC | | 27.9 - 28 | 27.9 | 28 | 27.95 | mudstone | BF | FS | 60.0 | U | 150 | U | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U | 600 | U | 60.0 | U | 60.0 | U | 120 | | 60.0 | U | 60.0 | U | 60.0 | U | 54.0 | J | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U |
| 200-SB-6-28.60-VOC | | 28.6 - 28.7 | 28.6 | 28.7 | 28.65 | mudstone | BF | FS | 64.8 | U | 162 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 648 | U | 64.8 | U | 64.8 | U | 101 | | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U | 64.8 | U |
| 200-SB-6-29.50-VOC | | 29.5 - 29.6 | 29.5 | 29.6 | 29.55 | mudstone | BF | FS | 66.3 | U | 166 | U | 66.3 | U | 66.3 | U | 66.3 | U | 66.3 | U | 66.3 | U | 66.3 | U | 663 | U | 66.3 | U | 66.3 | U | 117 | | 66.3 | U | 66.3 | U | 66.3 | U | 40.7 | J | 66.3 | U | 66.3 | U | 66.3 | U | 66.3 | U |
| 200-SB-6-33.00-VOC | | 33 - 33.1 | 33 | 33.1 | 33.05 | limestone | BET | FS | 70.5 | U | 176 | U | 70.5 | U | 70.5 | U | 70.5 | U | 70.5 | U | 70.5 | U | 70.5 | U | 705 | U | 70.5 | U | 70.5 | U | 227 | | 70.5 | U | 70.5 | U | 70.5 | U | 62.0 | J | 70.5 | U | 70.5 | U | 70.5 | U | 70.5 | U |
| 200-SB-6-33.50-VOC | 200-SB-6 | 33.5 - 33.6 | 33.5 | 33.6 | 33.55 | limestone | f6 | MAT | 49.4 | U | 124 | U | 31.1 | J | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 494 | U | 49.4 | U | 49.4 | U | 54.9 | | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U |
| 200-SB-6-34.40-VOC | | 34.4 - 34.5 | 34.4 | 34.5 | 34.45 | limestone | BF | FS | 57.7 | U | 144 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 577 | U | 57.7 | U | 57.7 | U | 116 | | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U | 57.7 | U |
| 200-SB-6-35.80-VOC | | 35.8 - 35.9 | 35.8 | 35.9 | 35.85 | limestone | BET | FS | 66.0 | U | 165 | U | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U | 660 | U | 66.0 | U | 66.0 | U | 465 | | 66.0 | U | 66.0 | U | 66.0 | U | 121 | | 66.0 | U | 66.0 | U | 66.0 | U | 66.0 | U |
| 200-SB-6-37.50-VOC | | 37.5 - 37.6 | 37.5 | 37.6 | 37.55 | limestone | BF | FS | 81.8 | U | 204 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U | 818 | U | 81.8 | U | 81.8 | U | 320 | | 81.8 | U | 81.8 | U | 81.8 | U | 69.5 | J | 81.8 | U | 81.8 | U | 81.8 | U | 81.8 | U |
| 200-SB-6-38.30-VOC | | 38.3 - 38.4 | 38.3 | 38.4 | 38.35 | limestone | BF | FS | 74.6 | U | 186 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 746 | U | 74.6 | U | 74.6 | U | 121 | | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U | 74.6 | U |
| 200-SB-6-39.80-VOC | | 39.8 - 39.9 | 39.8 | 39.9 | 39.85 | limestone | BF | FS | 51.0 | U | 128 | U | 51.0 | U | 51.0 | U | 51.0 | U | 51.0 | U | 51.0 | U | 51.0 | U | 510 | U | 51.0 | U | 51.0 | U | 293 | | 51.0 | U | 51.0 | U | 51.0 | U | 57.9 | | 51.0 | U | 51.0 | U | 51.0 | U | 51.0 | U |
| 200-SB-6-40.40-VOC | | 40.4 - 40.5 | 40.4 | 40.5 | 40.45 | limestone | AF | FS | 94.0 | U | 235 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 940 | U | 94.0 | U | 94.0 | U | 203 | | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U | 94.0 | U |
| 200-SB-6-41.90-VOC | | 41.9 - 42 | 41.9 | 42 | 41.95 | limestone | BET | FS | 48.1 | U | 120 | U | 48.1 | U | 48.1 | U | 48.1 | U | 48.1 | U | 48.1 | U | 48.1 | U | 481 | U | 48.1 | U | 48.1 | U | 153 | | 48.1 | U | 48.1 | U | 48.1 | U | 34.4 | J | 48.1 | U | 48.1 | U | 48.1 | U | 48.1 | U |
| 200-SB-6-42.90-VOC | | 42.9 - 43 | 42.9 | 43 | 42.95 | limestone | AF | FS | 60.5 | U | 151 | U | 60.5 | U | 60.5 | U | 60.5 | U | 60.5 | U | 60.5 | U | 60.5 | U | 605 | U | 60.5 | U | 60.5 | U | 180 | | 60.5 | U | 60.5 | U | 60.5 | U | 40.9 | J | 60.5 | U | 60.5 | U | 60.5 | U | 60.5 | U |
| 200-SB-6-43.30-VOC | | 43.3 - 43.4 | 43.3 | 43.4 | 43.35 | limestone | BF | FS | 64.6 | U | 161 | U | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U | 646 | U | 64.6 | U | 64.6 | U | 188 | | 64.6 | U | 64.6 | U | 64.6 | U | 42.3 | J | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U |
| 200-SB-6-46.50-VOC | | 46.5 - 46.6 | 46.5 | 46.6 | 46.55 | limestone | BF | FS | 65.0 | U | 163 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 650 | U | 65.0 | U | 65.0 | U | 118 | | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U | 65.0 | U |
| 200-SB-6-47.10-VOC | | 47.1 - 47.2 | 47.1 | 47.2 | 47.15 | limestone | BF | FS | 62.3 | U | 156 | U | 62.3 | U | 62.3 | U | 62.3 | U | 62.3 | U | 62.3 | U | 62.3 | U | 623 | U | 62.3 | U | 62.3 | U | 167 | | 62.3 | U | 62.3 | U | 62.3 | U | 37.1 | J | 62.3 | U | 62.3 | U | 62.3 | U | 62.3 | U |
| 200-SB-6-47.65-VOC | | 47.65 - 47.75 | 47.65 | 47.75 | 47.7 | limestone | BF | FS | 69.5 | U | 174 | U | 69.5 | U | 69.5 | U | 69.5 | U | 69.5 | U | 69.5 | U | 69.5 | U | 695 | U | 69.5 | U | 69.5 | U | 137 | | 69.5 | U | 69.5 | U | 69.5 | U | 36.8 | J | 69.5 | U | 69.5 | U | 69.5 | U | 69.5 | U |
| 200-SB-6-48.65-VOC | | 48.65 - 48.75 | 48.65 | 48.75 | 48.7 | limestone | BF | FS | 72.9 | U | 182 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 729 | U | 72.9 | U | 72.9 | U | 68.9 | J | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U | 72.9 | U |
| 200-SB-6-49.70-VOC | | 49.7 - 49.8 | 49.7 | 49.8 | 49.75 | limestone | BET | FS | 61.5 | U | 154 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 615 | U | 61.5 | U | 61.5 | U | 48.9 | J | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U | 61.5 | U |
| 200-SB-6-51.20-VOC | | 51.2 - 51.3 | 51.2 | 51.3 | 51.25 | limestone | BF | FS | 80.8 | U | 202 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 808 | U | 80.8 | U | 80.8 | U | 110 | | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U | 80.8 | U |
| 200-SB-6-51.60-VOC | | 51.6 - 51.7 | 51.6 | 51.7 | 51.65 | limestone | f5 | MAT | 55.1 | U | 138 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 551 | U | 55.1 | U | 55.1 | U | 39.1 | J | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U | 55.1 | U |
| 200-SB-6-53.40-VOC | | 53.4 - 53.5 | 53.4 | 53.5 | 53.45 | clay gouge | BET | FS | 61.5 | UJ | 154 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 615 | UJ | 61.5 | UJ | 61.5 | UJ | 129 | J | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ | 61.5 | UJ |
| 200-SB-6-55.70-VOC | | 55.7 - 55.8 | 55.7 | 55.8 | 55.75 | limestone | BF | FS | 38.8 | UQ | 38.8 | UQ | 219 | | 38.8 | U | 38.8 | U | 38.8 | U | 38.8 | U | 38.8 | U | 237 | J | 38.8 | U | 38.8 | U | 921 | | 38.8 | U | 38.8 | U | 38.8 | U | 91.5 | | 38.8 | U | 38.8 | U | 9.31 | JB | 38.8 | U |
| 200-SB-6-56.10-VOC | | 56.1 - 56.2 | 56.1 | 56.2 | 56.15 | limestone | BF | FS | 28.8 | UQ | 28.8 | UQ | 328 | | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 176 | J | 28.8 | U | 28.8 | U | 638 | | 28.8 | U | 28.8 | U | 28.8 | U | 76.3 | | 28.8 | U | 28.8 | U | 6.91 | JB | 28.8 | U |
| 200-SB-6-57.60-VOC | 200-SB-6 | 57.6 - 57.7 | 57.6 | 57.7 | 57.65 | limestone | BF | FS | 35.9 | UQ | 35.9 | UQ | 231 | | 35.9 | U | 35.9 | U | 35.9 | U | 35.9 | U | 35.9 | U | 359 | U | 35.9 | U | 35.9 | U | 223 | | 35.9 | U | 35.9 | U | 35.9 | U | 29.8 | J | 35.9 | U | 35.9 | U | 8.61 | JB | 35.9 | U |
| 200-SB-6-58.60-VOC | | 58.6 - 58.7 | 58.6 | 58.7 | 58.65 | limestone | BF | FS | 41.2 | U | 42.4 | | 554 | | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 412 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 41.2 | U | 11.1 | JB | 41.2 | U |
| 200-SB-6-60.00-VOC | | 60 - 60.1 | 60 | 60.1 | 60.05 | limestone | BF | FS | 32.7 | U | 32.7 | U | 1100 | | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 327 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 32.7 | U | 9.15 | JB | 32.7 | U |
| 200-SB-6-61.25-VOC | | 61.25 - 61.35 | 61.25 | 61.35 | 61.3 | limestone | BF | FS | 28.1 | U | 28.1 | U | 862 | | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 281 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 28.1 | U | 7.03 | JB | 28.1 | U |

## Table 4: Total VOC Concentrations in Rock Core Samples

| Sample ID | Location ID | Interval (linear feet) | Depth from | Depth to | Avg. Depth | Comments/Interpretation (2): Sample Lithology (2a) | Position Relative to Feature (2b) | Sample Type (2c) |
|---|---|---|---|---|---|---|---|---|
| | | | linear ft | linear ft | linear feet | | | |
| 200-SB-6-63.20-VOC | | 63.2 - 63.3 | 63.2 | 63.3 | 63.25 | limestone | BF | FS |
| 200-SB-6-64.40-VOC | | 64.4 - 64.5 | 64.4 | 64.5 | 64.45 | limestone | BF | FS |
| 200-SB-6-64.80-VOC | | 64.8 - 64.9 | 64.8 | 64.9 | 64.85 | limestone | BF | FS |
| 200-SB-6-65.20-VOC | | 65.2 - 65.3 | 65.2 | 65.3 | 65.25 | limestone | BF | FS |
| 200-SB-6-65.60-VOC | | 65.6 - 65.7 | 65.6 | 65.7 | 65.65 | limestone | f4 | MAT |
| 200-SB-6-68.50-VOC | | 68.5 - 68.6 | 68.5 | 68.6 | 68.55 | limestone | BF | FS |
| 200-SB-6-69.50-VOC | | 69.5 - 69.6 | 69.5 | 69.6 | 69.55 | limestone | BET | FS |
| 200-SB-6-70.70-VOC | 200-SB-6 | 70.7 - 70.8 | 70.7 | 70.8 | 70.75 | limestone | BF | FS |
| 200-SB-6-71.50-VOC | | 71.5 - 71.6 | 71.5 | 71.6 | 71.55 | limestone | BF | FS |
| 200-SB-6-72.60-VOC | | 72.6 - 72.7 | 72.6 | 72.7 | 72.65 | limestone | BET | FS |
| 200-SB-6-73.10-VOC | | 73.1 - 73.2 | 73.1 | 73.2 | 73.15 | limestone | f6 | MAT |
| 200-SB-6-73.80-VOC | | 73.8 - 73.9 | 73.8 | 73.9 | 73.85 | limestone | BF | FS |
| 200-SB-6-76.10-VOC | | 76.1 - 76.2 | 76.1 | 76.2 | 76.15 | limestone | BF | FS |
| 200-SB-6-77.20-VOC | | 77.2 - 77.3 | 77.2 | 77.3 | 77.25 | limestone | BET | FS |
| 200-SB-6-78.40-VOC | | 78.4 - 78.5 | 78.4 | 78.5 | 78.45 | limestone | BF | FS |
| 200-SB-6-78.80-VOC | | 78.8 - 78.9 | 78.8 | 78.9 | 78.85 | limestone | f4 | MAT |
| 200-SB-6-79.00-VOC | | 79 - 79.1 | 79 | 79.1 | 79.05 | limestone | f6 | MAT |
| 200-SB-6-83.80-VOC | | 83.8 - 83.9 | 83.8 | 83.9 | 83.85 | limestone | BET | FS |
| 200-SB-6-84.20-VOC | | 84.2 - 84.3 | 84.2 | 84.3 | 84.25 | limestone | BF | FS |
| 200-SB-6-86.60-VOC | | 86.6 - 86.7 | 86.6 | 86.7 | 86.65 | limestone | BF | FS |
| 200-SB-6-86.90-VOC | | 86.9 - 87 | 86.9 | 87 | 86.95 | limestone | f4 | MAT |
| 200-SB-6-87.60-VOC | | 87.6 - 87.7 | 87.6 | 87.7 | 87.65 | limestone | BF | FS |
| 200-SB-6-90.20-VOC | | 90.2 - 90.3 | 90.2 | 90.3 | 90.25 | limestone | BF | FS |
| 200-SB-6-90.90-VOC | | 90.9 - 91 | 90.9 | 91 | 90.95 | limestone | BF | FS |
| 200-SB-6-91.20-VOC | | 91.2 - 91.3 | 91.2 | 91.3 | 91.25 | limestone | f4 | MAT |
| 200-SB-6-93.50-VOC | | 93.5 - 93.6 | 93.5 | 93.6 | 93.55 | limestone | BF | FS |
| 200-SB-6-94.00-VOC | | 94 - 94.1 | 94 | 94.1 | 94.05 | limestone | f6 | MAT |
| 200-SB-6-94.80-VOC | 200-SB-6 | 94.8 - 94.9 | 94.8 | 94.9 | 94.85 | limestone | BF | FS |
| 200-SB-6-95.25-VOC | | 95.25 - 95.35 | 95.25 | 95.35 | 95.3 | limestone | f5 | MAT |
| 200-SB-6-95.55-VOC | | 95.55 - 95.65 | 95.55 | 95.65 | 95.6 | limestone | f9 | MAT |
| 200-SB-6-100.20-VOC | | 100.2 - 100.3 | 100.2 | 100.3 | 100.25 | limestone | BF | FS |
| 200-SB-6-100.50-VOC | | 100.5 - 100.6 | 100.5 | 100.6 | 100.55 | limestone | f4 | MAT |
| 200-SB-6-103.10-VOC | | 103.1 - 103.2 | 103.1 | 103.2 | 103.15 | limestone | BF | FS |
| 200-SB-6-104.10-VOC | | 104.1 - 104.2 | 104.1 | 104.2 | 104.15 | limestone | BF | FS |
| 200-SB-6-104.50-VOC | | 104.5 - 104.6 | 104.5 | 104.6 | 104.55 | limestone | f4 | MAT |
| 200-SB-6-105.65-VOC | | 105.65 - 105.75 | 105.65 | 105.75 | 105.7 | limestone | BF | FS |
| 200-SB-6-106.50-VOC | | 106.5 - 106.6 | 106.5 | 106.6 | 106.55 | limestone | BF | FS |
| 200-SB-6-108.50-VOC | | 108.5 - 108.6 | 108.5 | 108.6 | 108.55 | limestone | BF | FS |
| 200-SB-6-110.40-VOC | | 110.4 - 110.5 | 110.4 | 110.5 | 110.45 | limestone | BF | FS |
| 200-SB-6-110.75-VOC | | 110.75 - 110.85 | 110.75 | 110.85 | 110.8 | limestone | f4 | MAT |
| 200-SB-6-111.40-VOC | | 111.4 - 111.5 | 111.4 | 111.5 | 111.45 | limestone | BF | FS |
| 200-SB-6-113.90-VOC | | 113.9 - 114 | 113.9 | 114 | 113.95 | limestone | BF | FS |
| 200-SB-6-114.20-VOC | | 114.2 - 114.3 | 114.2 | 114.3 | 114.25 | limestone | f4 | MAT |
| 200-SB-6-114.80-VOC | | 114.8 - 114.9 | 114.8 | 114.9 | 114.85 | limestone | BF | FS |
| 200-SB-6-115.50-VOC | | 115.5 - 115.6 | 115.5 | 115.6 | 115.55 | limestone | BF | FS |
| 200-SB-6-115.80-VOC | | 115.8 - 115.9 | 115.8 | 115.9 | 115.85 | limestone | f4 | MAT |
| 200-SB-6-118.90-VOC | | 118.9 - 119 | 118.9 | 119 | 118.95 | limestone | BF | FS |
| 200-SB-6-119.20-VOC | | 119.2 - 119.3 | 119.2 | 119.3 | 119.25 | limestone | f4 | MAT |
| 200-SB-6-119.55-VOC | | 119.55 - 119.65 | 119.55 | 119.65 | 119.6 | limestone | f9 | MAT |
| 200-SB-6-120.80-VOC | | 120.8 - 120.9 | 120.8 | 120.9 | 120.85 | limestone | BF | FS |
| 200-SB-6-121.10-VOC | | 121.1 - 121.2 | 121.1 | 121.2 | 121.15 | limestone | f4 | MAT |
| 200-SB-6-124.80-VOC | | 124.8 - 124.9 | 124.8 | 124.9 | 124.85 | limestone | BF | FS |
| 200-SB-6-125.10-VOC | | 125.1 - 125.2 | 125.1 | 125.2 | 125.15 | limestone | f4 | MAT |
| 200-SB-6-127.00-VOC | | 127 - 127.1 | 127 | 127.1 | 127.05 | limestone | f10 | MAT |

TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3)

| Sample ID | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-6-63.20-VOC | 36.6 | U | 49.8 | | 1080 | | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 366 | U | 36.6 | U |
| 200-SB-6-64.40-VOC | 33.4 | U | 41.4 | | 446 | | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 334 | U | 33.4 | U |
| 200-SB-6-64.80-VOC | 29.8 | U | 29.8 | U | 508 | | 29.8 | U | 29.8 | U | 29.8 | U | 29.8 | U | 29.8 | U | 298 | U | 29.8 | U |
| 200-SB-6-65.20-VOC | 36.2 | U | 46.4 | | 467 | | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 362 | U | 5.79 | J |
| 200-SB-6-65.60-VOC | 51.8 | U | 51.8 | U | 575 | | 51.8 | U | 51.8 | U | 51.8 | U | 51.8 | U | 51.8 | U | 518 | U | 8.81 | J |
| 200-SB-6-68.50-VOC | 24.9 | UQ | 24.9 | UQ | 282 | | 24.9 | U | 24.9 | U | 24.9 | U | 24.9 | U | 24.9 | U | 249 | U | 11.5 | J |
| 200-SB-6-69.50-VOC | 33.4 | UQ | 33.4 | UQ | 184 | | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 216 | J | 8.02 | J |
| 200-SB-6-70.70-VOC | 25.7 | UQ | 25.7 | UQ | 96.1 | | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 257 | U | 3.85 | J |
| 200-SB-6-71.50-VOC | 28.8 | UQ | 28.8 | UQ | 39.2 | | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 288 | U | 4.61 | J |
| 200-SB-6-72.60-VOC | 28.9 | UQ | 28.9 | UQ | 391 | | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 289 | U | 7.80 | J |
| 200-SB-6-73.10-VOC | 29.6 | UQ | 29.6 | UQ | 450 | | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 155 | J | 29.6 | U |
| 200-SB-6-73.80-VOC | 32.9 | UQ | 32.9 | UQ | 390 | | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 426 | | 6.25 | J |
| 200-SB-6-76.10-VOC | 35.3 | UQ | 35.3 | UQ | 151 | | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 554 | | 11.6 | J |
| 200-SB-6-77.20-VOC | 26.7 | UQ | 29.7 | Q | 40.9 | | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 145 | J | 26.7 | U |
| 200-SB-6-78.40-VOC | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 348 | U | 34.8 | U |
| 200-SB-6-78.80-VOC | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 357 | UJ | 35.7 | UJ |
| 200-SB-6-79.00-VOC | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 396 | U | 39.6 | U |
| 200-SB-6-83.80-VOC | 25.4 | U | 25.4 | U | 95.5 | | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 254 | U | 25.4 | U |
| 200-SB-6-84.20-VOC | 33.5 | U | 23.8 | JB | 120 | | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 335 | U | 33.5 | U |
| 200-SB-6-86.60-VOC | 33.1 | U | 26.8 | JB | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 331 | U | 33.1 | U |
| 200-SB-6-86.90-VOC | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 225 | U | 22.5 | U |
| 200-SB-6-87.60-VOC | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 361 | U | 36.1 | U |
| 200-SB-6-90.20-VOC | 28.6 | U | 28.6 | U | 52.5 | | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 286 | U | 28.6 | U |
| 200-SB-6-90.90-VOC | 29.3 | U | 29.3 | U | 50.1 | | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 293 | U | 29.3 | U |
| 200-SB-6-91.20-VOC | 38.1 | U | 30.4 | JB | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 381 | U | 38.1 | U |
| 200-SB-6-93.50-VOC | 32.1 | U | 32.1 | U | 51.6 | | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 321 | U | 32.1 | U |
| 200-SB-6-94.00-VOC | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 470 | U | 47.0 | U |
| 200-SB-6-94.80-VOC | 26.1 | U | 26.1 | U | 23.7 | J | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 261 | U | 26.1 | U |
| 200-SB-6-95.25-VOC | 27.9 | U | 26.2 | J | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 279 | U | 27.9 | U |
| 200-SB-6-95.55-VOC | 27.9 | U | 22.6 | J | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 279 | U | 27.9 | U |
| 200-SB-6-100.20-VOC | 25.6 | U | 18.4 | J | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 256 | U | 25.6 | U |
| 200-SB-6-100.50-VOC | 28.2 | U | 37.8 | | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 282 | U | 4.23 | J |
| 200-SB-6-103.10-VOC | 31.3 | U | 31.3 | U | 267 | | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 313 | U | 31.3 | U |
| 200-SB-6-104.10-VOC | 23.3 | U | 23.3 | U | 131 | | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 233 | U | 23.3 | U |
| 200-SB-6-104.50-VOC | 35.5 | U | 30.9 | JB | 117 | | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 355 | U | 35.5 | U |
| 200-SB-6-105.65-VOC | 43.9 | U | 34.7 | JB | 134 | | 43.9 | U | 43.9 | U | 43.9 | U | 43.9 | U | 43.9 | U | 439 | U | 43.9 | U |
| 200-SB-6-106.50-VOC | 37.1 | U | 29.0 | JB | 910 | | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U | 371 | U | 8.91 | J |
| 200-SB-6-108.50-VOC | 30.5 | U | 22.6 | JB | 2020 | | 30.5 | U | 43.7 | | 30.5 | U | 30.5 | U | 12.8 | J | 305 | U | 25.7 | J |
| 200-SB-6-110.40-VOC | 28.2 | U | 21.1 | JQB | 22.0 | J | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 282 | U | 4.23 | JB |
| 200-SB-6-110.75-VOC | 27.5 | U | 23.6 | JB | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 275 | U | 6.32 | J |
| 200-SB-6-111.40-VOC | 25.8 | U | 15.5 | JB | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 258 | U | 25.8 | U |
| 200-SB-6-113.90-VOC | 30.9 | U | 18.2 | JB | 370 | | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 309 | U | 5.57 | J |
| 200-SB-6-114.20-VOC | 22.3 | U | 20.1 | JB | 22.3 | U | 22.3 | U | 22.3 | U | 22.3 | U | 22.3 | U | 22.3 | U | 223 | U | 102 | |
| 200-SB-6-114.80-VOC | 29.1 | U | 26.8 | JB | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 291 | U | 184 | |
| 200-SB-6-115.50-VOC | 30.0 | U | 23.1 | JB | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 300 | U | 158 | |
| 200-SB-6-115.80-VOC | 28.9 | U | 22.9 | JB | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 289 | U | 194 | |
| 200-SB-6-118.90-VOC | 37.2 | U | 32.7 | JB | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 372 | U | 5.95 | J |
| 200-SB-6-119.20-VOC | 37.9 | U | 33.8 | JB | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 379 | U | 7.59 | J |
| 200-SB-6-119.55-VOC | 33.7 | U | 27.3 | JB | 33.7 | U | 33.7 | U | 33.7 | U | 33.7 | U | 33.7 | U | 33.7 | U | 337 | U | 9.78 | J |
| 200-SB-6-120.80-VOC | 34.9 | U | 25.9 | JB | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 349 | U | 27.2 | J |
| 200-SB-6-121.10-VOC | 37.9 | U | 26.5 | JB | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 379 | U | 235 | |
| 200-SB-6-124.80-VOC | 28.4 | U | 27.6 | JB | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 284 | U | 302 | |
| 200-SB-6-125.10-VOC | 35.0 | U | 39.9 | B | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 350 | U | 120 | |
| 200-SB-6-127.00-VOC | 28.5 | U | 37.0 | B | 66.4 | | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 285 | U | 4.84 | J |

TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3)

| Sample ID | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-6-63.20-VOC | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 8.42 | JB | 36.6 | U |
| 200-SB-6-64.40-VOC | 33.4 | U | 52.4 | B | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 8.02 | JB | 33.4 | U |
| 200-SB-6-64.80-VOC | 29.8 | U | 40.5 | B | 29.8 | U | 29.8 | U | 29.8 | U | 29.8 | U | 29.8 | U | 29.8 | U | 7.45 | JB | 29.8 | U |
| 200-SB-6-65.20-VOC | 36.2 | U | 53.2 | B | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 9.42 | JB | 36.2 | U |
| 200-SB-6-65.60-VOC | 51.8 | U | 64.8 | B | 51.8 | U | 51.8 | U | 51.8 | U | 51.8 | U | 51.8 | U | 51.8 | U | 14.5 | JB | 51.8 | U |
| 200-SB-6-68.50-VOC | 24.9 | U | 191 | | 24.9 | U | 24.9 | U | 24.9 | U | 14.2 | J | 24.9 | U | 24.9 | U | 6.97 | JB | 24.9 | U |
| 200-SB-6-69.50-VOC | 33.4 | U | 95.2 | | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 33.4 | U | 8.02 | JB | 33.4 | U |
| 200-SB-6-70.70-VOC | 25.7 | U | 62.4 | | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 25.7 | U | 6.42 | JB | 25.7 | U |
| 200-SB-6-71.50-VOC | 28.8 | U | 33.7 | | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 28.8 | U | 5.77 | JB | 28.8 | U |
| 200-SB-6-72.60-VOC | 28.9 | U | 331 | | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 7.80 | JB | 28.9 | U |
| 200-SB-6-73.10-VOC | 29.6 | U | 63.6 | | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 29.6 | U | 6.51 | JB | 29.6 | U |
| 200-SB-6-73.80-VOC | 32.9 | U | 45.4 | | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 6.91 | JB | 32.9 | U |
| 200-SB-6-76.10-VOC | 35.3 | U | 103 | | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 35.3 | U | 9.17 | JB | 35.3 | U |
| 200-SB-6-77.20-VOC | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 26.7 | U | 6.42 | JB | 26.7 | U |
| 200-SB-6-78.40-VOC | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 34.8 | U | 7.65 | JB | 34.8 | U |
| 200-SB-6-78.80-VOC | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 35.7 | UJ | 7.86 | JB | 35.7 | UJ |
| 200-SB-6-79.00-VOC | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 39.6 | U | 9.50 | JB | 39.6 | U |
| 200-SB-6-83.80-VOC | 25.4 | U | 34.3 | | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 5.33 | JB | 25.4 | U |
| 200-SB-6-84.20-VOC | 33.5 | U | 29.1 | J | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 33.5 | U | 7.36 | JB | 33.5 | U |
| 200-SB-6-86.60-VOC | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 7.94 | JB | 33.1 | U |
| 200-SB-6-86.90-VOC | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 22.5 | U | 5.85 | J | 22.5 | U |
| 200-SB-6-87.60-VOC | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 36.1 | U | 8.30 | J | 36.1 | U |
| 200-SB-6-90.20-VOC | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 6.28 | J | 28.6 | U |
| 200-SB-6-90.90-VOC | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 6.45 | J | 29.3 | U |
| 200-SB-6-91.20-VOC | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U | 38.1 | U |
| 200-SB-6-93.50-VOC | 32.1 | U | 16 | J | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 32.1 | U | 11.2 | J | 32.1 | U |
| 200-SB-6-94.00-VOC | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 16.0 | J | 47.0 | U |
| 200-SB-6-94.80-VOC | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 8.60 | J | 26.1 | U |
| 200-SB-6-95.25-VOC | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 6.69 | J | 27.9 | U |
| 200-SB-6-95.55-VOC | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 8.38 | J | 27.9 | U |
| 200-SB-6-100.20-VOC | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 7.68 | J | 25.6 | U |
| 200-SB-6-100.50-VOC | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 11.3 | J | 28.2 | U |
| 200-SB-6-103.10-VOC | 31.3 | U | 62.4 | | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 31.3 | U | 10.3 | J | 31.3 | U |
| 200-SB-6-104.10-VOC | 23.3 | U | 118 | | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 23.3 | U | 7.45 | J | 23.3 | U |
| 200-SB-6-104.50-VOC | 35.5 | U | 61.0 | | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U | 35.5 | U |
| 200-SB-6-105.65-VOC | 43.9 | U | 278 | | 43.9 | U | 43.9 | U | 43.9 | U | 25.9 | J | 43.9 | U | 43.9 | U | 43.9 | U | 43.9 | U |
| 200-SB-6-106.50-VOC | 37.1 | U | 910 | | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U | 37.1 | U |
| 200-SB-6-108.50-VOC | 30.5 | U | 2350 | | 30.5 | U | 30.5 | U | 30.5 | U | 40.3 | | 30.5 | U | 30.5 | U | 30.5 | U | 30.5 | U |
| 200-SB-6-110.40-VOC | 28.2 | U | 52.4 | | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 28.2 | U | 7.33 | JB | 28.2 | U |
| 200-SB-6-110.75-VOC | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 27.5 | U | 5.50 | JB | 27.5 | U |
| 200-SB-6-111.40-VOC | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U | 25.8 | U |
| 200-SB-6-113.90-VOC | 30.9 | U | 81 | | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U |
| 200-SB-6-114.20-VOC | 22.3 | U | 22.3 | U | 22.3 | U | 70.8 | | 22.3 | U | 22.3 | U | 22.3 | U | 22.3 | U | 16.5 | JB | 22.3 | U |
| 200-SB-6-114.80-VOC | 29.1 | U | 29.1 | U | 29.1 | U | 228 | | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 42.8 | | 29.1 | U |
| 200-SB-6-115.50-VOC | 30.0 | U | 30.0 | U | 30.0 | U | 170 | | 30.0 | U | 30.0 | U | 30.0 | U | 30.0 | U | 29.4 | JB | 30.0 | U |
| 200-SB-6-115.80-VOC | 28.9 | U | 28.9 | U | 28.9 | U | 240 | | 28.9 | U | 28.9 | U | 28.9 | U | 28.9 | U | 33.9 | | 28.9 | U |
| 200-SB-6-118.90-VOC | 37.2 | U | 37.2 | U | 37.2 | U | 17.5 | J | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 14.5 | JB | 37.2 | U |
| 200-SB-6-119.20-VOC | 37.9 | U | 37.9 | U | 37.9 | U | 103 | | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 15.6 | JB | 37.9 | U |
| 200-SB-6-119.55-VOC | 33.7 | U | 33.7 | U | 33.7 | U | 172 | | 33.7 | U | 33.7 | U | 33.7 | U | 33.7 | U | 23.6 | JB | 33.7 | U |
| 200-SB-6-120.80-VOC | 34.9 | U | 34.9 | U | 34.9 | U | 57.6 | | 34.9 | U | 34.9 | U | 34.9 | U | 34.9 | U | 17.8 | JB | 34.9 | U |
| 200-SB-6-121.10-VOC | 37.9 | U | 37.9 | U | 37.9 | U | 300 | | 37.9 | U | 37.9 | U | 37.9 | U | 37.9 | U | 27.7 | JB | 37.9 | U |
| 200-SB-6-124.80-VOC | 28.4 | U | 28.4 | U | 28.4 | U | 282 | | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 27.9 | JB | 28.4 | U |
| 200-SB-6-125.10-VOC | 35.0 | U | 35.0 | U | 35.0 | U | 129 | | 35.0 | U | 35.0 | U | 35.0 | U | 35.0 | U | 18.6 | JB | 35.0 | U |
| 200-SB-6-127.00-VOC | 28.5 | U | 39.0 | | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U | 28.5 | U |

## Table 4: Total VOC Concentrations in Rock Core Samples

| Sample ID | Location ID | Interval (linear feet) | Depth from (linear ft) | Depth to (linear ft) | Avg. Depth (linear feet) | Comments/Interpretation (2): Sample Lithology (2a) | Position Relative to Feature (2b) | Sample Type (2c) |
|---|---|---|---|---|---|---|---|---|
| 200-SB-6-127.30-VOC | | 127.3 - 127.4 | 127.3 | 127.4 | 127.35 | limestone | f4 | MAT |
| 200-SB-6-127.60-VOC | | 127.6 - 127.7 | 127.6 | 127.7 | 127.65 | limestone | AF | FS |
| 200-SB-6-129.70-VOC | 200-SB-6 | 129.7 - 129.8 | 129.7 | 129.8 | 129.75 | limestone | BF | FS |
| 200-SB-6-130.00-VOC | | 130 - 130.1 | 130 | 130.1 | 130.05 | limestone | f4 | MAT |
| 200-SB-6-132.50-VOC | | 132.5 - 132.6 | 132.5 | 132.6 | 132.55 | limestone | BF | FS |
| 200-SB-6-133.00-VOC | | 133 - 133.1 | 133 | 133.1 | 133.05 | limestone | f6 | MAT |
| 200-SB-6-135.10-VOC | | 135.1 - 135.2 | 135.1 | 135.2 | 135.15 | Sandstone | AF | FS |
| 200-SB-6-137.40-VOC | | 137.4 - 137.5 | 137.4 | 137.5 | 137.45 | limestone | NA | MAT |
| 200-SB-6-138.15-VOC | | 138.15 - 138.25 | 138.15 | 138.25 | 138.2 | limestone | NA | MAT |
| 200-SB-6-142.20-VOC | | 142.2 - 142.3 | 142.2 | 142.3 | 142.25 | limestone | BF | FS |
| 200-SB-6-143.80-VOC | | 143.8 - 143.9 | 143.8 | 143.9 | 143.85 | limestone | BF | FS |
| 200-SB-6-145.00-VOC | | 145 - 145.1 | 145 | 145.1 | 145.05 | limestone | BF | FS |
| 200-SB-6-145.30-VOC | | 145.3 - 145.4 | 145.3 | 145.4 | 145.35 | limestone | f4 | MAT |
| 200-SB-6-145.90-VOC | | 145.9 - 146 | 145.9 | 146 | 145.95 | limestone | BF | FS |
| 200-SB-6-147.60-VOC | | 147.6 - 147.7 | 147.6 | 147.7 | 147.65 | limestone | BF | FS |
| 200-SB-6-149.20-VOC | | 149.2 - 149.3 | 149.2 | 149.3 | 149.25 | limestone | BF | FS |
| 200-SB-6-149.80-VOC | | 149.8 - 149.9 | 149.8 | 149.9 | 149.85 | limestone | f6 | MAT |
| 200-SB-6-150.30-VOC | | 150.3 - 150.4 | 150.3 | 150.4 | 150.35 | limestone | BF | FS |
| 200-SB-6-152.80-VOC | | 152.8 - 152.9 | 152.8 | 152.9 | 152.85 | limestone | NA | MAT |
| 200-SB-6-153.60-VOC | | 153.6 - 153.7 | 153.6 | 153.7 | 153.65 | limestone | NA | MAT |
| 200-SB-6-155.30-VOC | | 155.3 - 155.4 | 155.3 | 155.4 | 155.35 | limestone | NA | MAT |
| 200-SB-6-158.00-VOC | | 158 - 158.1 | 158 | 158.1 | 158.05 | limestone | BF | FS |
| 200-SB-6-158.40-VOC | 200-SB-6 | 158.4 - 158.6 | 158.4 | 158.6 | 158.5 | limestone | f6 | MAT |
| 200-SB-6-160.00-VOC | | 160 - 160.1 | 160 | 160.1 | 160.05 | limestone | BF | FS |
| 200-SB-6-160.30-VOC | | 160.3 - 160.4 | 160.3 | 160.4 | 160.35 | limestone | f4 | MAT |
| 200-SB-6-163.00-VOC | | 163 - 163.1 | 163 | 163.1 | 163.05 | limestone | BF | FS |
| 200-SB-6-163.50-VOC | | 163.5 - 163.6 | 163.5 | 163.6 | 163.55 | limestone | f6 | MAT |
| 200-SB-6-164.30-VOC | | 164.3 - 164.4 | 164.3 | 164.4 | 164.35 | limestone | BF | FS |
| 200-SB-6-164.80-VOC | | 164.8 - 164.9 | 164.8 | 164.9 | 164.85 | limestone | f6 | MAT |
| 200-SB-6-166.60-VOC | | 166.6 - 166.7 | 166.6 | 166.7 | 166.65 | limestone | BET | FS |
| 200-SB-6-167.30-VOC | | 167.3 - 167.4 | 167.3 | 167.4 | 167.35 | clay gouge | BET | FS |
| 200-SB-6-167.80-VOC | | 167.8 - 167.9 | 167.8 | 167.9 | 167.85 | limestone | f5 | MAT |
| 200-SB-6-168.30-VOC | | 168.3 - 168.4 | 168.3 | 168.4 | 168.35 | limestone | BF | FS |
| 200-SB-6-171.30-VOC | | 171.3 - 171.4 | 171.3 | 171.4 | 171.35 | limestone | BF | FS |
| 200-SB-6-172.00-VOC | | 172 - 172.1 | 172 | 172.1 | 172.05 | limestone | BF | FS |
| 200-SB-6-174.10-VOC | | 174.1 - 174.2 | 174.1 | 174.2 | 174.15 | limestone | BF | FS |
| 200-SB-6-174.50-VOC | | 174.5 - 174.6 | 174.5 | 174.6 | 174.55 | limestone | f4 | MAT |
| 200-SB-6-179.20-VOC | | 179.2 - 179.3 | 179.2 | 179.3 | 179.25 | limestone | BF | FS |
| 200-SB-6-179.50-VOC | | 179.5 - 179.6 | 179.5 | 179.6 | 179.55 | limestone | f3 | MAT |
| 200-SB-6-183.00-VOC | | 183 - 183.1 | 183 | 183.1 | 183.05 | limestone | BF | FS |
| 200-SB-6-183.40-VOC | | 183.4 - 183.5 | 183.4 | 183.5 | 183.45 | limestone | f4 | MAT |
| 200-SB-6-185.40-VOC | | 185.4 - 185.5 | 185.4 | 185.5 | 185.45 | limestone | BF | FS |
| 200-SB-6-186.40-VOC | 200-SB-6 | 186.4 - 186.5 | 186.4 | 186.5 | 186.45 | clay gouge | BET | FS |
| 200-SB-6-186.70-VOC | | 186.7 - 186.8 | 186.7 | 186.8 | 186.75 | limestone | f3 | MAT |
| 200-SB-6-187.40-VOC | | 187.4 - 187.5 | 187.4 | 187.5 | 187.45 | limestone | BF | FS |
| 200-SB-6-190.20-VOC | | 190.2 - 190.3 | 190.2 | 190.3 | 190.25 | limestone | BF | FS |
| 200-SB-6-190.60-VOC | | 190.6 - 190.7 | 190.6 | 190.7 | 190.65 | limestone | f5 | FS |
| 200-SB-6-193.70-VOC | | 193.7 - 193.8 | 193.7 | 193.8 | 193.75 | limestone | BF | FS |
| 200-SB-6-194.80-VOC | | 194.8 - 194.9 | 194.8 | 194.9 | 194.85 | limestone | BF | FS |
| 200-SB-6-195.30-VOC | | 195.3 - 195.4 | 195.3 | 195.4 | 195.35 | limestone | f6 | MAT |
| 200-SB-6-196.00-VOC | | 196 - 196.1 | 196 | 196.1 | 196.05 | limestone | BF | FS |
| 200-SB-6-196.70-VOC | | 196.7 - 196.8 | 196.7 | 196.8 | 196.75 | limestone | f8 | MAT |

TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3)

| Sample ID | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-6-127.30-VOC | 31.7 | U | 20.0 | JB | 47.9 | | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 317 | U | 31.7 | U | 31.7 | U |
| 200-SB-6-127.60-VOC | 30.4 | U | 20.1 | JB | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 304 | U | 30.4 | U | 30.4 | U |
| 200-SB-6-129.70-VOC | 37.2 | U | 20.1 | JB | 53.2 | | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 372 | U | 37.2 | U | 37.2 | U |
| 200-SB-6-130.00-VOC | 45.6 | U | 35.6 | JB | 39.2 | J | 45.6 | U | 45.6 | U | 45.6 | U | 45.6 | U | 45.6 | U | 456 | U | 45.6 | U | 45.6 | U |
| 200-SB-6-132.50-VOC | 38.4 | U | 36.9 | JB | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 384 | U | 6.91 | J | 38.4 | U |
| 200-SB-6-133.00-VOC | 33.1 | U | 19.2 | JB | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 331 | U | 14.2 | J | 33.1 | U |
| 200-SB-6-135.10-VOC | 34.4 | U | 34.4 | U | 34.4 | U | 34.4 | U | 34.4 | U | 34.4 | U | 34.4 | U | 34.4 | U | 344 | U | 34.4 | U | 34.4 | U |
| 200-SB-6-137.40-VOC | 29.3 | U | 17.9 | JB | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 293 | U | 29.3 | U | 29.3 | U |
| 200-SB-6-138.15-VOC | 32.3 | U | 20.7 | JB | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 323 | U | 27.1 | J | 32.3 | U |
| 200-SB-6-142.20-VOC | 24.3 | U | 17.7 | JB | 43.0 | | 24.3 | U | 24.3 | U | 24.3 | U | 24.3 | U | 24.3 | U | 243 | U | 24.3 | U | 24.3 | U |
| 200-SB-6-143.80-VOC | 30.2 | U | 30.2 | U | 850 | | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 302 | U | 30.2 | U | 30.2 | U |
| 200-SB-6-145.00-VOC | 36.6 | U | 27.8 | JB | 25.3 | J | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 366 | U | 36.6 | U | 36.6 | U |
| 200-SB-6-145.30-VOC | 41.8 | U | 30.5 | JB | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 418 | U | 41.8 | U | 41.8 | U |
| 200-SB-6-145.90-VOC | 33.9 | U | 33.9 | U | 42.3 | | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 339 | U | 33.9 | U | 33.9 | U |
| 200-SB-6-147.60-VOC | 27.9 | U | 18.7 | JB | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 279 | U | 27.9 | U | 27.9 | U |
| 200-SB-6-149.20-VOC | 26.1 | U | 17.5 | JB | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 261 | U | 20.6 | J | 26.1 | U |
| 200-SB-6-149.80-VOC | 31.8 | U | 22.9 | JB | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 318 | U | 14.3 | J | 31.8 | U |
| 200-SB-6-150.30-VOC | 25.4 | U | 18.0 | JB | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 254 | U | 25.4 | U | 25.4 | U |
| 200-SB-6-152.80-VOC | 29.1 | U | 21.0 | JB | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 291 | U | 29.1 | U | 29.1 | U |
| 200-SB-6-153.60-VOC | 26.4 | U | 21.4 | JB | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 264 | U | 4.75 | J | 26.4 | U |
| 200-SB-6-155.30-VOC | 32.9 | U | 34.9 | B | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 329 | U | 32.9 | U | 32.9 | U |
| 200-SB-6-158.00-VOC | 46.9 | | 25.1 | JB | 4270 | | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 272 | U | 27.2 | U | 27.2 | U |
| 200-SB-6-158.40-VOC | 21.7 | U | 15.4 | JB | 320 | | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 217 | U | 21.7 | U | 21.7 | U |
| 200-SB-6-160.00-VOC | 37.0 | U | 27.0 | JB | 169 | | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 370 | U | 37.0 | U | 37.0 | U |
| 200-SB-6-160.30-VOC | 26.8 | U | 32.7 | QB | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 268 | U | 26.8 | U | 26.8 | U |
| 200-SB-6-163.00-VOC | 27.6 | U | 30.1 | QB | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 276 | U | 27.6 | U | 27.6 | U |
| 200-SB-6-163.50-VOC | 16.0 | U | 18.6 | QB | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 160 | U | 2.89 | J | 16.0 | U |
| 200-SB-6-164.30-VOC | 30.9 | U | 30.3 | JQB | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 309 | U | 30.9 | U | 30.9 | U |
| 200-SB-6-164.80-VOC | 26.4 | U | 29.1 | QB | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 264 | U | 4.23 | J | 26.4 | U |
| 200-SB-6-166.60-VOC | 20.3 | U | 22.0 | B | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 203 | U | 20.3 | U | 20.3 | U |
| 200-SB-6-167.30-VOC | 37.0 | UJ | 32.2 | JB | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 370 | UJ | 37.0 | UJ | 37.0 | UJ |
| 200-SB-6-167.80-VOC | 32.3 | U | 32.7 | QB | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 323 | U | 32.3 | U | 32.3 | U |
| 200-SB-6-168.30-VOC | 36.2 | U | 61.3 | QB | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 362 | U | 36.2 | U | 36.2 | U |
| 200-SB-6-171.30-VOC | 28.6 | U | 67.7 | QB | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 286 | U | 12.3 | J | 28.6 | U |
| 200-SB-6-172.00-VOC | 35.2 | U | 40.8 | B | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 35.2 | U | 352 | U | 16.5 | J | 35.2 | U |
| 200-SB-6-174.10-VOC | 25.3 | U | 59.9 | QB | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 253 | U | 8330 | | 25.3 | U |
| 200-SB-6-174.50-VOC | 19.1 | U | 21.2 | B | 19.1 | U | 19.1 | U | 19.1 | U | 19.1 | U | 19.1 | U | 19.1 | U | 191 | U | 2330 | B | 19.1 | U |
| 200-SB-6-179.20-VOC | 38.8 | U | 52.0 | B | 38.8 | U | 38.8 | U | 38.8 | U | 38.8 | U | 38.8 | U | 38.8 | U | 388 | U | 69.5 | B | 38.8 | U |
| 200-SB-6-179.50-VOC | 24.7 | U | 25.4 | B | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 24.7 | U | 247 | U | 46.1 | B | 24.7 | U |
| 200-SB-6-183.00-VOC | 28.3 | U | 28.6 | B | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 283 | U | 7.07 | JB | 28.3 | U |
| 200-SB-6-183.40-VOC | 29.2 | U | 20.2 | JB | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 292 | U | 9.06 | JB | 29.2 | U |
| 200-SB-6-185.40-VOC | 30.8 | U | 28.6 | JB | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 308 | U | 8.00 | JB | 30.8 | U |
| 200-SB-6-186.40-VOC | 24.8 | UJ | 19.1 | JB | 50.8 | J | 24.8 | UJ | 24.8 | UJ | 24.8 | J | 24.8 | UJ | 24.8 | UJ | 248 | UJ | 3.72 | JB | 24.8 | UJ |
| 200-SB-6-186.70-VOC | 30.1 | U | 54.1 | B | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 301 | U | 11.7 | JB | 30.1 | U |
| 200-SB-6-187.40-VOC | 107 | | 32.7 | JB | 233 | | 42.0 | U | 42.0 | U | 42.0 | U | 42.0 | U | 42.0 | U | 448 | | 42.0 | U | 42.0 | U |
| 200-SB-6-190.20-VOC | 25.6 | U | 17.9 | JB | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 25.6 | U | 256 | U | 15.4 | JB | 25.6 | U |
| 200-SB-6-190.60-VOC | 25.9 | U | 18.6 | JQB | 19.7 | J | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 259 | U | 4.40 | JB | 25.9 | U |
| 200-SB-6-193.70-VOC | 18.8 | U | 16.2 | JQB | 37.5 | | 18.8 | U | 18.8 | U | 18.8 | U | 18.8 | U | 18.8 | U | 188 | U | 17.5 | JB | 18.8 | U |
| 200-SB-6-194.80-VOC | 26.8 | U | 34.3 | QB | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 268 | U | 4.83 | J | 26.8 | U |
| 200-SB-6-195.30-VOC | 31.1 | U | 30.5 | JQB | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 311 | U | 31.1 | U | 31.1 | U |
| 200-SB-6-196.00-VOC | 29.9 | U | 33.2 | QB | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 299 | U | 29.9 | U | 29.9 | U |
| 200-SB-6-196.70-VOC | 28.4 | U | 19.6 | JQB | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 284 | U | 28.4 | U | 28.4 | U |

TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3)

| Sample ID | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-6-127.30-VOC | 17.4 | J | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 31.7 | U | 7.93 | JB | 31.7 | U |
| 200-SB-6-127.60-VOC | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U | 30.4 | U |
| 200-SB-6-129.70-VOC | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 7.82 | JB | 37.2 | U |
| 200-SB-6-130.00-VOC | 45.6 | U | 45.6 | U | 45.6 | U | 45.6 | U | 45.6 | U | 45.6 | U | 45.6 | U | 9.58 | JB | 45.6 | U |
| 200-SB-6-132.50-VOC | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 38.4 | U | 13.4 | JB | 38.4 | U |
| 200-SB-6-133.00-VOC | 33.1 | U | 33.1 | U | 140 | | 33.1 | U | 33.1 | U | 33.1 | U | 33.1 | U | 26.5 | J | 33.1 | U |
| 200-SB-6-135.10-VOC | 34.4 | U | 34.4 | U | 10.7 | J | 34.4 | U | 34.4 | U | 34.4 | U | 34.4 | U | 12.0 | J | 34.4 | U |
| 200-SB-6-137.40-VOC | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 7.03 | JB | 29.3 | U |
| 200-SB-6-138.15-VOC | 32.3 | U | 32.3 | U | 177 | | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 23.3 | J | 32.3 | U |
| 200-SB-6-142.20-VOC | 24.3 | U | 24.3 | U | 24.3 | U | 24.3 | U | 24.3 | U | 24.3 | U | 24.3 | U | 5.83 | J | 24.3 | U |
| 200-SB-6-143.80-VOC | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 30.2 | U | 6.94 | J | 30.2 | U |
| 200-SB-6-145.00-VOC | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 36.6 | U | 8.42 | J | 36.6 | U |
| 200-SB-6-145.30-VOC | 41.8 | U | 41.8 | U | 20.1 | J | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 9.62 | J | 41.8 | U |
| 200-SB-6-145.90-VOC | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 33.9 | U | 8.46 | J | 33.9 | U |
| 200-SB-6-147.60-VOC | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 27.9 | U | 6.70 | J | 27.9 | U |
| 200-SB-6-149.20-VOC | 26.1 | U | 26.1 | U | 14.6 | J | 26.1 | U | 26.1 | U | 26.1 | U | 26.1 | U | 5.22 | JB | 26.1 | U |
| 200-SB-6-149.80-VOC | 31.8 | U | 31.8 | U | 14.3 | J | 31.8 | U | 31.8 | U | 31.8 | U | 31.8 | U | 5.72 | JB | 31.8 | U |
| 200-SB-6-150.30-VOC | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U | 25.4 | U |
| 200-SB-6-152.80-VOC | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U | 29.1 | U |
| 200-SB-6-153.60-VOC | 26.4 | U | 26.4 | U | 25.6 | J | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 5.01 | JB | 26.4 | U |
| 200-SB-6-155.30-VOC | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 32.9 | U | 6.25 | JB | 32.9 | U |
| 200-SB-6-158.00-VOC | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 7.08 | JB | 27.2 | U |
| 200-SB-6-158.40-VOC | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U | 21.7 | U |
| 200-SB-6-160.00-VOC | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U | 37.0 | U |
| 200-SB-6-160.30-VOC | 26.8 | U | 26.8 | U | 11 | J | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 7.78 | J | 26.8 | U |
| 200-SB-6-163.00-VOC | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 27.6 | U | 20.7 | J | 27.6 | U |
| 200-SB-6-163.50-VOC | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 16.0 | U | 3.37 | J | 16.0 | U |
| 200-SB-6-164.30-VOC | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 30.9 | U | 5.57 | J | 30.9 | U |
| 200-SB-6-164.80-VOC | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 26.4 | U | 4.76 | J | 26.4 | U |
| 200-SB-6-166.60-VOC | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U | 20.3 | U |
| 200-SB-6-167.30-VOC | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ | 37.0 | UJ |
| 200-SB-6-167.80-VOC | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U |
| 200-SB-6-168.30-VOC | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 36.2 | U | 7.25 | J | 36.2 | U |
| 200-SB-6-171.30-VOC | 28.6 | U | 28.6 | U | 215 | | 28.6 | U | 28.6 | U | 28.6 | U | 28.6 | U | 199 | | 28.6 | U |
| 200-SB-6-172.00-VOC | 35.2 | U | 35.2 | U | 24.6 | JB | 91.9 | | 35.2 | U | 35.2 | U | 35.2 | U | 13.7 | J | 35.2 | U |
| 200-SB-6-174.10-VOC | 25.3 | U | 25.3 | U | 2180 | | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 158 | | 25.3 | U |
| 200-SB-6-174.50-VOC | 19.1 | U | 19.1 | U | 802 | | 53.9 | | 19.1 | U | 19.1 | U | 19.1 | U | 94.7 | | 19.1 | U |
| 200-SB-6-179.20-VOC | 38.8 | U | 38.8 | U | 88.9 | | 38.8 | U | 38.8 | U | 38.8 | U | 38.8 | U | 120 | | 38.8 | U |
| 200-SB-6-179.50-VOC | 24.7 | U | 24.7 | U | 196 | | 132 | | 24.7 | U | 24.7 | U | 24.7 | U | 53.5 | | 24.7 | U |
| 200-SB-6-183.00-VOC | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 28.3 | U | 6.51 | JB | 28.3 | U |
| 200-SB-6-183.40-VOC | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 29.2 | U | 6.43 | JB | 29.2 | U |
| 200-SB-6-185.40-VOC | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 30.8 | U | 6.46 | JB | 30.8 | U |
| 200-SB-6-186.40-VOC | 12.6 | J | 24.8 | UJ | 24.8 | UJ | 24.8 | UJ | 24.8 | UJ | 24.8 | UJ | 24.8 | UJ | 4.71 | JB | 24.8 | UJ |
| 200-SB-6-186.70-VOC | 30.1 | U | 30.1 | U | 10.5 | J | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 21.9 | JB | 30.1 | U |
| 200-SB-6-187.40-VOC | 42.0 | U | 42.0 | U | 42.0 | U | 290 | | 42.0 | U | 42.0 | U | 42.0 | U | 8.81 | JB | 42.0 | U |
| 200-SB-6-190.20-VOC | 25.6 | U | 25.6 | U | 19.2 | J | 97.8 | | 25.6 | U | 25.6 | U | 25.6 | U | 14.3 | JB | 25.6 | U |
| 200-SB-6-190.60-VOC | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 25.9 | U | 8.02 | JB | 25.9 | U |
| 200-SB-6-193.70-VOC | 26.2 | | 18.8 | U | 6.59 | J | 18.8 | U | 18.8 | U | 18.8 | U | 18.8 | U | 6.02 | JB | 18.8 | U |
| 200-SB-6-194.80-VOC | 26.8 | U | 26.8 | U | 22.5 | J | 26.8 | U | 26.8 | U | 26.8 | U | 26.8 | U | 30.6 | | 26.8 | U |
| 200-SB-6-195.30-VOC | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 31.1 | U | 21.2 | JB | 31.1 | U |
| 200-SB-6-196.00-VOC | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 29.9 | U | 12.9 | JB | 29.9 | U |
| 200-SB-6-196.70-VOC | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 28.4 | U | 10.8 | JB | 28.4 | U |

Notes:

## Table 4: Total VOC Concentrations in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | | | | TOTAL VOC CONCENTRATION IN ROCK CORE SAMPLES : µg/kg (3) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear feet | Sample Lithology (2a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | Chloromethane | 1,1,2-Trichloro - 1,2,2-trifluoroethane | 1,1-Dichloroethene | Methylene Chloride | t-Butyl-methyl ether | Chloroform | 1,1,1-Trichloroethane | 2-Butanone | Benzene | 1,2-Dichloroethane | Trichloroethene | Bromodichloromethane | Toluene | 1,1,2-Trichloroethane | Tetrachloroethene | Dibromochloromethane | Chlorobenzene | m,p-Xylenes | Bromoform |

1. This table presents data recorded in conducting field sampling and laboratory analysis of rock core samples from two coring locations: 200-SB-7 and 200-SB-6. The samples were collected, processed and preserved in the field by Stone Environmental Inc. (Stone) personnel then transported under COC to Stone's fixed lab in Barre, VT where they were extracted and analyzed for the listed target Volatile Organic Compounds (VOCs) using methods developed by the University of Guelph. Refer to the Stone report text and tables for additional details regarding sampling, sample preparation, extraction, and analysis.

2. The Comments/Interpretation section include general notes regarding the sample characteristics, field classified lithology, position relative to fracturing, and type of fracturing according to Stone standard protocols as explained further below.
   a) Lithology reflects Stone personnel classification of the sample at the time of collection.
   b) Position relative to feature indicates the position of the sample relative to observed features (e.g. fractures) inferred to reflect insitu features with the following legend:
   "BET"= between closely spaced fractures; "AF"=above fracture surface; "BF"=below fracture surface; "BKN"=broken or crumbled region; "f#" = sampled distance in tenths of feet from fracture surface; "NA" = not applicable.
   c) Sample type differentiates between feature surface (e.g. including a fracture face) = FS; or a matrix sample (MAT) some distance away from the nearest fracture or other feature (see "f#" reference in 2b).

3. The laboratory results for volatile organic compounds in rock are expressed in units of micrograms per kilogram (ug/kg) of rock sample at field moisture conditions at the time of sampling for the target compounds including: 1,1,2-Trichloro-1,2,2-trifluoroethane; Trichlorofluoromethane; 1,1-Dichloroethene; Chloroform; 1,1,1-Trichloroethane; Chloromethane; Methylene Chloride; t-Butyl-methyl ether; 2-Butanone; Benzene; 1,2-Dichloroethane; Bromodichloromethane; Toluene; 1,1,2-Trichloroethane; Dibromochloromethane; Trichloroethene; and Tetrachloroethene The values are rounded to three significant figures. Please refer to the analytical report text and appendices for information regarding detection and quantitation limits. The second column for each compound denotes quality assurance flags including: "U" denoting that the analyte was analyzed for, but was not detected above the reported quantitation limit; "J" the analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample; "UJ" the analyte was analyzed for, but was not detected, the sample reported limit is an estimated quantity; "B" indicates the analyte was found in the associated laboratory blank as well as the sample; "Q" indicates one or more quality control criteria failed (e.g. LCS recovery, surrogate spike recovery or CCV).

## Table 5: Estimated Porewater Concentrations (ug/L) in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | Estimated Pore Water Concentration (µg/L) (4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear ft | Sample Lithology (3a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-7-57.40-VOC | 200-SB-7 | 57.4 - 57.5 | 57.4 | 57.5 | 57.45 | mudstone | BF | FS | 150 | U | 400 | J | 50 | U | 230 | U | 440 | U | 650 | U | 310 | U | 110 | U | 4200 | U | 240 | U | 590 | U | 130 | U | 260 | U | 97 | U | 260 | U | 51 | U | 240 | U | 56 | U | 16 | JB | 180 | U |
| 200-SB-7-58.50-VOC | | 58.5 - 58.6 | 58.5 | 58.6 | 58.55 | mudstone | f3 | MAT | 180 | U | 970 | U | 62 | U | 290 | U | 550 | U | 810 | U | 380 | U | 140 | U | 5300 | U | 300 | U | 730 | U | 170 | U | 330 | U | 120 | U | 320 | U | 63 | U | 290 | U | 69 | U | 24 | JB | 230 | U |
| 200-SB-7-58.75-VOC | | 58.75 - 58.85 | 58.75 | 58.85 | 58.8 | mudstone | AF | FS | 140 | U | 730 | U | 46 | U | 220 | U | 410 | U | 610 | U | 290 | U | 110 | U | 4000 | U | 220 | U | 550 | U | 130 | U | 250 | U | 90 | U | 240 | U | 47 | U | 220 | U | 52 | U | 14 | JB | 170 | U |
| 200-SB-7-59.70-VOC | | 59.7 - 59.8 | 59.7 | 59.8 | 59.75 | mudstone | AF | FS | 170 | U | 920 | U | 59 | U | 270 | U | 520 | U | 770 | U | 360 | U | 130 | U | 5000 | U | 280 | U | 700 | U | 160 | U | 310 | U | 110 | U | 310 | U | 60 | U | 280 | U | 66 | U | 19 | JB | 220 | U |
| 200-SB-7-61.40-VOC | | 61.4 - 61.5 | 61.4 | 61.5 | 61.45 | mudstone | AF | FS | 210 | U | 1100 | U | 72 | U | 340 | U | 640 | U | 940 | U | 450 | U | 160 | U | 3300 | JB | 350 | U | 850 | U | 92 | J | 380 | U | 140 | U | 380 | U | 74 | U | 340 | U | 81 | U | 27 | JB | 270 | U |
| 200-SB-7-62.00-VOC | | 62 - 62.1 | 62 | 62.1 | 62.05 | mudstone | BF | FS | 190 | U | 550 | J | 63 | U | 300 | U | 560 | U | 830 | U | 390 | U | 140 | U | 5400 | U | 310 | U | 750 | U | 170 | U | 330 | U | 120 | U | 330 | U | 65 | U | 300 | U | 71 | U | 19 | JB | 230 | U |
| 200-SB-7-62.40-VOC | | 62.4 - 62.5 | 62.4 | 62.5 | 62.45 | mudstone | f6 | MAT | 160 | U | 870 | U | 55 | U | 260 | U | 490 | U | 720 | U | 340 | U | 130 | U | 4700 | U | 270 | U | 660 | U | 150 | U | 290 | U | 110 | U | 290 | U | 56 | U | 260 | U | 62 | U | 16 | JB | 200 | U |
| 200-SB-7-64.00-VOC | | 64 - 64.1 | 64 | 64.1 | 64.05 | mudstone | BF | FS | 170 | U | 880 | U | 56 | U | 260 | U | 500 | U | 730 | U | 350 | U | 130 | U | 4800 | U | 270 | U | 670 | U | 150 | U | 300 | U | 110 | U | 290 | U | 58 | U | 270 | U | 63 | U | 18 | JB | 210 | U |
| 200-SB-7-64.50-VOC | | 64.5 - 64.6 | 64.5 | 64.6 | 64.55 | mudstone | BF | FS | 180 | U | 970 | U | 62 | U | 290 | U | 550 | U | 810 | U | 380 | U | 140 | U | 5300 | U | 300 | U | 730 | U | 170 | U | 330 | U | 120 | U | 320 | U | 63 | U | 290 | U | 69 | U | 20 | JB | 230 | U |
| 200-SB-7-65.90-VOC | | 65.9 - 66 | 65.9 | 66 | 65.95 | mudstone | BF | FS | 220 | U | 1200 | U | 75 | U | 350 | U | 670 | U | 980 | U | 460 | U | 170 | U | 6400 | U | 360 | U | 890 | U | 200 | U | 400 | U | 150 | U | 390 | U | 76 | U | 360 | U | 84 | U | 25 | JB | 280 | U |
| 200-SB-7-66.50-VOC | | 66.5 - 66.6 | 66.5 | 66.6 | 66.55 | weathered mudstone | f6 | MAT | 150 | U | 810 | U | 52 | U | 240 | U | 460 | U | 670 | U | 320 | U | 120 | U | 3000 | JB | 250 | U | 610 | U | 140 | U | 270 | U | 100 | U | 270 | U | 53 | U | 250 | U | 58 | U | 18 | JB | 190 | U |
| 200-SB-7-67.60-VOC | | 67.6 - 67.7 | 67.6 | 67.7 | 67.65 | weathered mudstone | BF | FS | 240 | U | 1300 | U | 81 | U | 380 | U | 720 | U | 1100 | U | 500 | U | 180 | U | 8100 | B | 390 | U | 960 | U | 220 | U | 430 | U | 160 | U | 420 | U | 83 | U | 390 | U | 91 | U | 28 | JB | 300 | U |
| 200-SB-7-69.70-VOC | | 69.7 - 69.8 | 69.7 | 69.8 | 69.75 | limestone | AF | FS | 140 | U | 770 | U | 49 | U | 230 | U | 440 | U | 640 | U | 300 | U | 110 | U | 4200 | U | 240 | U | 580 | U | 130 | U | 260 | U | 95 | U | 260 | U | 50 | U | 230 | U | 55 | U | 22 | JB | 180 | U |
| 200-SB-7-70.60-VOC | | 70.6 - 70.7 | 70.6 | 70.7 | 70.65 | mudstone | f2 | MAT | 210 | U | 1100 | U | 71 | U | 330 | U | 630 | U | 930 | U | 440 | U | 160 | U | 6000 | U | 340 | U | 840 | U | 190 | U | 380 | U | 140 | U | 370 | U | 72 | U | 340 | U | 80 | U | 33 | JB | 260 | U |
| 200-SB-7-70.80-VOC | | 70.8 - 70.9 | 70.8 | 70.9 | 70.85 | mudstone | AF | FS | 200 | U | 1100 | U | 67 | U | 310 | U | 600 | U | 880 | U | 420 | U | 150 | U | 5700 | U | 320 | U | 800 | U | 180 | U | 360 | U | 130 | U | 350 | U | 69 | U | 320 | U | 75 | U | 31 | JB | 250 | U |
| 200-SB-7-71.30-VOC | | 71.3 - 71.4 | 71.3 | 71.4 | 71.35 | limestone | BF | FS | 200 | U | 1100 | U | 69 | U | 320 | U | 610 | U | 900 | U | 430 | U | 160 | U | 5900 | U | 330 | U | 820 | U | 190 | U | 360 | U | 130 | U | 360 | U | 70 | U | 330 | U | 77 | U | 32 | JB | 250 | U |
| 200-SB-7-72.90-VOC | | 72.9 - 73 | 72.9 | 73 | 72.95 | limestone | BF | FS | 220 | U | 840 | J | 75 | U | 350 | U | 670 | U | 980 | U | 460 | U | 170 | U | 6400 | U | 360 | U | 890 | U | 200 | U | 400 | U | 150 | U | 390 | U | 76 | U | 360 | U | 84 | U | 32 | JB | 280 | U |
| 200-SB-7-73.20-VOC | | 73.2 - 73.3 | 73.2 | 73.3 | 73.25 | limestone | f5 | MAT | 190 | U | 730 | J | 63 | U | 290 | U | 560 | U | 820 | U | 390 | U | 140 | U | 5400 | U | 300 | | 750 | U | 170 | U | 330 | U | 120 | | 330 | U | 64 | U | 300 | U | 71 | U | 43 | JB | 230 | U |
| 200-SB-7-74.70-VOC | | 74.7 - 74.8 | 74.7 | 74.8 | 74.75 | limestone | AF | FS | 460 | | 880 | U | 40 | J | 260 | U | 500 | U | 730 | U | 350 | U | 130 | U | 4800 | U | 270 | U | 670 | U | 170 | | 300 | U | 110 | U | 290 | U | 57 | U | 270 | U | 63 | U | 24 | JB | 210 | U |
| 200-SB-7-75.30-VOC | | 75.5 - 75.6 | 75.5 | 75.6 | 75.55 | mudstone weathered | AF | FS | 430 | Q | 1800 | QB | 78 | U | 360 | U | 690 | U | 1000 | U | 480 | U | 180 | U | 6600 | U | 370 | U | 920 | U | 190 | J | 410 | U | 150 | U | 400 | U | 79 | U | 370 | U | 87 | U | 29 | JB | 290 | U |
| 200-SB-7-77.80-VOC | 200-SB-7 | 77.8 - 77.9 | 77.8 | 77.9 | 77.85 | limestone | BF | FS | 160 | UQ | 850 | UQ | 54 | U | 250 | U | 480 | U | 710 | U | 340 | U | 120 | U | 4600 | U | 260 | U | 640 | U | 150 | U | 290 | U | 110 | U | 280 | U | 55 | U | 260 | U | 61 | U | 22 | JB | 200 | U |
| 200-SB-7-80.70-VOC | | 80.7 - 80.8 | 80.7 | 80.8 | 80.75 | limestone | BF | FS | 190 | UQ | 990 | UQ | 64 | U | 300 | U | 570 | U | 830 | U | 390 | U | 150 | U | 5400 | U | 61 | J | 750 | U | 170 | U | 340 | U | 120 | U | 330 | U | 65 | U | 300 | U | 71 | U | 28 | JB | 230 | U |
| 200-SB-7-80.90-VOC | | 80.9 - 81 | 80.9 | 81 | 80.95 | limestone | f3.5 | MAT | 190 | UQ | 1000 | UQ | 66 | U | 310 | U | 580 | U | 860 | U | 410 | U | 150 | U | 5600 | U | 320 | U | 780 | U | 180 | U | 350 | U | 130 | U | 340 | U | 67 | U | 310 | U | 74 | U | 24 | JB | 240 | U |
| 200-SB-7-81.30-VOC | | 81.3 - 81.4 | 81.3 | 81.4 | 81.35 | limestone | BF | FS | 220 | UQ | 1200 | UQ | 76 | U | 350 | U | 670 | U | 990 | U | 470 | U | 170 | U | 6400 | U | 370 | U | 900 | U | 200 | U | 400 | U | 150 | U | 390 | U | 77 | U | 360 | U | 85 | U | 26 | JB | 280 | U |
| 200-SB-7-82.00-VOC | | 82 - 82.1 | 82 | 82.1 | 82.05 | limestone | BF | FS | 190 | UQ | 1000 | UQ | 65 | U | 300 | U | 580 | U | 850 | U | 400 | U | 150 | U | 5500 | U | 310 | U | 770 | U | 180 | U | 340 | U | 130 | U | 340 | U | 67 | U | 310 | U | 73 | U | 24 | JB | 240 | U |
| 200-SB-7-83.10-VOC | | 83.1 - 83.2 | 83.1 | 83.2 | 83.15 | limestone | BF | FS | 160 | UQ | 850 | UQ | 54 | U | 250 | U | 480 | U | 710 | U | 340 | U | 120 | U | 4600 | U | 260 | U | 640 | U | 150 | U | 290 | U | 110 | U | 280 | U | 55 | U | 260 | U | 61 | U | 21 | JB | 200 | U |
| 200-SB-7-84.60-VOC | | 84.6 - 84.7 | 84.6 | 84.7 | 84.65 | limestone | BF | FS | 230 | U | 1200 | U | 78 | U | 360 | U | 690 | U | 1000 | U | 480 | U | 180 | U | 6600 | U | 370 | U | 920 | U | 210 | U | 410 | U | 150 | U | 400 | U | 79 | U | 370 | U | 87 | U | 110 | U | 290 | U |
| 200-SB-7-84.80-VOC | | 84.8 - 84.9 | 84.8 | 84.9 | 84.85 | limestone | f3.5 | MAT | 170 | U | 930 | U | 59 | U | 280 | U | 530 | U | 770 | U | 370 | U | 140 | U | 5000 | U | 290 | U | 700 | U | 160 | U | 310 | U | 120 | U | 310 | U | 60 | U | 280 | U | 66 | U | 84 | U | 220 | U |
| 200-SB-7-85.90-VOC | | 85.9 - 86 | 85.9 | 86 | 85.95 | limestone | BF | FS | 250 | U | 1300 | U | 85 | U | 390 | U | 750 | U | 1100 | U | 530 | U | 190 | U | 7200 | U | 410 | U | 1000 | U | 230 | U | 450 | U | 160 | U | 440 | U | 86 | U | 400 | U | 95 | U | 120 | U | 310 | U |
| 200-SB-7-87.60-VOC | | 87.6 - 87.7 | 87.6 | 87.7 | 87.65 | limestone | BF | FS | 260 | U | 1400 | U | 88 | U | 410 | U | 780 | U | 1100 | U | 550 | U | 200 | U | 7500 | U | 420 | U | 1000 | U | 240 | U | 460 | U | 170 | U | 460 | U | 90 | U | 420 | U | 98 | U | 130 | U | 320 | U |
| 200-SB-7-88.10-VOC | | 88.1 - 88.2 | 88.1 | 88.2 | 88.15 | limestone | f6 | MAT | 290 | U | 1600 | U | 99 | U | 460 | U | 880 | U | 1300 | U | 620 | U | 230 | U | 8500 | U | 86 | J | 1200 | U | 270 | U | 530 | U | 190 | U | 520 | U | 100 | U | 470 | U | 110 | U | 140 | U | 370 | U |
| 200-SB-7-89.50-VOC | | 89.5 - 89.6 | 89.5 | 89.6 | 89.55 | limestone | BF | FS | 1500 | U | 2400 | U | 790 | U | 1800 | U | 2200 | U | 2300 | U | 2000 | U | 1300 | U | 21000 | U | 1800 | U | 2300 | U | 1400 | U | 1900 | U | 1200 | U | 1900 | U | 800 | U | 1800 | U | 850 | U | 1000 | U | 1600 | U |
| 200-SB-7-89.80-VOC | | 89.8 - 89.9 | 89.8 | 89.9 | 89.85 | limestone | F4 | MAT | 1600 | U | 2500 | U | 840 | U | 1900 | U | 2300 | U | 2500 | U | 2100 | U | 1400 | U | 23000 | U | 1900 | U | 2400 | U | 1500 | U | 2000 | U | 1300 | U | 2000 | U | 850 | U | 1900 | U | 910 | U | 1100 | U | 1800 | U |
| 200-SB-7-90.90-VOC | | 90.9 - 91 | 90.9 | 91 | 90.95 | limestone | BF | FS | 2200 | U | 3500 | U | 1100 | U | 2600 | U | 3100 | U | 3400 | U | 2800 | U | 1900 | U | 31000 | U | 2600 | U | 3300 | U | 2100 | U | 2700 | U | 1700 | U | 2700 | U | 1100 | U | 2600 | U | 1200 | U | 1400 | U | 2400 | U |
| 200-SB-7-92.30-VOC | | 92.3 - 92.4 | 92.3 | 92.4 | 92.35 | limestone | BF | FS | 2200 | U | 3500 | U | 1200 | U | 2600 | U | 3200 | U | 3400 | U | 2900 | U | 1900 | U | 31000 | U | 2700 | U | 3400 | U | 2100 | U | 2800 | U | 1800 | U | 2700 | U | 1200 | U | 2700 | U | 1200 | U | 460 | J | 2400 | U |
| 200-SB-7-92.60-VOC | | 92.6 - 92.7 | 92.6 | 92.7 | 92.65 | limestone | f5 | MAT | 2400 | U | 3800 | U | 1200 | U | 2900 | U | 3400 | U | 3700 | U | 3100 | U | 2100 | U | 34000 | U | 2900 | U | 3600 | U | 2300 | U | 3000 | U | 1900 | U | 3000 | U | 1300 | U | 2900 | U | 1300 | U | 1600 | U | 2600 | U |
| 200-SB-7-96.90-VOC | | 96.9 - 97 | 96.9 | 97 | 96.95 | limestone | BF | FS | 1600 | U | 2600 | U | 860 | U | 2000 | U | 2400 | U | 2500 | U | 2200 | U | 1400 | U | 23000 | U | 2000 | U | 2500 | U | 1600 | U | 2000 | U | 1300 | U | 2000 | U | 870 | U | 2000 | U | 930 | U | 1100 | U | 1800 | U |
| 200-SB-7-97.30-VOC | | 97.3 - 97.4 | 97.3 | 97.4 | 97.35 | limestone | f4 | MAT | 2000 | U | 3200 | U | 1100 | U | 2400 | U | 2900 | U | 3100 | U | 2600 | U | 1800 | U | 29000 | U | 97 | J | 3100 | U | 1900 | U | 2500 | U | 3300 | | 2500 | U | 1100 | U | 2400 | U | 1100 | U | 540 | J | 2200 | U |
| 200-SB-7-98.30-VOC | | 98.3 - 98.4 | 98.3 | 98.4 | 98.35 | limestone | BET | FS | 2000 | U | 3200 | U | 1000 | U | 2400 | U | 2900 | U | 3100 | U | 2600 | U | 1700 | U | 28000 | U | 2400 | U | 3000 | U | 1900 | U | 2500 | U | 1600 | U | 2500 | U | 1100 | U | 2400 | U | 1100 | U | 1300 | U | 2200 | U |
| 200-SB-7-98.70-VOC | | 98.7 - 98.8 | 98.7 | 98.8 | 98.75 | limestone | f4 | MAT | 1900 | U | 3100 | U | 1000 | U | 2300 | U | 2800 | U | 3000 | U | 2500 | U | 1700 | U | 27000 | U | 2300 | U | 2900 | U | 1800 | U | 2400 | U | 480 | J | 2400 | U | 1000 | U | 2300 | U | 1100 | U | 1300 | U | 2100 | U |
| 200-SB-7-99.80-VOC | 200-SB-7 | 99.8 - 99.9 | 99.8 | 99.9 | 99.85 | limestone | BF | FS | 2000 | U | 3200 | U | 1000 | U | 2400 | U | 2800 | U | 3100 | U | 2600 | U | 1700 | U | 28000 | U | 2400 | U | 3000 | U | 1900 | U | 2500 | U | 490 | J | 2500 | U | 1000 | U | 2400 | U | 1100 | U | 360 | J | 2200 | U |
| 200-SB-7-100.65-VOC | | 100.65 - 100.75 | 100.65 | 100.75 | 100.7 | limestone | AF | FS | 1700 | U | 2700 | U | 900 | U | 2100 | U | 2500 | U | 2700 | U | 2300 | U | 1500 | U | 24000 | U | 440 | J | 2600 | U | 1600 | U | 2100 | U | 450 | J | 2100 | U | 910 | U | 2100 | U | 970 | U | 410 | J | 1900 | U |
| 200-SB-7-102.10-VOC | | 102.1 - 102.2 | 102.1 | 102.2 | 102.15 | limestone | BF | FS | 2000 | U | 3200 | U | 1100 | U | 2400 | U | 2900 | U | 3200 | U | 2700 | U | 1800 | U | 29000 | U | 2500 | U | 3100 | U | 1900 | U | 2500 | U | 1600 | U | 2500 | U | 1100 | U | 2500 | U | 1200 | U | 280 | J | 2200 | U |
| 200-SB-7-102.40-VOC | | 102.4 - 102.5 | 102.4 | 102.5 | 102.45 | limestone | f4 | MAT | 2300 | U | 3700 | U | 1200 | U | 2800 | U | 3400 | U | 3600 | U | 3100 | U | 2000 | U | 33000 | U | 2800 | U | 3600 | U | 2200 | U | 2900 | U | 1900 | U | 2900 | U | 1200 | U | 2800 | U | 1300 | U | 500 | J | 2600 | U |
| 200-SB-7-103.70-VOC | | 103.7 - 103.8 | 103.7 | 103.8 | 103.75 | limestone | BF | FS | 1600 | U | 2600 | U | 850 | U | 1900 | U | 2300 | U | 2500 | U | 2100 | U | 1400 | U | 23000 | U | 2000 | U | 2500 | U | 1500 | U | 2000 | U | 1300 | U | 2000 | U | 860 | U | 2000 | U | 920 | U | 1100 | U | 1800 | U |
| 200-SB-7-104.80-VOC | | 104.8 - 104.9 | 104.8 | 104.9 | 104.85 | limestone | BF | FS | 1900 | | 2300 | U | 1100 | | 1700 | U | 2100 | U | 2300 | U | 1900 | U | 1300 | U | 21000 | U | 1800 | U | 2200 | U | 1400 | U | 1800 | U | 1200 | U | 1800 | U | 770 | U | 1800 | U | 830 | U | 970 | U | 1600 | U |
| 200-SB-7-105.10-VOC | | 105.1 - 105.2 | 105.1 | 105.2 | 105.15 | limestone | f4 | MAT | 9300 | | 2100 | U | 5300 | | 1600 | U | 1900 | U | 2000 | U | 1700 | U | 1100 | U | 19000 | U | 1600 | U | 2000 | U | 560 | J | 1600 | U | 1100 | U | 1600 | U | 700 | U | 1600 | U | 740 | U | 870 | U | 1400 | U |
| 200-SB-7-105.70-VOC | | 105.7 - 105.8 | 105.7 | 105.8 | 105.75 | limestone | BF | FS | 860 | J | 2100 | U | 670 | J | 1600 | U | 1900 | U | 2100 | U | 1800 | U | 1200 | U | 19000 | U | 1600 | U | 2100 | U | 790 | J | 1700 | U | 1100 | U | 1700 | U | 710 | U | 1600 | U | 760 | U | 900 | U | 1500 | U |
| 200-SB-7-106.50-VOC | | 106.5 - 106.6 | 106.5 | 106.6 | 106.55 | limestone | BF | FS | 1500 | U | 2400 | U | 790 | U | 1800 | U | 2200 | U | 2400 | U | 2000 | U | 1300 | U | 22000 | U | 330 | J | 2300 | U | 1400 | U | 1900 | U | 1200 | U | 1900 | U | 810 | U | 1800 | U | 860 | U | 1000 | U | 1700 | U |
| 200-SB-7-108.30-VOC | | 108.3 - 108.4 | 108.3 | 108.4 | 108.35 | limestone | BF | FS | 1400 | U | 2300 | U | 750 | U | 1700 | U | 2100 | U | 2200 | U | 1900 | U | 1300 | U | 21000 | U | 1800 | U | 2200 | U | 1400 | U | 1800 | U | 1200 | U | 1800 | U | 770 | U | 1700 | U | 820 | U | 960 | U | 1600 | U |
| 200-SB-7-109.90-VOC | | 109.9 - 110 | 109.9 | 110 | 109.95 | clay | BET | FS | 2000 | U | 3300 | U | 1100 | U | 2400 | U | 2900 | U | 3200 | U | 2700 | U | 1800 | U | 29000 | U | 2500 | U | 3100 | U | 1900 | U | 2600 | U | 410 | J | 2500 | U | 1100 | U | 2500 | U | 1200 | U | 290 | J | 2200 | U |
| 200-SB-7-111.20-VOC | | 111.2 - 111.3 | 111.2 | 111.3 | 111.25 | limestone | AF | FS | 140 | U | 510 | U | 49 | U | 200 | U | 340 | U | 450 | U | 260 | U | 110 | U | 3300 | U | 210 | U | 420 | U | 130 | U | 230 | U | 30 | J | 220 | U | 50 | U | 210 | U | 55 | U | 17 | J | 170 | U |
| 200-SB-7-112.90-VOC | | 112.9 - 113 | 112.9 | 113 | 112.95 | limestone | BF | FS | 170 | U | 640 | U | 63 | U | 260 | U | 430 | U | 570 | U | 330 | U | 140 | U | 4200 | U | 270 | U | 540 | U | 160 | U | 290 | U | 120 | U | 280 | U | 64 | U | 260 | U | 70 | U | 29 | J | 210 | U |
| 200-SB-7-113.20-VOC | | 113.2 - 113.3 | 113.2 | 113.3 | 113.25 | limestone | f4 | MAT | 120 | U | 430 | U | 42 | U | 170 | U | 290 | U | 380 | U | 220 | U | 92 | U | 2800 | U | 180 | U | 360 | U | 110 | U | 190 | U | 260 | | 190 | U | 43 | U | 180 | U | 47 | U | 35 | J | 140 | U |

## Table 5: Estimated Porewater Concentrations (ug/L) in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | Estimated Pore Water Concentration (µg/L) (4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear ft | Sample Lithology (3a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-7-115.50-VOC | | 115.5 - 115.6 | 115.5 | 115.6 | 115.55 | limestone | BF | FS | 120 | U | 460 | U | 45 | U | 180 | U | 310 | U | 410 | U | 230 | U | 97 | U | 3000 | U | 91 | J | 380 | U | 110 | U | 200 | U | 45 | J | 200 | U | 45 | U | 190 | U | 50 | U | 14 | J | 150 | U |
| 200-SB-7-115.80-VOC | | 115.8 - 115.9 | 115.8 | 115.9 | 115.85 | limestone | f4 | MAT | 120 | U | 430 | U | 42 | U | 170 | U | 290 | U | 380 | U | 220 | U | 92 | U | 2800 | U | 650 | | 360 | U | 110 | U | 190 | U | 540 | | 190 | U | 43 | U | 180 | U | 47 | U | 35 | J | 140 | U |
| 200-SB-7-117.10-VOC | | 117.1 - 117.2 | 117.1 | 117.2 | 117.15 | limestone | BF | FS | 280 | | 420 | U | 44 | | 170 | U | 280 | U | 370 | U | 210 | U | 90 | U | 2700 | U | 28 | J | 350 | U | 100 | U | 190 | U | 38 | J | 190 | U | 42 | U | 170 | U | 46 | U | 10 | J | 140 | U |
| 200-SB-7-118.20-VOC | | 118.2 - 118.3 | 118.2 | 118.3 | 118.25 | clay | BET | FS | 84 | J | 480 | U | 47 | U | 190 | U | 320 | U | 420 | U | 240 | U | 100 | U | 3100 | U | 200 | U | 400 | U | 90 | J | 210 | U | 39 | J | 210 | U | 47 | U | 200 | U | 52 | U | 12 | J | 160 | U |
| 200-SB-7-120.50-VOC | | 120.5 - 120.6 | 120.5 | 120.6 | 120.55 | limestone | BF | FS | 120 | U | 440 | U | 43 | U | 180 | U | 300 | U | 390 | U | 230 | U | 94 | U | 1500 | J | 180 | U | 370 | U | 110 | U | 200 | U | 37 | J | 200 | U | 44 | U | 180 | U | 48 | U | 11 | J | 150 | U |
| 200-SB-7-121.00-VOC | | 121 - 121.1 | 121 | 121.1 | 121.05 | limestone | BF | FS | 130 | U | 500 | U | 49 | U | 200 | U | 340 | U | 440 | U | 250 | U | 110 | U | 3200 | U | 210 | U | 410 | U | 120 | U | 220 | U | 42 | J | 220 | U | 50 | U | 200 | U | 54 | U | 13 | J | 160 | U |
| 200-SB-7-121.60-VOC | 200-SB-7 | 121.6 - 121.7 | 121.6 | 121.7 | 121.65 | limestone | BET | FS | 120 | U | 450 | U | 44 | U | 180 | U | 300 | U | 400 | U | 230 | U | 96 | U | 2900 | U | 190 | U | 380 | U | 110 | U | 200 | U | 42 | J | 200 | U | 45 | U | 180 | U | 49 | U | 12 | J | 150 | U |
| 200-SB-7-123.30-VOC | | 123.3 - 123.4 | 123.3 | 123.4 | 123.35 | limestone | BF | FS | 94 | U | 290 | J | 34 | U | 140 | U | 240 | U | 310 | U | 180 | U | 74 | U | 2300 | U | 140 | U | 290 | U | 87 | U | 160 | U | 26 | J | 150 | U | 35 | U | 140 | U | 38 | U | 8.6 | J | 110 | U |
| 200-SB-7-124.10-VOC | | 124.1 - 124.2 | 124.1 | 124.2 | 124.15 | limestone | BF | FS | 130 | U | 470 | U | 46 | U | 190 | U | 320 | U | 420 | U | 240 | U | 100 | U | 3100 | U | 200 | U | 390 | U | 120 | U | 210 | U | 39 | J | 210 | U | 47 | U | 190 | U | 52 | U | 12 | J | 160 | U |
| 200-SB-7-125.10-VOC | | 125.1 - 125.2 | 125.1 | 125.2 | 125.15 | limestone | BF | FS | 100 | U | 380 | U | 37 | U | 150 | U | 260 | U | 340 | U | 200 | U | 82 | U | 2500 | U | 160 | U | 320 | U | 95 | U | 170 | U | 32 | J | 170 | U | 38 | U | 160 | U | 42 | U | 9.5 | J | 130 | U |
| 200-SB-7-125.90-VOC | | 125.9 - 126 | 125.9 | 126 | 125.95 | limestone | AF | FS | 110 | U | 400 | U | 39 | U | 160 | U | 270 | U | 360 | U | 210 | U | 86 | U | 2600 | U | 170 | U | 340 | U | 100 | U | 180 | U | 74 | U | 180 | U | 40 | U | 170 | U | 44 | U | 55 | U | 130 | U |
| 200-SB-7-127.30-VOC | | 127.3 - 127.4 | 127.3 | 127.4 | 127.35 | mudstone | BET | FS | 2100 | U | 4000 | U | 990 | U | 2700 | U | 3500 | U | 3900 | U | 3100 | U | 1800 | U | 34000 | U | 2800 | U | 3800 | U | 2000 | U | 2900 | U | 1600 | U | 2900 | U | 1000 | U | 2700 | U | 1100 | U | 1300 | U | 2400 | U |
| 200-SB-7-127.70-VOC | | 127.7 - 127.8 | 127.7 | 127.8 | 127.75 | mudstone | f4 | MAT | 1500 | U | 2900 | U | 700 | U | 1900 | U | 2500 | U | 2700 | U | 2200 | U | 1300 | U | 24000 | U | 1900 | U | 2700 | U | 1400 | U | 2000 | U | 1200 | U | 2000 | U | 710 | U | 1900 | U | 770 | U | 920 | U | 1700 | U |
| 200-SB-7-128.10-VOC | | 128.1 - 128.2 | 128.1 | 128.2 | 128.15 | limestone | f9 | MAT | 1800 | U | 3400 | U | 830 | U | 2300 | U | 2900 | U | 3300 | U | 2600 | U | 1500 | U | 29000 | U | 2300 | U | 3200 | U | 1700 | U | 2400 | U | 1400 | U | 2400 | U | 850 | U | 2300 | U | 910 | U | 1100 | U | 2000 | U |
| 200-SB-7-129.40-VOC | | 129.4 - 129.5 | 129.4 | 129.5 | 129.45 | limestone | BF | FS | 3800 | | 3500 | U | 1900 | | 2300 | U | 3000 | U | 3300 | U | 2600 | U | 1600 | U | 29000 | U | 2400 | U | 3200 | U | 1700 | U | 2400 | U | 1400 | U | 2400 | U | 860 | U | 2300 | U | 930 | U | 340 | J | 2100 | U |
| 200-SB-7-131.20-VOC | | 131.2 - 131.3 | 131.2 | 131.3 | 131.25 | limestone | BF | FS | 1400 | U | 2700 | U | 660 | U | 1800 | U | 2300 | U | 2600 | U | 2000 | U | 1200 | U | 23000 | U | 1800 | U | 2500 | U | 1300 | U | 1900 | U | 1100 | U | 1900 | U | 670 | U | 1800 | U | 720 | U | 860 | U | 1600 | U |
| 200-SB-7-133.60-VOC | | 133.6 - 133.7 | 133.6 | 133.7 | 133.65 | limestone | BF | FS | 6600 | | 3100 | U | 4200 | | 2100 | U | 2600 | U | 2900 | U | 2300 | U | 1400 | U | 26000 | U | 2100 | U | 2900 | U | 1500 | U | 2200 | U | 1200 | U | 2200 | U | 770 | U | 2100 | U | 830 | U | 990 | U | 1800 | U |
| 200-SB-7-135.00-VOC | | 135 - 135.1 | 135 | 135.1 | 135.05 | limestone | BF | FS | 1500 | U | 2900 | U | 720 | U | 2000 | U | 2500 | U | 2800 | U | 2200 | U | 1300 | U | 25000 | U | 2000 | U | 2800 | U | 1500 | U | 2100 | U | 1200 | U | 2100 | U | 740 | U | 2000 | U | 790 | U | 960 | U | 1800 | U |
| 200-SB-7-135.30-VOC | | 135.3 - 135.4 | 135.3 | 135.4 | 135.35 | limestone | AF | FS | 1600 | U | 3100 | U | 760 | U | 2100 | U | 2700 | U | 3000 | U | 2300 | U | 1400 | U | 26000 | U | 2100 | U | 2900 | U | 1500 | U | 2200 | U | 1200 | U | 2200 | U | 770 | U | 2100 | U | 830 | U | 1000 | U | 1800 | U |
| 200-SB-7-135.60-VOC | | 135.6 - 135.7 | 135.6 | 135.7 | 135.65 | Sandstone | BF | FS | 1700 | U | 3200 | U | 780 | U | 2100 | U | 2700 | U | 3000 | U | 2400 | U | 1400 | U | 27000 | U | 2200 | U | 3000 | U | 1600 | U | 2300 | U | 1300 | U | 2200 | U | 790 | U | 2100 | U | 850 | U | 1000 | U | 1900 | U |
| 200-SB-7-137.85-VOC | | 137.85 - 137.95 | 137.85 | 137.95 | 137.9 | limestone | BF | FS | 1300 | U | 2500 | U | 610 | U | 1700 | U | 2100 | U | 2400 | U | 1900 | U | 1100 | U | 21000 | U | 1700 | U | 2300 | U | 1200 | U | 1800 | U | 1000 | U | 1700 | U | 620 | U | 1700 | U | 670 | U | 800 | U | 1500 | U |
| 200-SB-7-138.40-VOC | | 138.4 - 138.5 | 138.4 | 138.5 | 138.45 | limestone | BET | FS | 970 | U | 1800 | U | 450 | U | 1200 | U | 1600 | U | 1800 | U | 1400 | U | 830 | U | 16000 | U | 1300 | U | 1700 | U | 920 | U | 1300 | U | 750 | U | 1300 | U | 460 | U | 1300 | U | 500 | U | 600 | U | 1100 | U |
| 200-SB-7-138.80-VOC | | 138.8 - 138.9 | 138.8 | 138.9 | 138.85 | limestone | BF | FS | 3100 | | 2300 | U | 1600 | | 1500 | U | 2000 | U | 2200 | U | 1800 | U | 1000 | U | 20000 | U | 1600 | U | 2200 | U | 1200 | U | 1600 | U | 940 | U | 1600 | U | 580 | U | 1600 | U | 620 | U | 750 | U | 1400 | U |
| 200-SB-7-140.50-VOC | | 140.5 - 140.6 | 140.5 | 140.6 | 140.55 | breccia | BET | FS | 1500 | U | 2900 | U | 11000 | | 1900 | U | 2500 | U | 2800 | U | 2200 | U | 1300 | U | 25000 | U | 2000 | U | 2700 | U | 1400 | U | 2000 | U | 1200 | U | 2000 | U | 720 | U | 2000 | U | 780 | U | 940 | U | 1700 | U |
| 200-SB-7-140.80-VOC | | 140.8 - 140.9 | 140.8 | 140.9 | 140.85 | breccia | BF | FS | 1400 | U | 2700 | U | 2500 | | 1800 | U | 2300 | U | 2600 | U | 2100 | U | 1200 | U | 23000 | U | 1900 | U | 2500 | U | 1400 | U | 1900 | U | 1100 | U | 1900 | U | 680 | U | 1800 | U | 730 | U | 880 | U | 1600 | U |
| 200-SB-7-143.90-VOC | | 143.9 - 144 | 143.9 | 144 | 143.95 | limestone | BF | FS | 43000 | | 2500 | J | 52000 | | 1800 | U | 2300 | U | 2500 | U | 2000 | U | 1200 | U | 22000 | U | 1800 | U | 2500 | U | 780 | J | 1900 | U | 1100 | U | 1800 | U | 650 | U | 1800 | U | 700 | U | 850 | U | 1600 | U |
| 200-SB-7-144.20-VOC | 200-SB-7 | 144.2 - 144.3 | 144.2 | 144.3 | 144.25 | limestone | f4 | MAT | 1600 | U | 3800 | U | 690 | U | 2200 | U | 3100 | U | 3600 | U | 2600 | U | 1400 | U | 30000 | U | 2300 | U | 3500 | U | 1500 | U | 2400 | U | 1200 | U | 2400 | U | 710 | U | 2200 | U | 770 | U | 940 | U | 1900 | U |
| 200-SB-7-144.70-VOC | | 144.7 - 144.8 | 144.7 | 144.8 | 144.75 | limestone | BF | FS | 1600 | U | 5800 | | 660 | U | 2100 | U | 2900 | U | 3400 | U | 2500 | U | 1300 | U | 29000 | U | 2200 | U | 3300 | U | 1500 | U | 2300 | U | 1100 | U | 2300 | U | 670 | U | 2100 | U | 730 | U | 900 | U | 1800 | U |
| 200-SB-7-146.40-VOC | | 146.4 - 146.5 | 146.4 | 146.5 | 146.45 | limestone | BF | FS | 1700 | U | 4900 | | 700 | U | 2200 | U | 3100 | U | 3600 | U | 2600 | U | 1400 | U | 31000 | U | 2300 | U | 3500 | U | 1600 | U | 2400 | U | 1200 | U | 2400 | U | 710 | U | 2300 | U | 770 | U | 950 | U | 1900 | U |
| 200-SB-7-148.10-VOC | | 148.1 - 148.2 | 148.1 | 148.2 | 148.15 | limestone | BF | FS | 1500 | U | 2000 | J | 560 | J | 2000 | U | 2800 | U | 3300 | U | 2400 | U | 1200 | U | 28000 | U | 310 | J | 3200 | U | 1400 | U | 2200 | U | 1100 | U | 2200 | U | 650 | U | 2000 | U | 700 | U | 170 | J | 1700 | U |
| 200-SB-7-148.70-VOC | | 148.7 - 148.8 | 148.7 | 148.8 | 148.75 | limestone | BF | FS | 1400 | U | 2500 | J | 600 | U | 1900 | U | 2700 | U | 3100 | U | 2300 | U | 1200 | U | 26000 | U | 590 | J | 3000 | U | 1300 | U | 2100 | U | 1800 | | 2700 | 0 | 610 | U | 1900 | U | 670 | U | 2300 | | 1700 | U |
| 200-SB-7-149.90-VOC | | 149.9 - 150 | 149.9 | 150 | 149.95 | limestone | AF | FS | 1200 | J | 4100 | U | 2000 | | 2400 | U | 3400 | U | 3900 | U | 2800 | U | 1500 | U | 33000 | U | 2500 | U | 3800 | U | 1800 | | 2600 | U | 1300 | U | 2600 | U | 770 | U | 2400 | U | 830 | U | 1000 | U | 2100 | U |
| 200-SB-7-152.80-VOC | | 152.8 - 152.9 | 152.8 | 152.9 | 152.85 | clay | BET | FS | 2400 | U | 5700 | U | 1000 | | 3300 | U | 4600 | U | 5400 | U | 3900 | U | 2000 | U | 45000 | U | 3400 | U | 5200 | U | 2300 | U | 3600 | U | 1800 | U | 3500 | U | 1100 | U | 3300 | U | 1100 | U | 460 | J | 2900 | U |
| 200-SB-7-153.50-VOC | | 153.5 - 153.6 | 153.5 | 153.6 | 153.55 | limestone | BF | FS | 1500 | U | 3400 | U | 630 | U | 2000 | U | 2800 | U | 3200 | U | 2300 | U | 1200 | U | 27000 | U | 410 | J | 3100 | U | 1400 | U | 2100 | U | 530 | J | 2100 | U | 640 | U | 2000 | U | 690 | U | 540 | J | 1700 | U |
| 200-SB-7-154.50-VOC | | 154.5 - 154.6 | 154.5 | 154.6 | 154.55 | limestone | BF | FS | 1600 | U | 3700 | U | 670 | U | 2100 | U | 3000 | U | 3500 | U | 2500 | U | 1300 | U | 29000 | U | 2200 | U | 3400 | U | 1500 | U | 2300 | U | 1200 | U | 2300 | U | 690 | U | 2200 | U | 740 | U | 910 | U | 1900 | U |
| 200-SB-7-155.00-VOC | | 155 - 155.1 | 155 | 155.1 | 155.05 | limestone | f5 | MAT | 1900 | U | 4500 | U | 830 | U | 2600 | U | 3700 | U | 4300 | U | 3100 | U | 1600 | U | 36000 | U | 2700 | U | 4100 | U | 1800 | U | 2800 | U | 1400 | U | 2800 | U | 840 | U | 2700 | U | 910 | U | 1100 | U | 2300 | U |
| 200-SB-7-155.50-VOC | | 155.5 - 155.6 | 155.5 | 155.6 | 155.55 | limestone | BF | FS | 1800 | U | 4200 | U | 770 | U | 2400 | U | 3400 | U | 4000 | U | 2900 | U | 1500 | U | 33000 | U | 2500 | U | 3800 | U | 1700 | U | 2600 | U | 1300 | U | 2600 | U | 780 | U | 2500 | U | 850 | U | 1000 | U | 2100 | U |
| 200-SB-7-159.60-VOC | | 159.6 - 159.7 | 159.6 | 159.7 | 159.65 | limestone | BET | FS | 1600 | J | 5200 | U | 3500 | | 3000 | U | 4200 | U | 4900 | U | 3600 | U | 1900 | U | 42000 | U | 3100 | U | 4800 | U | 2100 | U | 3300 | U | 1700 | U | 3200 | U | 970 | U | 3100 | U | 1000 | U | 1300 | U | 2600 | U |
| 200-SB-7-160.20-VOC | | 160.2 - 160.3 | 160.2 | 160.3 | 160.25 | limestone | BF | FS | 650 | U | 3000 | U | 800 | | 1000 | U | 1800 | U | 2600 | U | 1300 | U | 510 | U | 18000 | U | 1000 | U | 2400 | U | 600 | U | 1100 | U | 440 | U | 1100 | U | 230 | U | 1000 | U | 250 | U | 320 | U | 810 | U |
| 200-SB-7-160.60-VOC | | 160.6 - 160.7 | 160.6 | 160.7 | 160.65 | limestone | f4 | MAT | 680 | U | 3200 | U | 240 | U | 1100 | U | 1900 | U | 2700 | U | 1400 | U | 540 | U | 19000 | U | 1100 | U | 2500 | U | 630 | U | 1200 | U | 460 | U | 1200 | U | 240 | U | 1100 | U | 270 | U | 340 | U | 850 | U |
| 200-SB-7-161.10-VOC | | 161.1 - 161.2 | 161.1 | 161.2 | 161.15 | limestone | f10 | MAT | 580 | U | 2700 | U | 200 | U | 900 | U | 1600 | U | 2300 | U | 1200 | U | 450 | U | 16000 | U | 930 | U | 2100 | U | 530 | U | 1000 | U | 390 | U | 1000 | U | 210 | U | 920 | U | 230 | U | 290 | U | 720 | U |
| 200-SB-7-162.20-VOC | | 162.2 - 162.3 | 162.2 | 162.3 | 162.25 | limestone | BF | FS | 680 | U | 3200 | U | 240 | U | 1100 | U | 1900 | U | 2700 | U | 1400 | U | 540 | U | 19000 | U | 1100 | U | 2500 | U | 630 | U | 1200 | U | 460 | U | 1200 | U | 240 | U | 1100 | U | 270 | U | 340 | U | 850 | U |
| 200-SB-7-162.30-VOC | | 162.3 - 162.4 | 162.3 | 162.4 | 162.35 | limestone | BF | FS | 510 | U | 2400 | U | 180 | U | 800 | U | 1500 | U | 2000 | U | 1000 | U | 400 | U | 14000 | U | 830 | U | 1900 | U | 470 | U | 900 | U | 340 | U | 890 | U | 180 | U | 820 | U | 200 | U | 250 | U | 640 | U |
| 200-SB-7-164.70-VOC | | 164.7 - 164.8 | 164.7 | 164.8 | 164.75 | limestone | BET | FS | 750 | | 2100 | U | 1100 | | 700 | U | 1300 | U | 1800 | U | 920 | U | 350 | U | 12000 | U | 720 | U | 1600 | U | 410 | U | 790 | U | 300 | U | 780 | U | 160 | U | 720 | U | 180 | U | 220 | U | 560 | U |
| 200-SB-7-166.20-VOC | | 166.2 - 166.3 | 166.2 | 166.3 | 166.25 | limestone | BF | FS | 540 | U | 2500 | U | 190 | U | 840 | U | 1500 | U | 2200 | U | 1100 | U | 420 | U | 8100 | J | 870 | U | 2000 | U | 500 | U | 950 | U | 360 | U | 940 | U | 190 | U | 860 | U | 210 | U | 270 | U | 670 | U |
| 200-SB-7-166.70-VOC | | 166.7 - 166.8 | 166.7 | 166.8 | 166.75 | limestone | BET | FS | 580 | U | 2700 | U | 200 | U | 900 | U | 1600 | U | 2300 | U | 1200 | U | 460 | U | 16000 | U | 940 | J | 2100 | U | 540 | U | 1000 | U | 390 | U | 1000 | U | 210 | U | 920 | U | 230 | U | 290 | U | 720 | U |
| 200-SB-7-168.80-VOC | | 168.8 - 168.9 | 168.8 | 168.9 | 168.85 | limestone | BF | FS | 700 | U | 3800 | | 240 | U | 1100 | U | 2000 | U | 2800 | U | 1400 | U | 550 | U | 19000 | U | 1100 | U | 2500 | U | 640 | U | 1200 | U | 470 | U | 1200 | U | 250 | U | 1100 | U | 270 | U | 340 | U | 870 | U |
| 200-SB-7-170.10-VOC | | 170.1 - 170.2 | 170.1 | 170.2 | 170.15 | limestone | BF | FS | 640 | U | 3000 | U | 420 | | 1000 | U | 1800 | U | 2500 | U | 1300 | U | 500 | U | 11000 | J | 1000 | U | 2300 | U | 590 | U | 1100 | U | 430 | U | 1100 | U | 230 | U | 1000 | U | 250 | U | 320 | U | 800 | U |
| 200-SB-7-171.00-VOC | | 171 - 171.1 | 171 | 171.1 | 171.05 | limestone | BF | FS | 510 | U | 2400 | U | 170 | J | 800 | U | 1500 | U | 2000 | U | 1000 | U | 400 | U | 14000 | U | 830 | U | 1900 | U | 470 | U | 900 | U | 340 | U | 890 | U | 180 | U | 820 | U | 200 | U | 250 | U | 640 | U |
| 200-SB-7-172.40-VOC | | 172.4 - 172.5 | 172.4 | 172.5 | 172.45 | limestone | BF | FS | 480 | U | 2200 | U | 170 | U | 740 | U | 1400 | U | 1900 | U | 970 | U | 370 | U | 13000 | U | 770 | U | 1700 | U | 440 | U | 840 | U | 320 | U | 830 | U | 170 | U | 760 | U | 190 | U | 240 | U | 590 | U |
| 200-SB-7-172.65-VOC | | 172.65 - 172.7 | 172.65 | 172.7 | 172.675 | limestone | BF | FS | 650 | U | 3000 | U | 230 | U | 1000 | U | 1800 | U | 2600 | U | 1300 | U | 510 | U | 18000 | U | 1000 | U | 2400 | U | 600 | U | 1100 | U | 440 | U | 1100 | U | 230 | U | 1000 | U | 250 | U | 320 | U | 810 | U |
| 200-SB-7-173.70-VOC | | 173.7 - 173.8 | 173.7 | 173.8 | 173.75 | clay | BET | FS | 820 | U | 3800 | U | 280 | U | 1300 | U | 2300 | U | 3200 | U | 1700 | U | 640 | U | 22000 | U | 1300 | U | 3000 | U | 750 | U | 1400 | U | 550 | U | 1400 | U | 290 | U | 1300 | U | 320 | U | 400 | U | 1000 | U |
| 200-SB-7-174.10-VOC | | 174.1 - 174.2 | 174.1 | 174.2 | 174.15 | limestone | f5 | MAT | 1200 | U | 14000 | U | 430 | U | 1900 | U | 3500 | U | 4900 | U | 2500 | U | 970 | U | 34000 | U | 2000 | U | 4500 | U | 1100 | U | 2200 | U | 830 | U | 2100 | U | 440 | U | 2000 | U | 480 | U | 610 | U | 1500 | U |
| 200-SB-7-175.30-VOC | | 175.3 - 175.4 | 175.3 | 175.4 | 175.35 | clay | BET | FS | 1400 | U | 16000 | U | 480 | U | 2100 | U | 3900 | U | 5400 | U | 2800 | U | 1100 | U | 37000 | U | 2200 | U | 5000 | U | 1300 | U | 2400 | U | 920 | U | 2400 | U | 490 | U | 2200 | U | 530 | U | 680 | U | 1700 | U |

## Table 5: Estimated Porewater Concentrations (ug/L) in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | Estimated Pore Water Concentration (µg/L) (4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear ft | Sample Lithology (3a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-7-176.90-VOC | 200-SB-7 | 176.9 - 177 | 176.9 | 177 | 176.95 | limestone | BF | FS | 1300 | U | 15000 | U | 450 | U | 2000 | U | 3600 | U | 5100 | U | 2600 | U | 1000 | U | 35000 | U | 2100 | U | 4700 | U | 1200 | U | 2200 | U | 860 | U | 2200 | U | 460 | U | 2000 | U | 500 | U | 630 | U | 1600 | U |
| 200-SB-7-178.15-VOC | | 178.15 - 178.25 | 178.15 | 178.25 | 178.2 | limestone | NA | MAT | 1200 | U | 14000 | U | 420 | U | 1900 | U | 3400 | U | 4800 | U | 2500 | U | 940 | U | 33000 | U | 1900 | U | 4400 | U | 1100 | U | 2100 | U | 810 | U | 2100 | U | 430 | U | 1900 | U | 470 | U | 600 | U | 1500 | U |
| 200-SB-7-180.10-VOC | | 180.1 - 180.2 | 180.1 | 180.2 | 180.15 | limestone | AF | FS | 1000 | U | 12000 | U | 360 | U | 1600 | U | 2900 | U | 4100 | U | 2100 | U | 810 | U | 28000 | U | 1700 | U | 3800 | U | 950 | U | 1800 | U | 690 | U | 1800 | U | 370 | U | 1600 | U | 400 | U | 510 | U | 1300 | U |
| 200-SB-7-180.60-VOC | | 180.6 - 180.7 | 180.6 | 180.7 | 180.65 | clay goudge | f5 | MAT | 1500 | U | 18000 | U | 540 | U | 2400 | U | 4400 | U | 6200 | U | 3200 | U | 1200 | U | 42000 | U | 2500 | U | 5700 | U | 1400 | U | 2700 | U | 1000 | U | 2700 | U | 550 | U | 2500 | U | 600 | U | 770 | U | 1900 | U |
| 200-SB-7-182.10-VOC | | 182.1 - 182.2 | 182.1 | 182.2 | 182.15 | limestone | BET | FS | 1200 | U | 14000 | U | 420 | U | 1900 | U | 3400 | U | 4800 | U | 2500 | U | 950 | U | 33000 | U | 1900 | U | 4400 | U | 1100 | U | 2100 | U | 810 | U | 2100 | U | 430 | U | 1900 | U | 470 | U | 600 | U | 1500 | U |
| 200-SB-7-182.90-VOC | | 182.9 - 183 | 182.9 | 183 | 182.95 | limestone | BET | FS | 470 | U | 16000 | U | 150 | U | 810 | U | 2000 | U | 4000 | U | 1200 | U | 350 | U | 18000 | U | 850 | U | 3300 | U | 430 | U | 950 | U | 300 | U | 930 | U | 150 | U | 830 | U | 160 | U | 210 | U | 610 | U |
| 200-SB-7-183.60-VOC | | 183.6 - 183.7 | 183.6 | 183.7 | 183.65 | limestone | BF | FS | 350 | U | 12000 | U | 110 | U | 600 | U | 1500 | U | 2900 | U | 860 | U | 260 | U | 14000 | U | 620 | U | 2400 | U | 310 | U | 700 | U | 220 | U | 690 | U | 110 | U | 610 | U | 120 | U | 160 | U | 450 | U |
| 200-SB-7-184.20-VOC | | 184.2 - 184.3 | 184.2 | 184.3 | 184.25 | limestone | f6 | MAT | 500 | U | 17000 | U | 160 | U | 870 | U | 2100 | U | 4300 | U | 1300 | U | 380 | U | 20000 | U | 910 | U | 3500 | U | 460 | U | 1000 | U | 320 | U | 1000 | U | 160 | U | 890 | U | 180 | U | 230 | U | 650 | U |
| 200-SB-7-185.40-VOC | | 185.4 - 185.5 | 185.4 | 185.5 | 185.45 | limestone | BF | FS | 480 | U | 16000 | U | 150 | U | 830 | U | 2000 | U | 4100 | U | 1200 | U | 360 | U | 19000 | U | 860 | U | 3400 | U | 430 | U | 970 | U | 300 | U | 950 | U | 150 | U | 850 | U | 170 | U | 220 | U | 620 | U |
| 200-SB-7-187.30-VOC | | 187.3 - 187.4 | 187.3 | 187.4 | 187.35 | limestone | BET | FS | 390 | U | 13000 | U | 120 | U | 670 | U | 1600 | U | 3300 | U | 970 | U | 290 | U | 15000 | U | 700 | U | 2700 | U | 350 | U | 790 | U | 250 | U | 780 | U | 120 | U | 690 | U | 140 | U | 180 | U | 510 | U |
| 200-SB-7-188.20-VOC | | 188.2 - 188.3 | 188.2 | 188.3 | 188.25 | limestone | BF | FS | 350 | U | 12000 | U | 110 | U | 610 | U | 1500 | U | 3000 | U | 880 | U | 270 | U | 14000 | U | 640 | U | 2500 | U | 320 | U | 710 | U | 220 | U | 700 | U | 110 | U | 630 | U | 120 | U | 160 | U | 460 | U |
| 200-SB-7-188.80-VOC | | 188.8 - 188.9 | 188.8 | 188.9 | 188.85 | limestone | BET | FS | 340 | U | 12000 | U | 110 | U | 590 | U | 1500 | U | 2900 | U | 860 | U | 260 | U | 14000 | U | 620 | U | 2400 | U | 310 | U | 700 | U | 220 | U | 680 | U | 110 | U | 610 | U | 120 | U | 160 | U | 450 | U |
| 200-SB-7-189.80-VOC | 200-SB-7 | 189.8 - 189.9 | 189.8 | 189.9 | 189.85 | limestone | BF | FS | 350 | U | 12000 | U | 110 | U | 600 | U | 1500 | U | 3000 | U | 870 | U | 260 | U | 14000 | U | 630 | U | 2400 | U | 320 | U | 700 | U | 220 | U | 690 | U | 110 | U | 620 | U | 120 | U | 160 | U | 450 | U |
| 200-SB-7-193.10-VOC | | 193.1 - 193.2 | 193.1 | 193.2 | 193.15 | limestone | BET | FS | 550 | U | 18000 | U | 170 | U | 950 | U | 2300 | U | 4700 | U | 1400 | U | 410 | U | 22000 | U | 990 | U | 3800 | U | 500 | U | 1100 | U | 350 | U | 1100 | U | 170 | U | 970 | U | 190 | U | 250 | U | 710 | U |
| 200-SB-7-194.00-VOC | | 194 - 194.1 | 194 | 194.1 | 194.05 | limestone | BET | FS | 420 | U | 14000 | U | 130 | U | 730 | U | 1800 | U | 3600 | U | 1100 | U | 320 | U | 17000 | U | 760 | U | 3000 | U | 380 | U | 860 | U | 270 | U | 840 | U | 130 | U | 750 | U | 150 | U | 190 | U | 550 | U |
| 200-SB-7-194.50-VOC | | 194.5 - 194.6 | 194.5 | 194.6 | 194.55 | limestone | BF | FS | 400 | U | 13000 | U | 120 | U | 690 | U | 1700 | U | 3400 | U | 1000 | U | 300 | U | 16000 | U | 720 | U | 2800 | U | 360 | U | 810 | U | 250 | U | 790 | U | 130 | U | 710 | U | 140 | U | 180 | U | 520 | U |
| 200-SB-7-196.50-VOC | | 196.5 - 196.6 | 196.5 | 196.6 | 196.55 | limestone | BF | FS | 380 | U | 13000 | U | 120 | U | 650 | U | 1600 | U | 3200 | U | 950 | U | 290 | U | 15000 | U | 680 | U | 2600 | U | 340 | U | 770 | U | 240 | U | 750 | U | 120 | U | 670 | U | 130 | U | 170 | U | 490 | U |
| 200-SB-7-198.60-VOC | | 198.6 - 198.7 | 198.6 | 198.7 | 198.65 | limestone | BF | FS | 300 | U | 10000 | U | 95 | U | 520 | U | 1300 | U | 2600 | U | 760 | U | 230 | U | 12000 | U | 550 | U | 2100 | U | 280 | U | 610 | U | 190 | U | 600 | U | 97 | U | 540 | U | 110 | U | 140 | U | 400 | U |
| 200-SB-7-199.20-VOC | | 199.2 - 199.3 | 199.2 | 199.3 | 199.25 | limestone | BF | FS | 480 | U | 16000 | U | 150 | U | 820 | U | 2000 | U | 4100 | U | 1200 | U | 360 | U | 19000 | U | 860 | U | 3300 | U | 430 | U | 970 | U | 300 | U | 950 | U | 150 | U | 850 | U | 170 | U | 220 | U | 620 | U |
| 200-SB-7-200.50-VOC | | 200.5 - 200.6 | 200.5 | 200.6 | 200.55 | limestone | BF | FS | 340 | U | 11000 | U | 110 | U | 590 | U | 1400 | U | 2900 | U | 850 | U | 260 | U | 13000 | U | 610 | U | 2400 | U | 310 | U | 690 | U | 210 | U | 680 | U | 110 | U | 600 | U | 120 | U | 150 | U | 440 | U |
| 200-SB-7-200.80-VOC | | 200.8 - 200.9 | 200.8 | 200.9 | 200.85 | limestone | f4 | MAT | 450 | U | 15000 | U | 140 | U | 770 | U | 1900 | U | 3800 | U | 1100 | U | 340 | U | 18000 | U | 810 | U | 3100 | U | 400 | U | 900 | U | 280 | U | 890 | U | 140 | U | 790 | U | 160 | U | 200 | U | 580 | U |
| 200-SB-6-20.50-VOC | 200-SB-6 | 20.5 - 20.6 | 20.5 | 20.6 | 20.55 | mudstone | BET | FS | 880 | U | 15000 | U | 290 | U | 1400 | U | 3000 | U | 4800 | U | 2000 | U | 680 | U | 28000 | U | 1500 | U | 4200 | U | 480 | J | 1700 | U | 570 | U | 1600 | U | 300 | U | 1500 | U | 330 | U | 420 | U | 1100 | U |
| 200-SB-6-21.60-VOC | | 21.6 - 21.7 | 21.6 | 21.7 | 21.65 | mudstone | BF | FS | 590 | U | 10000 | U | 190 | U | 970 | U | 2000 | U | 3200 | U | 1300 | U | 460 | U | 19000 | U | 1000 | U | 2800 | U | 760 | | 1100 | U | 380 | U | 1100 | U | 200 | U | 990 | U | 220 | U | 280 | U | 750 | U |
| 200-SB-6-22.80-VOC | | 22.8 - 22.9 | 22.8 | 22.9 | 22.85 | mudstone | BET | FS | 660 | U | 11000 | U | 220 | U | 1100 | U | 2200 | U | 3600 | U | 1500 | U | 510 | U | 21000 | U | 1100 | U | 3200 | U | 670 | | 1200 | U | 430 | U | 1200 | U | 220 | U | 1100 | U | 240 | U | 310 | U | 840 | U |
| 200-SB-6-26.40-VOC | | 26.4 - 26.5 | 26.4 | 26.5 | 26.45 | mudstone | BET | FS | 590 | U | 10000 | U | 190 | U | 970 | U | 2000 | U | 3200 | U | 1300 | U | 460 | U | 19000 | U | 1000 | U | 2800 | U | 970 | | 1100 | U | 390 | U | 1100 | U | 110 | J | 990 | U | 220 | U | 280 | U | 750 | U |
| 200-SB-6-27.00-VOC | | 27 - 27.1 | 27 | 27.1 | 27.05 | mudstone | BF | FS | 600 | U | 10000 | U | 200 | U | 980 | U | 2000 | U | 3200 | U | 1300 | U | 460 | U | 19000 | U | 1000 | U | 2900 | U | 1200 | | 1100 | U | 390 | U | 1100 | U | 140 | J | 1000 | U | 220 | U | 280 | U | 760 | U |
| 200-SB-6-27.90-VOC | | 27.9 - 28 | 27.9 | 28 | 27.95 | mudstone | BF | FS | 530 | U | 9100 | U | 170 | U | 860 | U | 1800 | U | 2900 | U | 1200 | U | 410 | U | 17000 | U | 900 | U | 2500 | U | 970 | | 990 | U | 340 | U | 980 | U | 160 | J | 890 | U | 200 | U | 250 | U | 670 | U |
| 200-SB-6-28.60-VOC | | 28.6 - 28.7 | 28.6 | 28.7 | 28.65 | mudstone | BF | FS | 570 | U | 9800 | U | 190 | U | 930 | U | 1900 | U | 3100 | U | 1300 | U | 440 | U | 18000 | U | 970 | U | 2700 | U | 810 | | 1100 | U | 370 | U | 1100 | U | 190 | U | 960 | U | 210 | U | 270 | U | 730 | U |
| 200-SB-6-29.50-VOC | | 29.5 - 29.6 | 29.5 | 29.6 | 29.55 | mudstone | BF | FS | 590 | U | 10000 | U | 190 | U | 960 | U | 2000 | U | 3200 | U | 1300 | U | 450 | U | 19000 | U | 990 | U | 2800 | U | 940 | | 1100 | U | 380 | U | 1100 | U | 120 | J | 980 | U | 220 | U | 280 | U | 740 | U |
| 200-SB-6-33.00-VOC | | 33 - 33.1 | 33 | 33.1 | 33.05 | limestone | BET | FS | 620 | U | 11000 | U | 200 | U | 1000 | U | 2100 | U | 3400 | U | 1400 | U | 480 | U | 20000 | U | 1100 | U | 3000 | U | 1800 | | 1200 | U | 400 | U | 1100 | U | 180 | J | 1000 | U | 230 | U | 290 | U | 790 | U |
| 200-SB-6-33.50-VOC | | 33.5 - 33.6 | 33.5 | 33.6 | 33.55 | limestone | f6 | MAT | 440 | U | 7500 | U | 90 | J | 710 | U | 1500 | U | 2300 | U | 980 | U | 340 | U | 14000 | U | 740 | U | 2100 | U | 440 | | 820 | U | 280 | U | 810 | U | 150 | U | 730 | U | 160 | U | 210 | U | 550 | U |
| 200-SB-6-34.40-VOC | | 34.4 - 34.5 | 34.4 | 34.5 | 34.45 | limestone | BF | FS | 510 | U | 8700 | U | 170 | U | 830 | U | 1700 | U | 2700 | U | 1100 | U | 390 | U | 16000 | U | 870 | U | 2400 | U | 940 | | 960 | U | 330 | U | 940 | U | 170 | U | 850 | U | 190 | U | 240 | U | 650 | U |
| 200-SB-6-35.80-VOC | | 35.8 - 35.9 | 35.8 | 35.9 | 35.85 | limestone | BET | FS | 580 | U | 10000 | U | 190 | U | 950 | U | 2000 | U | 3100 | U | 1300 | U | 450 | U | 19000 | U | 990 | U | 2800 | U | 3800 | | 1100 | U | 380 | U | 1100 | U | 360 | | 980 | U | 220 | U | 280 | U | 740 | U |
| 200-SB-6-37.50-VOC | | 37.5 - 37.6 | 37.5 | 37.6 | 37.55 | limestone | BF | FS | 720 | U | 12000 | U | 240 | U | 1200 | U | 2400 | U | 3900 | U | 1600 | U | 560 | U | 23000 | U | 1200 | U | 3400 | U | 2600 | | 1400 | U | 470 | U | 1300 | U | 210 | J | 1200 | U | 270 | U | 340 | U | 920 | U |
| 200-SB-6-38.30-VOC | | 38.3 - 38.4 | 38.3 | 38.4 | 38.35 | limestone | BF | FS | 660 | U | 11000 | U | 220 | U | 1100 | U | 2200 | U | 3500 | U | 1500 | U | 510 | U | 21000 | U | 1100 | U | 3100 | U | 980 | | 1200 | U | 430 | U | 1200 | U | 220 | U | 1100 | U | 240 | U | 310 | U | 840 | U |
| 200-SB-6-39.80-VOC | | 39.8 - 39.9 | 39.8 | 39.9 | 39.85 | limestone | BF | FS | 450 | U | 7700 | U | 150 | U | 740 | U | 1500 | U | 2400 | U | 1000 | U | 350 | U | 14000 | U | 760 | U | 2200 | U | 2400 | | 840 | U | 290 | U | 830 | U | 170 | | 750 | U | 170 | U | 210 | U | 570 | U |
| 200-SB-6-40.40-VOC | | 40.4 - 40.5 | 40.4 | 40.5 | 40.45 | limestone | AF | FS | 830 | U | 14000 | U | 270 | U | 1400 | U | 2800 | U | 4500 | U | 1900 | U | 640 | U | 27000 | U | 1400 | U | 4000 | U | 1600 | | 1600 | U | 540 | U | 1500 | U | 280 | U | 1400 | U | 310 | U | 390 | U | 1100 | U |
| 200-SB-6-41.90-VOC | | 41.9 - 42 | 41.9 | 42 | 41.95 | limestone | BET | FS | 420 | U | 7200 | U | 140 | U | 690 | U | 1400 | U | 2300 | U | 950 | U | 330 | U | 14000 | U | 720 | U | 2000 | U | 1200 | | 800 | U | 280 | U | 780 | U | 100 | J | 710 | U | 160 | U | 200 | U | 540 | U |
| 200-SB-6-42.90-VOC | | 42.9 - 43 | 42.9 | 43 | 42.95 | limestone | AF | FS | 530 | U | 9100 | U | 180 | U | 870 | U | 1800 | U | 2900 | U | 1200 | U | 410 | U | 17000 | U | 910 | U | 2600 | U | 1500 | | 1000 | U | 350 | U | 990 | U | 120 | J | 890 | U | 200 | U | 250 | U | 680 | U |
| 200-SB-6-43.30-VOC | | 43.3 - 43.4 | 43.3 | 43.4 | 43.35 | limestone | BF | FS | 570 | U | 9700 | U | 190 | U | 930 | U | 1900 | U | 3100 | U | 1300 | U | 440 | U | 18000 | U | 970 | U | 2700 | U | 1500 | | 1100 | U | 370 | U | 1100 | U | 130 | J | 950 | U | 210 | U | 270 | U | 730 | U |
| 200-SB-6-46.50-VOC | | 46.5 - 46.6 | 46.5 | 46.6 | 46.55 | limestone | BF | FS | 570 | U | 9800 | U | 190 | U | 940 | U | 1900 | U | 3100 | U | 1300 | U | 440 | U | 18000 | U | 970 | U | 2700 | U | 950 | | 1100 | U | 370 | U | 1100 | U | 190 | U | 960 | U | 210 | U | 270 | U | 730 | U |
| 200-SB-6-47.10-VOC | 200-SB-6 | 47.1 - 47.2 | 47.1 | 47.2 | 47.15 | limestone | BF | FS | 550 | U | 9400 | U | 180 | U | 900 | U | 1900 | U | 3000 | U | 1200 | U | 420 | U | 18000 | U | 930 | U | 2600 | U | 1300 | | 1000 | U | 360 | U | 1000 | U | 110 | J | 920 | U | 200 | U | 260 | U | 700 | U |
| 200-SB-6-47.65-VOC | | 47.65 - 47.75 | 47.65 | 47.75 | 47.7 | limestone | BF | FS | 510 | U | 2600 | U | 230 | U | 660 | U | 890 | U | 1000 | U | 760 | U | 430 | U | 8700 | U | 680 | U | 980 | U | 940 | | 710 | U | 380 | U | 700 | U | 120 | J | 670 | U | 250 | U | 300 | U | 580 | U |
| 200-SB-6-48.65-VOC | | 48.65 - 48.75 | 48.65 | 48.75 | 48.7 | limestone | BF | FS | 530 | U | 2800 | U | 240 | U | 700 | U | 930 | U | 1100 | U | 800 | U | 450 | U | 9100 | U | 710 | U | 1000 | U | 470 | J | 740 | U | 400 | U | 740 | U | 240 | U | 700 | U | 260 | U | 320 | U | 610 | U |
| 200-SB-6-49.70-VOC | | 49.7 - 49.8 | 49.7 | 49.8 | 49.75 | limestone | BET | FS | 450 | U | 2300 | U | 200 | U | 590 | U | 780 | U | 890 | U | 680 | U | 380 | U | 7700 | U | 600 | U | 860 | U | 340 | J | 630 | U | 340 | U | 620 | U | 200 | U | 590 | U | 220 | U | 270 | U | 520 | U |
| 200-SB-6-51.20-VOC | | 51.2 - 51.3 | 51.2 | 51.3 | 51.25 | limestone | BF | FS | 590 | U | 3100 | U | 260 | U | 770 | U | 1000 | U | 1200 | U | 890 | U | 500 | U | 10000 | U | 790 | U | 1100 | U | 760 | | 820 | U | 440 | U | 820 | U | 270 | U | 780 | U | 290 | U | 350 | U | 680 | U |
| 200-SB-6-51.60-VOC | | 51.6 - 51.7 | 51.6 | 51.7 | 51.65 | limestone | f5 | MAT | 400 | U | 2100 | U | 180 | U | 530 | U | 700 | U | 800 | U | 610 | U | 340 | U | 6900 | U | 540 | U | 770 | U | 270 | J | 560 | U | 300 | U | 560 | U | 180 | U | 530 | U | 200 | U | 240 | U | 460 | U |
| 200-SB-6-53.40-VOC | | 53.4 - 53.5 | 53.4 | 53.5 | 53.45 | clay gouge | BET | FS | 450 | UJ | 2300 | UJ | 200 | UJ | 590 | UJ | 780 | UJ | 890 | UJ | 680 | UJ | 380 | UJ | 7700 | UJ | 600 | UJ | 860 | UJ | 890 | J | 630 | UJ | 340 | UJ | 620 | UJ | 200 | UJ | 590 | UJ | 220 | UJ | 270 | UJ | 520 | UJ |
| 200-SB-6-55.70-VOC | | 55.7 - 55.8 | 55.7 | 55.8 | 55.75 | limestone | BF | FS | 280 | UQ | 590 | UQ | 710 | | 370 | U | 490 | U | 560 | U | 430 | U | 240 | U | 3000 | J | 380 | U | 540 | U | 6300 | | 390 | U | 210 | U | 390 | U | 300 | | 370 | U | 140 | U | 40 | JB | 330 | U |
| 200-SB-6-56.10-VOC | | 56.1 - 56.2 | 56.1 | 56.2 | 56.15 | limestone | BF | FS | 210 | UQ | 440 | UQ | 1100 | | 270 | U | 370 | U | 420 | U | 320 | U | 180 | U | 2200 | J | 280 | U | 400 | U | 4400 | | 290 | U | 160 | U | 290 | U | 250 | | 280 | U | 100 | U | 30 | JB | 240 | U |
| 200-SB-6-57.60-VOC | | 57.6 - 57.7 | 57.6 | 57.7 | 57.65 | limestone | BF | FS | 260 | UQ | 540 | UQ | 750 | | 340 | U | 460 | U | 520 | U | 390 | U | 220 | U | 4500 | U | 350 | U | 500 | U | 1500 | | 370 | U | 200 | U | 360 | U | 99 | J | 350 | U | 130 | U | 37 | JB | 300 | U |
| 200-SB-6-58.60-VOC | | 58.6 - 58.7 | 58.6 | 58.7 | 58.65 | limestone | BF | FS | 300 | U | 640 | | 1800 | | 390 | U | 530 | U | 600 | U | 450 | U | 250 | U | 5200 | U | 400 | U | 580 | U | 280 | U | 420 | U | 230 | U | 420 | U | 140 | U | 400 | U | 150 | U | 48 | JB | 350 | U |
| 200-SB-6-60.00-VOC | | 60 - 60.1 | 60 | 60.1 | 60.05 | limestone | BF | FS | 240 | U | 500 | U | 3600 | | 310 | U | 420 | U | 470 | U | 360 | U | 200 | U | 4100 | U | 320 | U | 460 | U | 230 | U | 330 | U | 180 | U | 330 | U | 110 | U | 320 | U | 120 | U | 40 | JB | 270 | U |

## Table 5: Estimated Porewater Concentrations (ug/L) in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | Estimated Pore Water Concentration (µg/L) (4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear ft | Sample Lithology (3a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-6-61.25-VOC | | 61.25 - 61.35 | 61.25 | 61.35 | 61.3 | limestone | BF | FS | 200 | U | 430 | U | 2800 | | 270 | U | 360 | U | 410 | U | 310 | U | 170 | U | 3500 | U | 270 | U | 390 | U | 190 | U | 290 | U | 150 | U | 280 | U | 93 | U | 270 | U | 100 | U | 31 | JB | 240 | U |
| 200-SB-6-63.20-VOC | | 63.2 - 63.3 | 63.2 | 63.3 | 63.25 | limestone | BF | FS | 270 | U | 760 | | 3500 | | 350 | U | 470 | U | 530 | U | 400 | U | 230 | U | 4600 | U | 360 | U | 510 | U | 250 | U | 370 | U | 200 | U | 370 | U | 120 | U | 350 | U | 130 | U | 37 | JB | 310 | U |
| 200-SB-6-64.40-VOC | | 64.4 - 64.5 | 64.4 | 64.5 | 64.45 | limestone | BF | FS | 240 | U | 630 | | 1500 | | 320 | U | 430 | U | 480 | U | 370 | U | 210 | U | 4200 | U | 320 | U | 470 | U | 360 | B | 340 | U | 180 | U | 340 | U | 110 | U | 320 | U | 120 | U | 35 | JB | 280 | U |
| 200-SB-6-64.80-VOC | | 64.8 - 64.9 | 64.8 | 64.9 | 64.85 | limestone | BF | FS | 220 | U | 450 | U | 1700 | | 280 | U | 380 | U | 430 | U | 330 | U | 180 | U | 3700 | U | 290 | U | 420 | U | 280 | B | 300 | U | 160 | U | 300 | U | 99 | U | 290 | U | 110 | U | 32 | JB | 250 | U |
| 200-SB-6-65.20-VOC | | 65.2 - 65.3 | 65.2 | 65.3 | 65.25 | limestone | BF | FS | 260 | U | 700 | | 1500 | | 350 | U | 460 | U | 520 | U | 400 | U | 220 | U | 4500 | U | 56 | J | 510 | U | 370 | B | 370 | U | 200 | U | 370 | U | 120 | U | 350 | U | 130 | U | 41 | JB | 300 | U |
| 200-SB-6-65.60-VOC | | 65.6 - 65.7 | 65.6 | 65.7 | 65.65 | limestone | f4 | MAT | 380 | U | 790 | U | 1900 | | 490 | U | 660 | U | 750 | U | 570 | U | 320 | U | 6500 | U | 86 | J | 730 | U | 450 | B | 530 | U | 280 | U | 520 | U | 170 | U | 500 | U | 190 | U | 63 | JB | 430 | U |
| 200-SB-6-68.50-VOC | | 68.5 - 68.6 | 68.5 | 68.6 | 68.55 | limestone | BF | FS | 420 | UQ | 570 | UQ | 2900 | | 470 | U | 530 | U | 560 | U | 500 | U | 380 | U | 5300 | U | 220 | J | 550 | U | 3100 | | 490 | U | 360 | U | 490 | U | 150 | J | 480 | U | 270 | U | 87 | JB | 450 | U |
| 200-SB-6-69.50-VOC | | 69.5 - 69.6 | 69.5 | 69.6 | 69.55 | limestone | BET | FS | 560 | UQ | 760 | UQ | 1900 | | 640 | U | 720 | U | 750 | U | 680 | U | 510 | U | 4600 | J | 150 | J | 740 | U | 1600 | | 650 | U | 480 | U | 650 | U | 350 | U | 640 | U | 370 | U | 100 | JB | 600 | U |
| 200-SB-6-70.70-VOC | 200-SB-6 | 70.7 - 70.8 | 70.7 | 70.8 | 70.75 | limestone | BF | FS | 430 | UQ | 590 | UQ | 990 | | 490 | U | 550 | U | 580 | U | 520 | U | 400 | U | 5500 | U | 74 | J | 570 | U | 1000 | | 500 | U | 370 | U | 500 | U | 270 | U | 490 | U | 280 | U | 80 | JB | 460 | U |
| 200-SB-6-71.50-VOC | | 71.5 - 71.6 | 71.5 | 71.6 | 71.55 | limestone | BF | FS | 480 | UQ | 660 | UQ | 410 | | 550 | U | 620 | U | 650 | U | 580 | U | 440 | U | 6100 | U | 89 | J | 640 | U | 550 | | 560 | U | 420 | U | 560 | U | 300 | U | 550 | U | 320 | U | 72 | JB | 520 | U |
| 200-SB-6-72.60-VOC | | 72.6 - 72.7 | 72.6 | 72.7 | 72.65 | limestone | BET | FS | 490 | UQ | 660 | UQ | 4000 | | 550 | U | 620 | U | 650 | U | 580 | U | 440 | U | 6200 | U | 150 | J | 640 | U | 5400 | | 570 | U | 420 | U | 570 | U | 300 | U | 550 | U | 320 | U | 98 | JB | 520 | U |
| 200-SB-6-73.10-VOC | | 73.1 - 73.2 | 73.1 | 73.2 | 73.15 | limestone | f6 | MAT | 500 | UQ | 670 | UQ | 4700 | | 560 | U | 630 | U | 660 | U | 600 | U | 460 | U | 3300 | J | 570 | U | 660 | U | 1000 | | 580 | U | 430 | U | 580 | U | 310 | U | 570 | U | 330 | U | 82 | JB | 530 | U |
| 200-SB-6-73.80-VOC | | 73.8 - 73.9 | 73.8 | 73.9 | 73.85 | limestone | BF | FS | 550 | UQ | 750 | UQ | 4000 | | 630 | U | 700 | U | 740 | U | 670 | U | 510 | U | 9100 | | 120 | J | 730 | U | 740 | | 650 | U | 470 | U | 640 | U | 340 | U | 630 | U | 360 | U | 87 | JB | 590 | U |
| 200-SB-6-76.10-VOC | | 76.1 - 76.2 | 76.1 | 76.2 | 76.15 | limestone | BF | FS | 590 | UQ | 800 | UQ | 1600 | | 670 | U | 760 | U | 790 | U | 710 | U | 540 | U | 12000 | | 220 | J | 780 | U | 1700 | | 690 | U | 510 | U | 690 | U | 370 | U | 680 | U | 390 | U | 110 | JB | 630 | U |
| 200-SB-6-77.20-VOC | | 77.2 - 77.3 | 77.2 | 77.3 | 77.25 | limestone | BET | FS | 450 | UQ | 680 | Q | 420 | | 510 | U | 570 | U | 600 | U | 540 | U | 410 | U | 3100 | J | 510 | U | 590 | U | 440 | U | 520 | U | 390 | U | 520 | U | 280 | U | 510 | U | 290 | U | 80 | JB | 480 | U |
| 200-SB-6-78.40-VOC | | 78.4 - 78.5 | 78.4 | 78.5 | 78.45 | limestone | BF | FS | 580 | U | 790 | U | 360 | U | 660 | U | 750 | U | 780 | U | 700 | U | 540 | U | 7400 | U | 670 | U | 770 | U | 570 | U | 680 | U | 500 | U | 680 | U | 360 | U | 670 | U | 380 | U | 96 | JB | 630 | U |
| 200-SB-6-78.80-VOC | | 78.8 - 78.9 | 78.8 | 78.9 | 78.85 | limestone | f4 | MAT | 600 | UJ | 810 | UJ | 370 | UJ | 680 | UJ | 760 | UJ | 800 | UJ | 720 | UJ | 550 | UJ | 7600 | UJ | 690 | UJ | 790 | UJ | 580 | UJ | 700 | UJ | 510 | UJ | 700 | UJ | 370 | UJ | 680 | UJ | 390 | UJ | 98 | JB | 640 | UJ |
| 200-SB-6-79.00-VOC | | 79 - 79.1 | 79 | 79.1 | 79.05 | limestone | f6 | MAT | 670 | U | 900 | U | 410 | U | 760 | U | 850 | U | 890 | U | 800 | U | 610 | U | 8400 | U | 760 | U | 880 | U | 650 | U | 780 | U | 570 | U | 770 | U | 410 | U | 760 | U | 440 | U | 120 | JB | 710 | U |
| 200-SB-6-83.80-VOC | | 83.8 - 83.9 | 83.8 | 83.9 | 83.85 | limestone | BET | FS | 430 | U | 580 | U | 990 | | 480 | U | 540 | U | 570 | U | 510 | U | 390 | U | 5400 | U | 490 | U | 560 | U | 560 | | 500 | U | 370 | U | 500 | U | 270 | U | 490 | U | 280 | U | 67 | JB | 460 | U |
| 200-SB-6-84.20-VOC | | 84.2 - 84.3 | 84.2 | 84.3 | 84.25 | limestone | BF | FS | 560 | U | 540 | JB | 1200 | | 640 | U | 720 | U | 750 | U | 680 | U | 520 | U | 7100 | U | 640 | U | 740 | U | 480 | J | 660 | U | 480 | U | 660 | U | 350 | U | 640 | U | 370 | U | 92 | JB | 600 | U |
| 200-SB-6-86.60-VOC | | 86.6 - 86.7 | 86.6 | 86.7 | 86.65 | limestone | BF | FS | 560 | U | 610 | JB | 340 | U | 630 | U | 710 | U | 740 | U | 670 | U | 510 | U | 7000 | U | 640 | U | 730 | U | 540 | U | 650 | U | 480 | U | 650 | U | 350 | U | 630 | U | 360 | U | 99 | JB | 600 | U |
| 200-SB-6-86.90-VOC | | 86.9 - 87 | 86.9 | 87 | 86.95 | limestone | f4 | MAT | 160 | U | 1200 | U | 54 | U | 270 | U | 560 | U | 900 | U | 370 | U | 130 | U | 5300 | U | 280 | U | 800 | U | 150 | U | 310 | U | 110 | U | 300 | U | 55 | U | 270 | U | 60 | U | 20 | J | 210 | U |
| 200-SB-6-87.60-VOC | | 87.6 - 87.7 | 87.6 | 87.7 | 87.65 | limestone | BF | FS | 260 | U | 1900 | U | 86 | U | 430 | U | 900 | U | 1400 | U | 590 | U | 200 | U | 8500 | U | 450 | U | 1300 | U | 240 | U | 490 | U | 170 | U | 490 | U | 88 | U | 440 | U | 97 | U | 28 | J | 330 | U |
| 200-SB-6-90.20-VOC | | 90.2 - 90.3 | 90.2 | 90.3 | 90.25 | limestone | BF | FS | 210 | U | 1500 | U | 130 | | 340 | U | 710 | U | 1100 | U | 470 | U | 160 | U | 6700 | U | 350 | U | 1000 | U | 190 | U | 390 | U | 130 | U | 390 | U | 70 | U | 350 | U | 76 | U | 22 | J | 260 | U |
| 200-SB-6-90.90-VOC | | 90.9 - 91 | 90.9 | 91 | 90.95 | limestone | BF | FS | 210 | U | 1500 | U | 120 | | 350 | U | 730 | U | 1200 | U | 480 | U | 160 | U | 6900 | U | 360 | U | 1000 | U | 190 | U | 400 | U | 140 | U | 400 | U | 71 | U | 360 | U | 78 | U | 22 | J | 270 | U |
| 200-SB-6-91.20-VOC | | 91.2 - 91.3 | 91.2 | 91.3 | 91.25 | limestone | f4 | MAT | 280 | U | 1600 | JB | 91 | U | 450 | U | 950 | U | 1500 | U | 620 | U | 210 | U | 9000 | U | 470 | U | 1400 | U | 250 | U | 520 | U | 180 | U | 510 | U | 93 | U | 470 | U | 100 | U | 130 | U | 350 | U |
| 200-SB-6-93.50-VOC | | 93.5 - 93.6 | 93.5 | 93.6 | 93.55 | limestone | BF | FS | 230 | U | 1700 | U | 120 | | 380 | U | 800 | U | 1300 | U | 530 | U | 180 | U | 7600 | U | 400 | U | 1100 | U | 110 | J | 440 | U | 150 | U | 430 | U | 78 | U | 390 | U | 86 | U | 38 | J | 300 | U |
| 200-SB-6-94.00-VOC | | 94 - 94.1 | 94 | 94.1 | 94.05 | limestone | f6 | MAT | 340 | U | 2400 | U | 110 | U | 560 | U | 1200 | U | 1900 | U | 770 | U | 260 | U | 11000 | U | 580 | U | 1700 | U | 310 | U | 640 | U | 220 | U | 630 | U | 110 | U | 570 | U | 130 | U | 55 | J | 430 | U |
| 200-SB-6-94.80-VOC | | 94.8 - 94.9 | 94.8 | 94.9 | 94.85 | limestone | BF | FS | 190 | U | 1300 | U | 56 | J | 310 | U | 650 | U | 1000 | U | 430 | U | 150 | U | 6200 | U | 320 | U | 930 | U | 170 | U | 360 | U | 120 | U | 350 | U | 63 | U | 320 | U | 70 | U | 29 | J | 240 | U |
| 200-SB-6-95.25-VOC | | 95.25 - 95.35 | 95.25 | 95.35 | 95.3 | limestone | f5 | MAT | 200 | U | 1300 | J | 66 | U | 330 | U | 690 | U | 1100 | U | 460 | U | 160 | U | 6600 | U | 350 | U | 990 | U | 190 | U | 380 | U | 130 | U | 380 | U | 68 | U | 340 | U | 75 | U | 23 | J | 260 | U |
| 200-SB-6-95.55-VOC | | 95.55 - 95.65 | 95.55 | 95.65 | 95.6 | limestone | f9 | MAT | 200 | U | 1200 | J | 66 | U | 330 | U | 690 | U | 1100 | U | 460 | U | 160 | U | 6600 | U | 350 | U | 990 | U | 190 | U | 380 | U | 130 | U | 380 | U | 68 | U | 340 | U | 75 | U | 29 | J | 260 | U |
| 200-SB-6-100.20-VOC | | 100.2 - 100.3 | 100.2 | 100.3 | 100.25 | limestone | BF | FS | 190 | U | 950 | J | 61 | U | 300 | U | 640 | U | 1000 | U | 420 | U | 140 | U | 6000 | U | 320 | U | 910 | U | 170 | U | 350 | U | 120 | U | 350 | U | 62 | U | 310 | U | 68 | U | 26 | J | 240 | U |
| 200-SB-6-100.50-VOC | | 100.5 - 100.6 | 100.5 | 100.6 | 100.55 | limestone | f4 | MAT | 200 | U | 1900 | | 67 | U | 340 | U | 700 | U | 1100 | U | 460 | U | 160 | U | 6600 | U | 52 | J | 1000 | U | 190 | U | 390 | U | 130 | U | 380 | U | 69 | U | 340 | U | 75 | U | 39 | J | 260 | U |
| 200-SB-6-103.10-VOC | | 103.1 - 103.2 | 103.1 | 103.2 | 103.15 | limestone | BF | FS | 230 | U | 1600 | U | 640 | | 370 | U | 780 | U | 1300 | U | 510 | U | 170 | U | 7400 | U | 390 | U | 1100 | U | 410 | | 430 | U | 150 | U | 420 | U | 76 | U | 380 | U | 84 | U | 35 | J | 290 | U |
| 200-SB-6-104.10-VOC | | 104.1 - 104.2 | 104.1 | 104.2 | 104.15 | limestone | BF | FS | 170 | U | 1200 | U | 310 | | 280 | U | 580 | U | 940 | U | 380 | U | 130 | U | 5500 | U | 290 | U | 830 | U | 780 | | 320 | U | 110 | U | 310 | U | 57 | U | 280 | U | 62 | U | 26 | J | 220 | U |
| 200-SB-6-104.50-VOC | | 104.5 - 104.6 | 104.5 | 104.6 | 104.55 | limestone | f4 | MAT | 260 | U | 1600 | JB | 280 | | 420 | U | 880 | U | 1400 | U | 580 | U | 200 | U | 8400 | U | 440 | U | 1300 | U | 400 | | 490 | U | 170 | U | 480 | U | 86 | U | 430 | U | 95 | U | 120 | U | 330 | U |
| 200-SB-6-105.65-VOC | | 105.65 - 105.75 | 105.65 | 105.75 | 105.7 | limestone | BF | FS | 320 | U | 1800 | JB | 320 | | 520 | U | 1100 | U | 1800 | U | 720 | U | 250 | U | 10000 | U | 540 | U | 1600 | U | 1800 | | 600 | U | 210 | U | 590 | U | 63 | J | 540 | U | 120 | U | 150 | U | 410 | U |
| 200-SB-6-106.50-VOC | | 106.5 - 106.6 | 106.5 | 106.6 | 106.55 | limestone | BF | FS | 270 | U | 1500 | JB | 2200 | | 440 | U | 920 | U | 1500 | U | 610 | U | 210 | U | 8700 | U | 110 | J | 1300 | U | 6000 | | 510 | U | 180 | U | 500 | U | 90 | U | 450 | U | 99 | U | 130 | U | 340 | U |
| 200-SB-6-108.50-VOC | | 108.5 - 108.6 | 108.5 | 108.6 | 108.55 | limestone | BF | FS | 180 | U | 740 | JB | 4100 | | 290 | U | 800 | 0 | 830 | U | 390 | U | 59 | J | 5300 | U | 250 | J | 750 | U | 13000 | | 330 | U | 120 | U | 320 | U | 83 | | 300 | U | 69 | U | 88 | U | 230 | U |
| 200-SB-6-110.40-VOC | | 110.4 - 110.5 | 110.4 | 110.5 | 110.45 | limestone | BF | FS | 170 | U | 690 | JQB | 44 | J | 270 | U | 520 | U | 770 | U | 360 | U | 130 | U | 4900 | U | 42 | JB | 690 | U | 290 | | 300 | U | 110 | U | 300 | U | 58 | U | 270 | U | 64 | U | 21 | JB | 210 | U |
| 200-SB-6-110.75-VOC | | 110.75 - 110.85 | 110.75 | 110.85 | 110.8 | limestone | f4 | MAT | 160 | U | 780 | JB | 55 | U | 260 | U | 500 | U | 750 | U | 350 | U | 130 | U | 4800 | U | 62 | J | 680 | U | 150 | U | 300 | U | 110 | U | 290 | U | 56 | U | 270 | U | 62 | U | 16 | JB | 210 | U |
| 200-SB-6-111.40-VOC | | 111.4 - 111.5 | 111.4 | 111.5 | 111.45 | limestone | BF | FS | 150 | U | 510 | JB | 52 | U | 240 | U | 470 | U | 700 | U | 330 | U | 120 | U | 4500 | U | 250 | U | 640 | U | 140 | U | 280 | U | 100 | U | 270 | U | 53 | U | 250 | U | 58 | U | 74 | U | 190 | U |
| 200-SB-6-113.90-VOC | | 113.9 - 114 | 113.9 | 114 | 113.95 | limestone | BF | FS | 180 | U | 600 | JB | 740 | | 290 | U | 570 | U | 840 | U | 390 | U | 140 | U | 5400 | U | 55 | J | 760 | U | 440 | | 330 | U | 120 | U | 330 | U | 63 | U | 300 | U | 70 | U | 89 | U | 230 | U |
| 200-SB-6-114.20-VOC | | 114.2 - 114.3 | 114.2 | 114.3 | 114.25 | limestone | f4 | MAT | 130 | U | 660 | JB | 45 | U | 210 | U | 410 | U | 610 | U | 280 | U | 100 | U | 3900 | U | 1000 | | 550 | U | 120 | U | 240 | U | 280 | | 240 | U | 46 | U | 220 | U | 50 | U | 47 | JB | 170 | U |
| 200-SB-6-114.80-VOC | | 114.8 - 114.9 | 114.8 | 114.9 | 114.85 | limestone | BF | FS | 170 | U | 880 | JB | 59 | U | 280 | U | 530 | U | 790 | U | 370 | U | 130 | U | 5100 | U | 1800 | | 720 | U | 160 | U | 310 | U | 890 | | 310 | U | 60 | U | 280 | U | 66 | U | 120 | | 220 | U |
| 200-SB-6-115.50-VOC | | 115.5 - 115.6 | 115.5 | 115.6 | 115.55 | limestone | BF | FS | 180 | U | 760 | JB | 60 | U | 280 | U | 550 | U | 820 | U | 380 | U | 140 | U | 5200 | U | 1600 | | 740 | U | 160 | U | 320 | U | 670 | | 320 | U | 62 | U | 290 | U | 68 | U | 84 | JB | 220 | U |
| 200-SB-6-115.80-VOC | | 115.8 - 115.9 | 115.8 | 115.9 | 115.85 | limestone | f4 | MAT | 170 | U | 750 | JB | 58 | U | 270 | U | 530 | U | 790 | U | 370 | U | 130 | U | 5100 | U | 1900 | | 710 | U | 160 | U | 310 | U | 940 | | 310 | U | 59 | U | 280 | U | 65 | U | 97 | | 220 | U |
| 200-SB-6-118.90-VOC | | 118.9 - 119 | 118.9 | 119 | 118.95 | limestone | BF | FS | 220 | U | 1100 | JB | 75 | U | 350 | U | 680 | U | 1000 | U | 470 | U | 170 | U | 6500 | U | 58 | J | 920 | U | 200 | U | 400 | U | 69 | J | 390 | U | 76 | U | 360 | U | 84 | U | 42 | JB | 280 | U |
| 200-SB-6-119.20-VOC | | 119.2 - 119.3 | 119.2 | 119.3 | 119.25 | limestone | f4 | MAT | 230 | U | 1100 | JB | 76 | U | 360 | U | 690 | U | 1000 | U | 480 | U | 170 | U | 6600 | U | 75 | J | 930 | U | 210 | U | 410 | U | 400 | | 400 | U | 78 | U | 370 | U | 85 | U | 45 | JB | 280 | U |
| 200-SB-6-119.55-VOC | | 119.55 - 119.65 | 119.55 | 119.65 | 119.6 | limestone | f9 | MAT | 200 | U | 900 | JB | 68 | U | 320 | U | 620 | U | 920 | U | 430 | U | 160 | U | 5900 | U | 96 | J | 830 | U | 180 | U | 360 | U | 670 | | 360 | U | 69 | U | 330 | U | 76 | U | 68 | JB | 250 | U |
| 200-SB-6-120.80-VOC | | 120.8 - 120.9 | 120.8 | 120.9 | 120.85 | limestone | BF | FS | 210 | U | 850 | JB | 70 | U | 330 | U | 640 | U | 950 | U | 440 | U | 160 | U | 6100 | U | 270 | J | 860 | U | 190 | U | 380 | U | 230 | | 370 | U | 72 | U | 340 | U | 79 | U | 51 | JB | 260 | U |
| 200-SB-6-121.10-VOC | | 121.1 - 121.2 | 121.1 | 121.2 | 121.15 | limestone | f4 | MAT | 230 | U | 870 | JB | 76 | U | 360 | U | 690 | U | 1000 | U | 480 | U | 170 | U | 6600 | U | 2300 | | 930 | U | 210 | U | 410 | U | 1200 | | 400 | U | 78 | U | 370 | U | 85 | U | 80 | JB | 280 | U |
| 200-SB-6-124.80-VOC | | 124.8 - 124.9 | 124.8 | 124.9 | 124.85 | limestone | BF | FS | 170 | U | 910 | JB | 57 | U | 270 | U | 520 | U | 770 | U | 360 | U | 130 | U | 5000 | U | 3000 | | 700 | U | 150 | U | 310 | U | 1100 | | 300 | U | 58 | U | 280 | U | 64 | U | 80 | JB | 210 | U |
| 200-SB-6-125.10-VOC | | 125.1 - 125.2 | 125.1 | 125.2 | 125.15 | limestone | f4 | MAT | 210 | U | 1300 | B | 70 | U | 330 | U | 640 | U | 950 | U | 440 | U | 160 | U | 6100 | U | 1200 | | 860 | U | 190 | U | 380 | U | 510 | | 370 | U | 72 | U | 340 | U | 79 | U | 53 | JB | 260 | U |

## Table 5: Estimated Porewater Concentrations (ug/L) in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | Estimated Pore Water Concentration (µg/L) (4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear ft | Sample Lithology (3a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| 200-SB-6-127.00-VOC | 200-SB-6 | 127 - 127.1 | 127 | 127.1 | 127.05 | limestone | f10 | MAT | 170 | U | 1200 | B | 130 | | 270 | U | 520 | U | 770 | U | 360 | U | 130 | U | 5000 | U | 48 | J | 700 | U | 210 | | 310 | U | 110 | U | 300 | U | 59 | U | 280 | U | 64 | U | 82 | U | 210 | U |
| 200-SB-6-127.30-VOC | | 127.3 - 127.4 | 127.3 | 127.4 | 127.35 | limestone | f4 | MAT | 80 | U | 420 | JB | 39 | | 130 | U | 290 | U | 500 | U | 190 | U | 61 | U | 2700 | U | 140 | U | 430 | U | 40 | J | 150 | U | 52 | U | 150 | U | 26 | U | 140 | U | 29 | U | 9.4 | JB | 100 | U |
| 200-SB-6-127.60-VOC | | 127.6 - 127.7 | 127.6 | 127.7 | 127.65 | limestone | AF | FS | 77 | U | 420 | JB | 25 | U | 130 | U | 280 | U | 480 | U | 180 | U | 59 | U | 2600 | U | 130 | U | 410 | U | 70 | U | 150 | U | 50 | U | 150 | U | 25 | U | 130 | U | 28 | U | 36 | U | 99 | U |
| 200-SB-6-129.70-VOC | | 129.7 - 129.8 | 129.7 | 129.8 | 129.75 | limestone | BF | FS | 94 | U | 420 | JB | 43 | | 160 | U | 340 | U | 580 | U | 220 | U | 72 | U | 3200 | U | 160 | U | 510 | U | 86 | U | 180 | U | 61 | U | 180 | U | 31 | U | 160 | U | 34 | U | 9.2 | JB | 120 | U |
| 200-SB-6-130.00-VOC | | 130 - 130.1 | 130 | 130.1 | 130.05 | limestone | f4 | MAT | 120 | U | 740 | JB | 32 | J | 190 | U | 420 | U | 710 | U | 270 | U | 88 | U | 4000 | U | 200 | U | 620 | U | 110 | U | 220 | U | 74 | U | 220 | U | 38 | U | 200 | U | 42 | U | 11 | JB | 150 | U |
| 200-SB-6-132.50-VOC | | 132.5 - 132.6 | 132.5 | 132.6 | 132.55 | limestone | BF | FS | 97 | U | 770 | JB | 31 | U | 160 | U | 350 | U | 600 | U | 230 | U | 74 | U | 3300 | U | 30 | J | 520 | U | 89 | U | 190 | U | 63 | U | 180 | U | 32 | U | 170 | U | 35 | U | 16 | JB | 120 | U |
| 200-SB-6-133.00-VOC | | 133 - 133.1 | 133 | 133.1 | 133.05 | limestone | f6 | MAT | 84 | U | 400 | JB | 27 | U | 140 | U | 300 | U | 520 | U | 190 | U | 64 | U | 2900 | U | 62 | J | 450 | U | 76 | U | 160 | U | 230 | | 160 | U | 28 | U | 140 | U | 30 | U | 31 | J | 110 | U |
| 200-SB-6-135.10-VOC | | 135.1 - 135.2 | 135.1 | 135.2 | 135.15 | Sandstone | AF | FS | 87 | U | 720 | U | 28 | U | 140 | U | 320 | U | 540 | U | 200 | U | 67 | U | 3000 | U | 150 | U | 470 | U | 79 | U | 170 | U | 17 | J | 160 | U | 29 | U | 150 | U | 32 | U | 14 | J | 110 | U |
| 200-SB-6-137.40-VOC | | 137.4 - 137.5 | 137.4 | 137.5 | 137.45 | limestone | NA | MAT | 74 | U | 370 | JB | 24 | U | 120 | U | 270 | U | 460 | U | 170 | U | 57 | U | 2500 | U | 130 | U | 400 | U | 68 | U | 140 | U | 48 | U | 140 | U | 24 | U | 130 | U | 27 | U | 8.3 | JB | 95 | U |
| 200-SB-6-138.15-VOC | | 138.15 - 138.25 | 138.15 | 138.25 | 138.2 | limestone | NA | MAT | 82 | U | 430 | JB | 26 | U | 140 | U | 300 | U | 510 | U | 190 | U | 62 | U | 2800 | U | 120 | J | 440 | U | 75 | U | 160 | U | 290 | | 150 | U | 27 | U | 140 | U | 30 | U | 27 | J | 100 | U |
| 200-SB-6-142.20-VOC | | 142.2 - 142.3 | 142.2 | 142.3 | 142.25 | limestone | BF | FS | 62 | U | 370 | JB | 35 | | 100 | U | 220 | U | 380 | U | 140 | U | 47 | U | 2100 | U | 110 | U | 330 | U | 56 | U | 120 | U | 40 | U | 120 | U | 20 | U | 110 | U | 22 | U | 6.9 | J | 79 | U |
| 200-SB-6-143.80-VOC | | 143.8 - 143.9 | 143.8 | 143.9 | 143.85 | limestone | BF | FS | 76 | U | 630 | U | 690 | | 130 | U | 280 | U | 470 | U | 180 | U | 58 | U | 2600 | U | 130 | U | 410 | U | 70 | U | 150 | U | 49 | U | 140 | U | 25 | U | 130 | U | 28 | U | 8.2 | J | 98 | U |
| 200-SB-6-145.00-VOC | | 145 - 145.1 | 145 | 145.1 | 145.05 | limestone | BF | FS | 93 | U | 580 | JB | 21 | J | 150 | U | 340 | U | 570 | U | 220 | U | 71 | U | 3200 | U | 160 | U | 500 | U | 84 | U | 180 | U | 60 | U | 180 | U | 31 | U | 160 | U | 34 | U | 9.9 | J | 120 | U |
| 200-SB-6-145.30-VOC | | 145.3 - 145.4 | 145.3 | 145.4 | 145.35 | limestone | f4 | MAT | 110 | U | 640 | JB | 34 | U | 180 | U | 380 | U | 650 | U | 250 | U | 81 | U | 3600 | U | 180 | U | 570 | U | 96 | U | 200 | U | 33 | J | 200 | U | 35 | U | 180 | U | 38 | U | 11 | J | 140 | U |
| 200-SB-6-145.90-VOC | 200-SB-6 | 145.9 - 146 | 145.9 | 146 | 145.95 | limestone | BF | FS | 86 | U | 710 | U | 35 | | 140 | U | 310 | U | 530 | U | 200 | U | 66 | U | 2900 | U | 150 | U | 460 | U | 78 | U | 170 | U | 55 | U | 160 | U | 28 | U | 150 | U | 31 | U | 10 | J | 110 | U |
| 200-SB-6-147.60-VOC | | 147.6 - 147.7 | 147.6 | 147.7 | 147.65 | limestone | BF | FS | 71 | U | 390 | JB | 23 | U | 120 | U | 260 | U | 440 | U | 160 | U | 54 | U | 2400 | U | 120 | U | 380 | U | 64 | U | 140 | U | 45 | U | 130 | U | 23 | U | 120 | U | 26 | U | 7.9 | J | 91 | U |
| 200-SB-6-149.20-VOC | | 149.2 - 149.3 | 149.2 | 149.3 | 149.25 | limestone | BF | FS | 66 | U | 370 | JB | 21 | U | 110 | U | 240 | U | 410 | U | 150 | U | 50 | U | 2300 | U | 90 | J | 350 | U | 60 | U | 130 | U | 24 | J | 130 | U | 22 | U | 110 | U | 24 | U | 6.2 | JB | 85 | U |
| 200-SB-6-149.80-VOC | | 149.8 - 149.9 | 149.8 | 149.9 | 149.85 | limestone | f6 | MAT | 99 | U | 520 | JB | 32 | U | 160 | U | 340 | U | 560 | U | 220 | U | 76 | U | 3200 | U | 76 | J | 490 | U | 90 | U | 190 | U | 29 | J | 180 | U | 33 | U | 170 | U | 36 | U | 8.3 | JB | 130 | U |
| 200-SB-6-150.30-VOC | | 150.3 - 150.4 | 150.3 | 150.4 | 150.35 | limestone | BF | FS | 79 | U | 410 | JB | 26 | U | 130 | U | 270 | U | 440 | U | 180 | U | 60 | U | 2600 | U | 130 | U | 390 | U | 72 | U | 150 | U | 51 | U | 150 | U | 26 | U | 130 | U | 29 | U | 37 | U | 100 | U |
| 200-SB-6-152.80-VOC | | 152.8 - 152.9 | 152.8 | 152.9 | 152.85 | limestone | NA | MAT | 90 | U | 470 | JB | 29 | U | 150 | U | 310 | U | 510 | U | 200 | U | 69 | U | 3000 | U | 150 | U | 450 | U | 82 | U | 170 | U | 58 | U | 170 | U | 30 | U | 150 | U | 33 | U | 42 | U | 120 | U |
| 200-SB-6-153.60-VOC | | 153.6 - 153.7 | 153.6 | 153.7 | 153.65 | limestone | NA | MAT | 82 | U | 480 | JB | 27 | U | 130 | U | 280 | U | 460 | U | 190 | U | 63 | U | 2700 | U | 25 | J | 410 | U | 75 | U | 150 | U | 51 | J | 150 | U | 27 | U | 140 | U | 30 | U | 7.3 | JB | 100 | U |
| 200-SB-6-155.30-VOC | | 155.3 - 155.4 | 155.3 | 155.4 | 155.35 | limestone | NA | MAT | 100 | U | 790 | B | 33 | U | 170 | U | 350 | U | 570 | U | 230 | U | 78 | U | 3300 | U | 170 | U | 510 | U | 93 | U | 190 | U | 66 | U | 190 | U | 34 | U | 170 | U | 37 | U | 9.1 | JB | 130 | U |
| 200-SB-6-158.00-VOC | | 158 - 158.1 | 158 | 158.1 | 158.05 | limestone | BF | FS | 150 | | 570 | JB | 4300 | | 140 | U | 290 | U | 480 | U | 190 | U | 65 | U | 2800 | U | 140 | U | 420 | U | 77 | U | 160 | U | 55 | U | 160 | U | 28 | U | 140 | U | 31 | U | 10 | JB | 110 | U |
| 200-SB-6-158.40-VOC | | 158.4 - 158.6 | 158.4 | 158.6 | 158.5 | limestone | f6 | MAT | 67 | U | 350 | JB | 320 | | 110 | U | 230 | U | 380 | U | 150 | U | 52 | U | 2200 | U | 120 | U | 330 | U | 61 | U | 130 | U | 44 | U | 130 | U | 22 | U | 110 | U | 25 | U | 32 | U | 86 | U |
| 200-SB-6-160.00-VOC | | 160 - 160.1 | 160 | 160.1 | 160.05 | limestone | BF | FS | 110 | U | 610 | JB | 170 | | 190 | U | 400 | U | 650 | U | 260 | U | 88 | U | 3800 | U | 200 | U | 570 | U | 100 | U | 220 | U | 74 | U | 210 | U | 38 | U | 190 | U | 42 | U | 54 | U | 150 | U |
| 200-SB-6-160.30-VOC | | 160.3 - 160.4 | 160.3 | 160.4 | 160.35 | limestone | f4 | MAT | 83 | U | 740 | QB | 27 | U | 140 | U | 290 | U | 470 | U | 190 | U | 64 | U | 2700 | U | 140 | U | 410 | U | 76 | U | 160 | U | 22 | J | 150 | U | 28 | U | 140 | U | 30 | U | 11 | J | 110 | U |
| 200-SB-6-163.00-VOC | | 163 - 163.1 | 163 | 163.1 | 163.05 | limestone | BF | FS | 86 | U | 680 | QB | 28 | U | 140 | U | 300 | U | 480 | U | 190 | U | 66 | U | 2800 | U | 150 | U | 420 | U | 78 | U | 160 | U | 55 | U | 160 | U | 29 | U | 140 | U | 31 | U | 30 | J | 110 | U |
| 200-SB-6-163.50-VOC | | 163.5 - 163.6 | 163.5 | 163.6 | 163.55 | limestone | f6 | MAT | 50 | U | 420 | QB | 16 | U | 82 | U | 170 | U | 280 | U | 110 | U | 38 | U | 1600 | U | 15 | J | 250 | U | 45 | U | 94 | U | 32 | U | 92 | U | 17 | U | 84 | U | 18 | U | 4.9 | J | 63 | U |
| 200-SB-6-164.30-VOC | | 164.3 - 164.4 | 164.3 | 164.4 | 164.35 | limestone | BF | FS | 96 | U | 680 | JQB | 31 | U | 160 | U | 330 | U | 540 | U | 220 | U | 74 | U | 3100 | U | 160 | U | 480 | U | 87 | U | 180 | U | 62 | U | 180 | U | 32 | U | 160 | U | 35 | U | 8.1 | J | 120 | U |
| 200-SB-6-164.80-VOC | | 164.8 - 164.9 | 164.8 | 164.9 | 164.85 | limestone | f6 | MAT | 82 | U | 660 | QB | 27 | U | 130 | U | 280 | U | 460 | U | 190 | U | 63 | U | 2700 | U | 22 | J | 410 | U | 75 | U | 150 | U | 53 | U | 150 | U | 27 | U | 140 | U | 30 | U | 6.9 | J | 100 | U |
| 200-SB-6-166.60-VOC | | 166.6 - 166.7 | 166.6 | 166.7 | 166.65 | limestone | BET | FS | 63 | U | 500 | B | 21 | U | 100 | U | 220 | U | 350 | U | 140 | U | 48 | U | 2100 | U | 110 | U | 310 | U | 57 | U | 120 | U | 41 | U | 120 | U | 21 | U | 110 | U | 23 | U | 30 | U | 80 | U |
| 200-SB-6-167.30-VOC | | 167.3 - 167.4 | 167.3 | 167.4 | 167.35 | clay gouge | BET | FS | 110 | UJ | 730 | JB | 37 | UJ | 190 | UJ | 400 | UJ | 650 | UJ | 260 | UJ | 88 | UJ | 3800 | UJ | 200 | UJ | 570 | UJ | 100 | UJ | 220 | UJ | 74 | UJ | 210 | UJ | 38 | UJ | 190 | UJ | 42 | UJ | 54 | UJ | 150 | UJ |
| 200-SB-6-167.80-VOC | | 167.8 - 167.9 | 167.8 | 167.9 | 167.85 | limestone | f5 | MAT | 100 | U | 740 | QB | 33 | U | 160 | U | 350 | U | 560 | U | 230 | U | 77 | U | 3300 | U | 170 | U | 500 | U | 91 | U | 190 | U | 65 | U | 190 | U | 33 | U | 170 | U | 37 | U | 47 | U | 130 | U |
| 200-SB-6-168.30-VOC | | 168.3 - 168.4 | 168.3 | 168.4 | 168.35 | limestone | BF | FS | 110 | U | 1400 | QB | 37 | U | 180 | U | 390 | U | 630 | U | 250 | U | 86 | U | 3700 | U | 190 | U | 560 | U | 100 | U | 210 | U | 73 | U | 210 | U | 37 | U | 190 | U | 41 | U | 11 | J | 140 | U |
| 200-SB-6-171.30-VOC | 200-SB-6 | 171.3 - 171.4 | 171.3 | 171.4 | 171.35 | limestone | BF | FS | 89 | U | 1500 | QB | 29 | U | 150 | U | 310 | U | 500 | U | 200 | U | 68 | U | 2900 | U | 65 | J | 440 | U | 81 | U | 170 | U | 430 | | 170 | U | 30 | U | 150 | U | 33 | U | 290 | | 110 | U |
| 200-SB-6-172.00-VOC | | 172 - 172.1 | 172 | 172.1 | 172.05 | limestone | BF | FS | 110 | U | 920 | B | 36 | U | 180 | U | 380 | U | 620 | U | 250 | U | 84 | U | 3600 | U | 88 | J | 540 | U | 100 | U | 210 | U | 49 | JB | 530 | | 36 | U | 180 | U | 40 | U | 20 | J | 140 | U |
| 200-SB-6-174.10-VOC | | 174.1 - 174.2 | 174.1 | 174.2 | 174.15 | limestone | BF | FS | 78 | U | 1400 | QB | 26 | U | 130 | U | 270 | U | 440 | U | 180 | U | 60 | U | 2600 | U | 44000 | | 390 | U | 72 | U | 150 | U | 4400 | | 150 | U | 26 | U | 130 | U | 29 | U | 230 | | 100 | U |
| 200-SB-6-174.50-VOC | | 174.5 - 174.6 | 174.5 | 174.6 | 174.55 | limestone | f4 | MAT | 59 | U | 480 | B | 19 | U | 97 | U | 200 | U | 330 | U | 130 | U | 45 | U | 1900 | U | 12000 | B | 290 | U | 54 | U | 110 | U | 1600 | | 310 | | 20 | U | 100 | U | 22 | U | 140 | | 76 | U |
| 200-SB-6-179.20-VOC | | 179.2 - 179.3 | 179.2 | 179.3 | 179.25 | limestone | BF | FS | 46 | U | 970 | B | 14 | U | 80 | U | 200 | U | 430 | U | 120 | U | 34 | U | 1900 | U | 150 | B | 350 | U | 41 | U | 94 | U | 66 | | 92 | U | 14 | U | 82 | U | 16 | U | 64 | | 60 | U |
| 200-SB-6-179.50-VOC | | 179.5 - 179.6 | 179.5 | 179.6 | 179.55 | limestone | f3 | MAT | 29 | U | 470 | B | 9 | U | 51 | U | 130 | U | 270 | U | 74 | U | 22 | U | 1200 | U | 99 | B | 220 | U | 26 | U | 60 | U | 150 | | 310 | | 9.2 | U | 52 | U | 10 | U | 28 | | 38 | U |
| 200-SB-6-183.00-VOC | | 183 - 183.1 | 183 | 183.1 | 183.05 | limestone | BF | FS | 33 | U | 530 | B | 10 | U | 58 | U | 150 | U | 310 | U | 85 | U | 25 | U | 1400 | U | 15 | JB | 250 | U | 30 | U | 68 | U | 21 | U | 67 | U | 11 | U | 60 | U | 12 | U | 3.4 | JB | 44 | U |
| 200-SB-6-183.40-VOC | | 183.4 - 183.5 | 183.4 | 183.5 | 183.45 | limestone | f4 | MAT | 34 | U | 380 | JB | 11 | U | 60 | U | 150 | U | 320 | U | 88 | U | 26 | U | 1400 | U | 19 | JB | 260 | U | 31 | U | 70 | U | 22 | U | 69 | U | 11 | U | 62 | U | 12 | U | 3.4 | JB | 45 | U |
| 200-SB-6-185.40-VOC | | 185.4 - 185.5 | 185.4 | 185.5 | 185.45 | limestone | BF | FS | 36 | U | 530 | JB | 11 | U | 63 | U | 160 | U | 340 | U | 92 | U | 27 | U | 1500 | U | 17 | JB | 270 | U | 33 | U | 74 | U | 23 | U | 73 | U | 11 | U | 65 | U | 13 | U | 3.4 | JB | 47 | U |
| 200-SB-6-186.40-VOC | | 186.4 - 186.5 | 186.4 | 186.5 | 186.45 | clay gouge | BET | FS | 29 | UJ | 360 | JB | 18 | J | 51 | UJ | 130 | UJ | 270 | J | 74 | UJ | 22 | UJ | 1200 | UJ | 8 | JB | 220 | UJ | 13 | J | 60 | UJ | 18 | UJ | 59 | UJ | 9.2 | UJ | 52 | UJ | 10 | UJ | 2.5 | JB | 38 | UJ |
| 200-SB-6-186.70-VOC | | 186.7 - 186.8 | 186.7 | 186.8 | 186.75 | limestone | f3 | MAT | 35 | U | 1000 | B | 11 | U | 62 | U | 160 | U | 330 | U | 90 | U | 27 | U | 1400 | U | 25 | JB | 270 | U | 32 | U | 73 | U | 7.8 | J | 71 | U | 11 | U | 63 | U | 12 | U | 12 | JB | 46 | U |
| 200-SB-6-187.40-VOC | | 187.4 - 187.5 | 187.4 | 187.5 | 187.45 | limestone | BF | FS | 130 | | 610 | JB | 85 | | 86 | U | 220 | U | 460 | U | 130 | U | 37 | U | 2200 | | 90 | U | 370 | U | 45 | U | 100 | U | 31 | U | 690 | | 16 | U | 89 | U | 17 | U | 4.7 | JB | 65 | U |
| 200-SB-6-190.20-VOC | | 190.2 - 190.3 | 190.2 | 190.3 | 190.25 | limestone | BF | FS | 30 | U | 330 | JB | 9.3 | U | 52 | U | 130 | U | 280 | U | 77 | U | 23 | U | 1200 | U | 33 | JB | 230 | U | 27 | U | 62 | U | 14 | J | 230 | | 9.5 | U | 54 | U | 10 | U | 7.6 | JB | 39 | U |
| 200-SB-6-190.60-VOC | | 190.6 - 190.7 | 190.6 | 190.7 | 190.65 | limestone | f5 | FS | 31 | U | 350 | JQB | 7.2 | J | 53 | U | 130 | U | 290 | U | 78 | U | 23 | U | 1200 | U | 9.4 | JB | 230 | U | 28 | U | 63 | U | 19 | U | 61 | U | 9.6 | U | 55 | U | 11 | U | 4.2 | JB | 40 | U |
| 200-SB-6-193.70-VOC | | 193.7 - 193.8 | 193.7 | 193.8 | 193.75 | limestone | BF | FS | 22 | U | 300 | JQB | 14 | | 39 | U | 97 | U | 210 | U | 56 | U | 17 | U | 900 | U | 38 | JB | 170 | U | 28 | | 45 | U | 4.9 | J | 45 | U | 7 | U | 40 | U | 7.7 | U | 3.2 | JB | 29 | U |
| 200-SB-6-194.80-VOC | | 194.8 - 194.9 | 194.8 | 194.9 | 194.85 | limestone | BF | FS | 32 | U | 640 | QB | 9.7 | U | 55 | U | 140 | U | 300 | U | 80 | U | 24 | U | 1300 | U | 10 | J | 240 | U | 29 | U | 65 | U | 17 | J | 64 | U | 10 | U | 57 | U | 11 | U | 16 | | 41 | U |
| 200-SB-6-195.30-VOC | | 195.3 - 195.4 | 195.3 | 195.4 | 195.35 | limestone | f6 | MAT | 37 | U | 570 | JQB | 11 | U | 64 | U | 160 | U | 340 | U | 93 | U | 28 | U | 1500 | U | 67 | U | 280 | U | 33 | U | 75 | U | 23 | U | 74 | U | 12 | U | 66 | U | 13 | U | 11 | JB | 48 | U |
| 200-SB-6-196.00-VOC | | 196 - 196.1 | 196 | 196.1 | 196.05 | limestone | BF | FS | 35 | U | 620 | QB | 11 | U | 61 | U | 150 | U | 330 | U | 90 | U | 26 | U | 1400 | U | 64 | U | 270 | U | 32 | U | 72 | U | 22 | U | 71 | U | 11 | U | 63 | U | 12 | U | 6.8 | JB | 46 | U |
| 200-SB-6-196.70-VOC | | 196.7 - 196.8 | 196.7 | 196.8 | 196.75 | limestone | f8 | MAT | 33 | U | 370 | JQB | 10 | U | 58 | U | 150 | U | 310 | U | 85 | U | 25 | U | 1400 | U | 61 | U | 250 | U | 30 | U | 69 | U | 21 | U | 67 | U | 11 | U | 60 | U | 12 | U | 5.7 | JB | 44 | U |

## Table 5: Estimated Porewater Concentrations (ug/L) in Rock Core Samples

| | | | | | | Comments/Interpretation (2) | | | Estimated Pore Water Concentration (µg/L) (4) | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Depth from | Depth to | Avg. Depth | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Location ID | Interval (linear feet) | linear ft | linear ft | linear ft | Sample Lithology (3a) | Position Relative to Feature (2b) | Sample Type (2c) | Trichlorofluoromethane | Chloromethane | 1,1,2-Trichloro - 1,2,2-trifluoroethane | 1,1-Dichloroethene | Methylene Chloride | t-Butyl-methyl ether | Chloroform | 1,1,1-Trichloroethane | 2-Butanone | Benzene | 1,2-Dichloroethane | Trichloroethene | Bromodichloromethane | Toluene | 1,1,2-Trichloroethane | Tetrachloroethene | Dibromochloromethane | Chlorobenzene | m,p-Xylenes | Bromoform |

NOTES:

1. This table presents data recorded in conducting field sampling and laboratory analysis of rock core samples from two coring locations: 200-SB-7 and 200-SB-6. The samples were collected, processed and preserved in the field by Stone Environmental Inc. (Stone) personnel then transported under COC to Stone's fixed lab in Barre, VT where they were extracted and analyzed for the listed target Volatile Organic Compounds (VOCs) using methods developed by the University of Guelph. Refer to the Stone report text and tables for additional details regarding sampling, sample preparation, extraction, and analysis.

2. The Comments/Interpretation section include general notes regarding the sample characteristics, field classified lithology, position relative to fracturing, and type of fracturing according to Stone standard protocols as explained further below.
   a) Lithology reflects Stone personnel classification of the sample at the time of collection.
   b) Position relative to feature indicates the position of the sample relative to observed features (e.g. fractures) inferred to reflect insitu features with the following legend:
      "BET"= between closely spaced fractures; "AF"=above fracture surface; "BF"=below fracture surface; "BKN"=broken or crumbled region; "f#" = sampled distance in tenths of feet from fracture surface; "NA" = not applicable.
   c) Sample type differentiates between feature surface (e.g. including a fracture face) = FS; or a matrix sample (MAT) some distance away from the nearest fracture or other feature (see "f#" reference in 2b).

3. The laboratory results for volatile organic compounds in rock are expressed in units of micrograms per kilogram (ug/kg) of rock sample at field moisture conditions at the time of sampling for the target compounds including: 1,1,2-Trichloro-1,2,2-trifluoroethane; Trichlorofluoromethane; 1,1-Dichloroethene; Chloroform; 1,1,1-Trichloroethane; Chloromethane; Methylene Chloride; t-Butyl-methyl ether; 2-Butanone; Benzene; 1,2-Dichloroethane; Bromodichloromethane; Toluene; 1,1,2-Trichloroethane; Dibromochloromethane; Trichloroethene; and Tetrachloroethene . The values are rounded to three significant figures. Please refer to the analytical report text and appendices for information regarding detection and quantitation limits. The second column for each compound denotes quality assurance flags including: "U" denoting that the analyte was analyzed for, but was not detected above the reported quantitation limit; "J" the analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample; "UJ" the analyte was analyzed for, but was not detected, the sample reported limit is an estimated quantity; "B" indicates the analyte was found in the associated laboratory blank as well as the sample; "B" indicates the analyte was found in the associated laboratory blank as well as the sample.

4. The Estimated Pore Water Concentration in micrograms per liter (ug/L) represents an estimate of the equivalent matrix porewater concentrations (Cw) computed based on the laboratory determined total mass concentration (mg/g of wet rock), as outlined in the report text, using estimated or measured parameters including rock wet bulk density (g/cm3) as received in the field, matrix porosity, and matrix retardation factor (R). This simplified partitioning analysis assumes the rock matrix porosity was fully saturated with water, and that mass occurs at equilibrium in the dissolved and sorbed phase. Refer to the Stone report text for additional details.

# Table 6: Summary of VOC Results for Field and Laboratory Blanks

| | [VOLATILE ORGANIC COMPOUNDS IN METHANOL EXTRACT] (µg/kg of MeOH) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blank ID | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| EB-01 | 40.0 | U | 24.4 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-02 | 40.0 | U | 29.2 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-03 | 40.0 | U | 44.4 | B | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-04 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-05 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-06 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-07 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-08 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-09 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-10 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| EB-11 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| EB-12 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| EB-13 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| EB-14 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| EB-15 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| EB-16 | 40.0 | U | 31.6 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-17 | 40.0 | U | 30.0 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-18 | 40.0 | U | 45.6 | B | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-19 | 40.0 | U | 37.6 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 8.4 | J | 40.0 | U |
| EB-20 | 40.0 | U | 32.8 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-21 | 40.0 | U | 48.0 | B | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-22 | 40.0 | U | 29.6 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-23 | 40.0 | U | 35.6 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-24 | 40.0 | U | 35.6 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| EB-25 | 40.0 | U | 31.6 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| MB-1 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-2 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-3 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-4 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-5 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-6 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-7 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-8 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |

## Table 6: Summary of VOC Results for Field and Laboratory Blanks

| | [VOLATILE ORGANIC COMPOUNDS IN METHANOL EXTRACT] (µg/kg of MeOH) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blank ID | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| MB-9 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-10 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-11 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| MB-12 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| WB-01 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 5120 | | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| WB-02 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 4460 | | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| TB-01 | 40.0 | U | 39.2 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-02 | 40.0 | U | 40 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-03 | 40.0 | U | 40 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-04 | 40.0 | U | 40 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-05 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| TB-06 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| TB-07 | 40.0 | U | 40 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-08 | 40.0 | U | 38.0 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-09 | 40.0 | U | 34.0 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 8.4 | J | 40.0 | U |
| TB-10 | 40.0 | U | 30.8 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| TB-11 | 80.0 | U | 200 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 800 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| TB-12 | 40.0 | U | 33.2 | JB | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 400 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 8.4 | J | 40.0 | U |

Notes:

"EB" samples are equipment blanks. "MB" samples are methanol blanks (blanks of the Purge&Trap mathanol used for vial preparation). "WB" samples are "wash blanks" (blanks of the HPLC grade methanol used for decontamination of crushing equipment). "TB" samples are trip blanks. See report text for further explanation.

The laboratory results for volatile organic compounds in rock are expressed in units of micrograms per kilogram (ug/kg) of rock sample at field moisture conditions at the time of sampling for the target compounds including: 1,1,2-Trichloro-1,2,2-trifluoroethane; Trichlorofluoromethane; 1,1-Dichloroethene; Chloroform; 1,1,1-Trichloroethane; Chloromethane; Methylene Chloride; t-Butyl-methyl ether; 2-Butanone; Benzene; 1,2-Dichloroethane; Bromodichloromethane; Toluene; 1,1,2-Trichloroethane; Dibromochloromethane; Trichloroethene; and Tetrachloroethene. The values are rounded to three significant figures. Please refer to the analytical report text and appendices for information regarding detection and quantitation limits. The second column for each compound denotes quality assurance flags including: "U" denoting that the analyte was analyzed for, but was not detected above the reported quantitation limit; "J" the analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample; "UJ" the analyte was analyzed for, but was not detected, the sample reported limit is an estimated quantity; "B" indicates the analyte was found in the associated laboratory blank as well as the sample; "Q" indicates one or more quality control criteria failed (e.g. LCS recovery, surrogate spike recovery or CCV).

CORE DFN™ DISCRETE FRACTURE NETWORK APPROACH

# Table 7: Summary of VOC Results for Field Duplicates

| | | Total VOC Concentration (ug/kg) and Relative Percent Difference (%RPD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample ID | Date Sampled | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
| FD-01 | 6/19/2014 | 48.5 | U | 57.8 | | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 48.5 | U | 15.5 | JB | 48.5 | U |
| 200-SB-7-67.60-VOC | | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 475 | B | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 40.2 | U | 9.64 | JB | 40.2 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 37.8 | | NA | |
| FD-02 | 6/19/2014 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 6.0 | J | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 200-SB-7-88.10-VOC | | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 494 | U | 8.89 | J | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U | 49.4 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 38.8 | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| FD-03 | 6/20/2014 | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 426 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U |
| 200-SB-7-108.30-VOC | | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 405 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U | 40.5 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| FD-04 | 6/20/2014 | 166 | | 39.0 | U | 290 | | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U | 39.0 | U |
| 200-SB-7-133.60-VOC | | 148 | | 36.3 | U | 202 | | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 363 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U | 36.3 | U |
| %RPD | | 11.5 | | NA | | 35.8 | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| FD-05 | 6/21/2014 | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U | 30.1 | U |
| 200-SB-7-155.50-VOC | | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 341 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U | 34.1 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| FD-06 | 6/21/2014 | 64.9 | U | 162 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U | 64.9 | U |
| 200-SB-7-180.10-VOC | | 56.6 | U | 141 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 566 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U | 56.6 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | |
| FD-07 | 6/23/2014 | 53.3 | U | 133 | U | 53.3 | U | 53.3 | U | 53.3 | U | 53.3 | U | 53.3 | U | 53.3 | U | 533 | U | 53.3 | U | 53.3 | U | 170 | | 53.3 | U | 53.3 | U | 53.3 | U | 34.9 | J | 53.3 | U | 53.3 | U | 53.3 | U | 53.3 | U |
| 200-SB-6-43.30-VOC | | 64.6 | U | 161 | U | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U | 646 | U | 64.6 | U | 64.6 | U | 188 | | 64.6 | U | 64.6 | U | 64.6 | U | 42.3 | J | 64.6 | U | 64.6 | U | 64.6 | U | 64.6 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 10.6 | | NA | | NA | | NA | | 21.2 | | NA | | NA | | NA | | NA | |
| FD-08 | 6/24/2014 | 25.0 | UQ | 25.0 | UQ | 179 | | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 209 | J | 8.48 | J | 25.0 | U | 102 | | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 5.49 | JB | 25.0 | U |
| 200-SB-6-69.50-VOC | | 24.9 | UQ | 24.9 | UQ | 282 | | 24.9 | U | 24.9 | U | 24.9 | U | 24.9 | U | 24.9 | U | 249 | U | 11.5 | J | 24.9 | U | 191 | | 24.9 | U | 24.9 | U | 24.9 | U | 14.2 | J | 24.9 | U | 24.9 | U | 6.97 | JB | 24.9 | U |
| %RPD | | NA | | NA | | 57.5 | | NA | | NA | | NA | | NA | | NA | | NA | | 35.6 | | NA | | 87.3 | | NA | | NA | | NA | | NA | | NA | | NA | | 27.0 | | NA | |
| FD-09 | 6/24/2014 | 27.2 | U | 27.2 | U | 31.8 | | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 272 | U | 27.2 | U | 27.2 | U | 13.9 | J | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 27.2 | U | 8.71 | J | 27.2 | U |
| 200-SB-6-94.00-VOC | | 47 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 470 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 47.0 | U | 16.0 | J | 47.0 | U |
| %RPD | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 83.7 | | NA | |

## Table 7: Summary of VOC Results for Field Duplicates

| Sample ID | Date Sampled | Trichlorofluoromethane | | Chloromethane | | 1,1,2-Trichloro - 1,2,2-trifluoroethane | | 1,1-Dichloroethene | | Methylene Chloride | | t-Butyl-methyl ether | | Chloroform | | 1,1,1-Trichloroethane | | 2-Butanone | | Benzene | | 1,2-Dichloroethane | | Trichloroethene | | Bromodichloromethane | | Toluene | | 1,1,2-Trichloroethane | | Tetrachloroethene | | Dibromochloromethane | | Chlorobenzene | | m,p-Xylenes | | Bromoform | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FD-10 | 6/24/2014 | 42.6 | U | 34.5 | JB | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 426 | U | 6.81 | J | 42.6 | U | 42.6 | U | 42.6 | U | 20.9 | J | 42.6 | U | 42.6 | U | 42.6 | U | 42.6 | U | 13.6 | JB | 42.6 | U |
| 200-SB-6-118.90-VOC | | 37.2 | U | 32.7 | JB | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 372 | U | 5.95 | J | 37.2 | U | 37.2 | U | 37.2 | U | 17.5 | J | 37.2 | U | 37.2 | U | 37.2 | U | 37.2 | U | 14.5 | JB | 37.2 | U |
| %RPD | | NA | | 5.2 | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 12.6 | | NA | | NA | | NA | | 16.3 | | NA | | NA | | NA | | NA | | 6.6 | | NA | |
| FD-11 | 6/25/2014 | 32.3 | U | 18.4 | JB | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 323 | U | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 20.7 | J | 32.3 | U | 32.3 | U | 32.3 | U | 32.3 | U | 7.11 | J | 32.3 | U |
| 200-SB-6-145.30-VOC | | 41.8 | U | 30.5 | JB | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 418 | U | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 20.1 | J | 41.8 | U | 41.8 | U | 41.8 | U | 41.8 | U | 9.62 | J | 41.8 | U |
| %RPD | | NA | | 65.8 | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 2.9 | | NA | | NA | | NA | | NA | | 35.3 | | NA | |
| FD-12 | 6/25/2014 | 29.3 | U | 48.0 | B | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 293 | U | 9380 | | 29.3 | U | 29.3 | U | 29.3 | U | 2440 | B | 29.3 | U | 29.3 | U | 29.3 | U | 29.3 | U | 184 | | 29.3 | U |
| 200-SB-6-174.10-VOC | | 25.3 | U | 59.9 | QB | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 253 | U | 8330 | | 25.3 | U | 25.3 | U | 25.3 | U | 2180 | | 25.3 | U | 25.3 | U | 25.3 | U | 25.3 | U | 158 | | 25.3 | U |
| %RPD | | NA | | 24.8 | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 11.2 | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | NA | | 14.1 | | NA | |

Notes:

The laboratory results for volatile organic compounds in rock are expressed in units of micrograms per kilogram (ug/kg) of rock sample at field moisture conditions at the time of sampling for the target compounds including: 1,1,2-Trichloro-1,2,2-trifluoroethane; Trichlorofluoromethane; 1,1-Dichloroethene; Chloroform; 1,1,1-Trichloroethane; Chloromethane; Methylene Chloride; t-Butyl-methyl ether; 2-Butanone; Benzene; 1,2-Dichloroethane; Bromodichloromethane; Toluene; 1,1,2-Trichloroethane; Dibromochloromethane; Trichloroethene; and Tetrachloroethene The values are rounded to three significant figures. Please refer to the analytical report text and appendices for information regarding detection and quantitation limits. The second column for each compound denotes quality assurance flags including: "U" denoting that the analyte was analyzed for, but was not detected above the reported quantitation limit; "J" the analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample; "UJ" the analyte was analyzed for, but was not detected, the sample reported limit is an estimated quantity; "B" indicates the analyte was found in the associated laboratory blank as well as the sample; "Q" indicates one or more quality control criteria failed (e.g. LCS recovery, surrogate spike recovery or CCV).

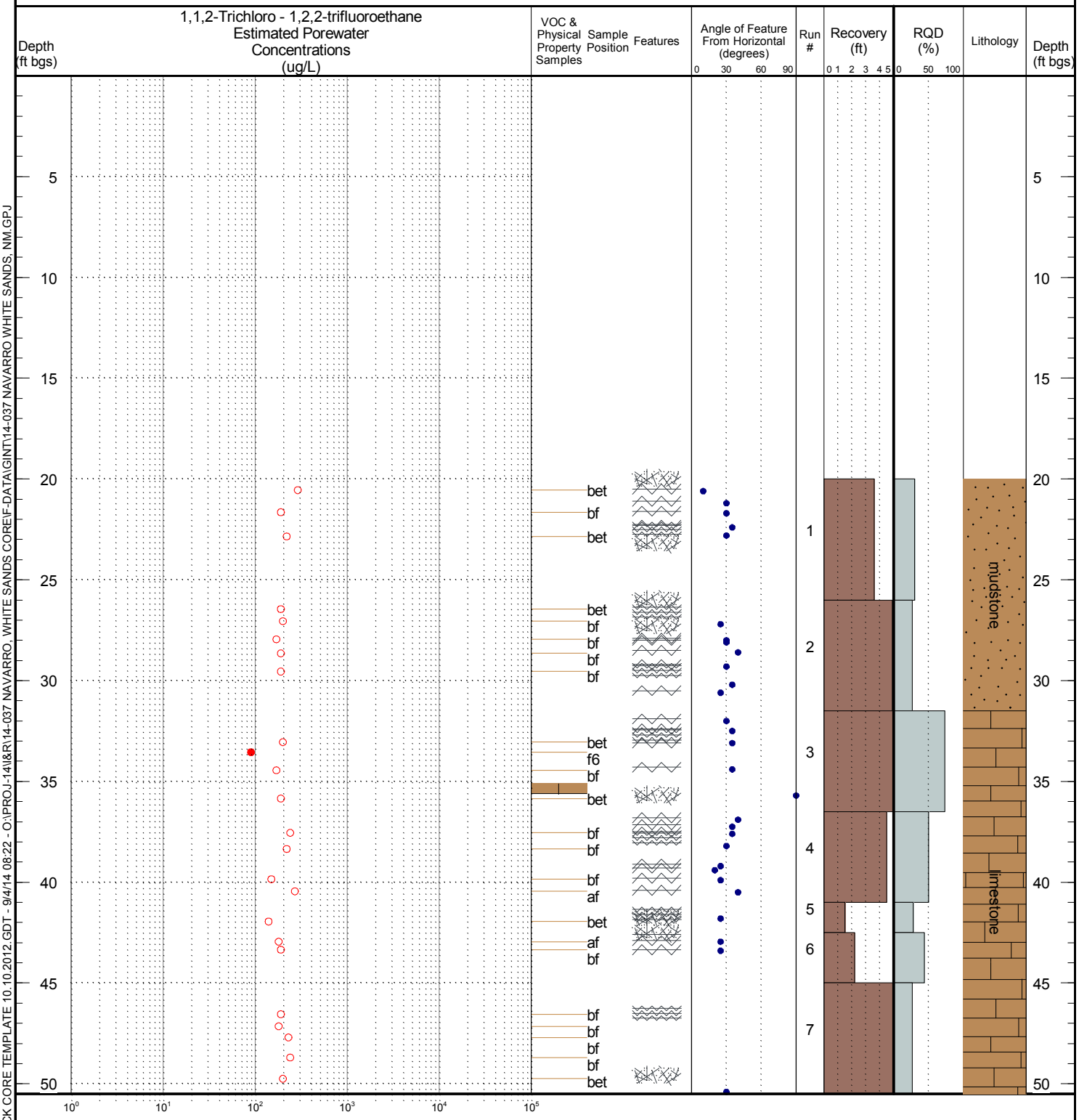
CORE DFN™

DISCRETE FRACTURE NETWORK APPROACH

# Figure 1 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

1,1,2-Trichloro - 1,2,2-trifluoroethane Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

af = above feature
bf = Below feature
bet = Between features
mat = Matrix
f# = Inches from feature

= Fracture
= Mechanical Fracture
= Series of Fractures
= Rubble

Mudstone
Limestone


STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com



ROCK CORE 2 - ROCK CORE TEMPLATE 10.10.2012.GDT - 9/4/14 08:22 - O:\PROJ-14\I&R\14-037 NAVARRO, WHITE SANDS CORE\F-DATA\GINT\14-037 NAVARRO WHITE SANDS, NM.GPJ

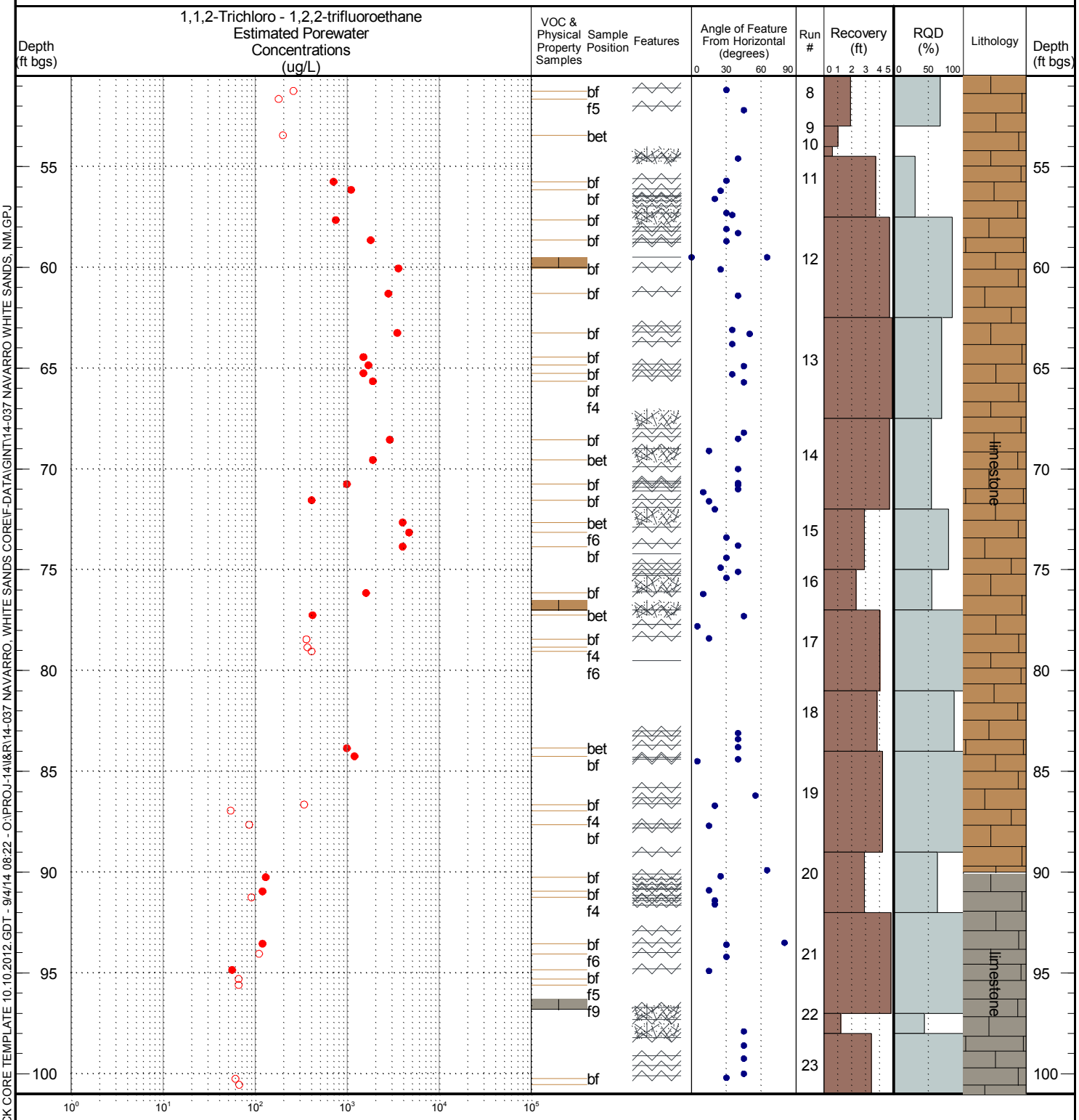
CORE DFN™

DISCRETE FRACTURE NETWORK APPROACH

# Figure 1 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

1,1,2-Trichloro - 1,2,2-trifluoroethane Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

af = above feature
bf = Below feature
bet = Between features
mat = Matrix
f# = Inches from feature

= Fracture
= Mechanical Fracture
= Series of Fractures
= Rubble

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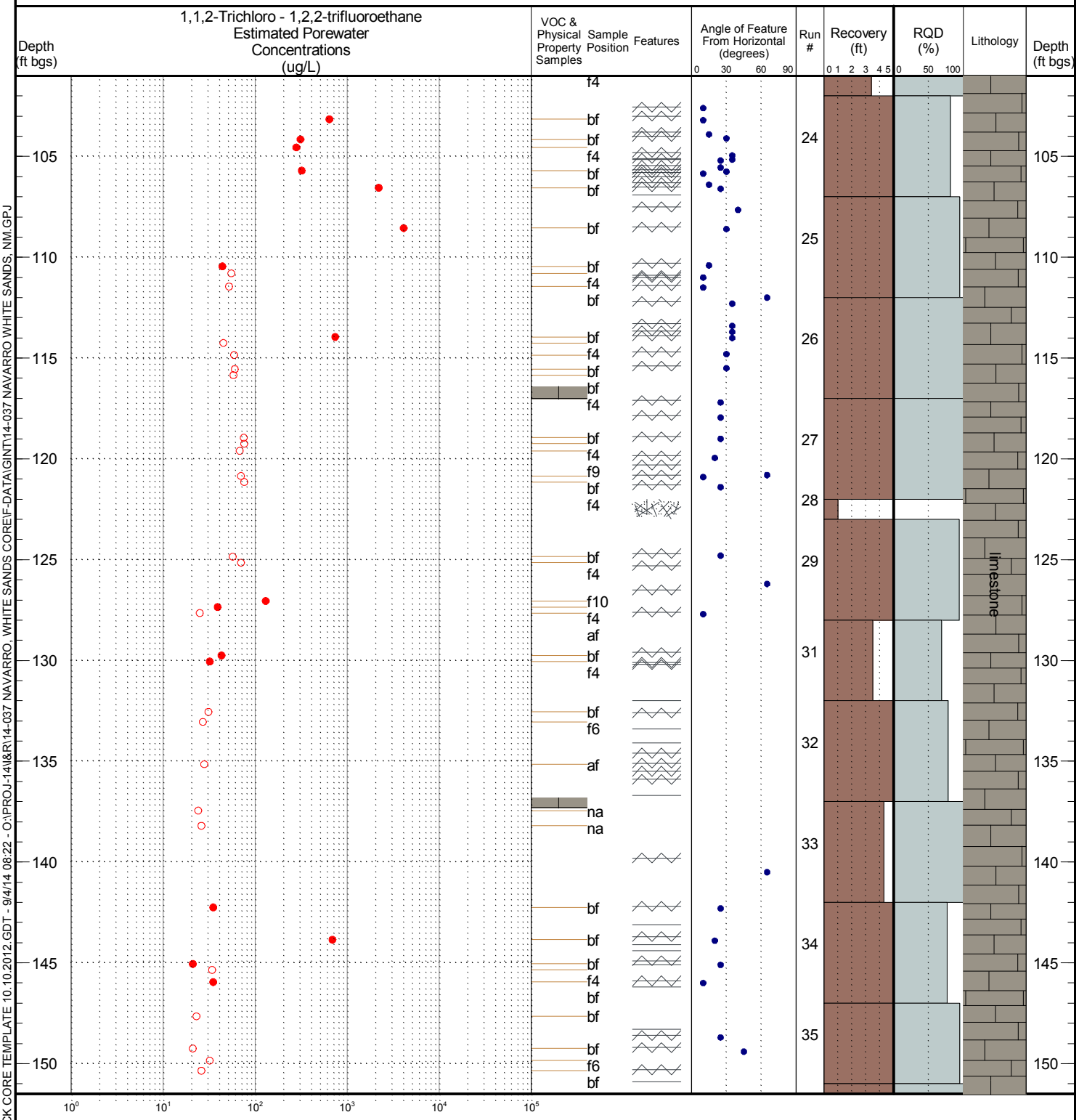
DISCRETE FRACTURE NETWORK APPROACH

# Figure 1 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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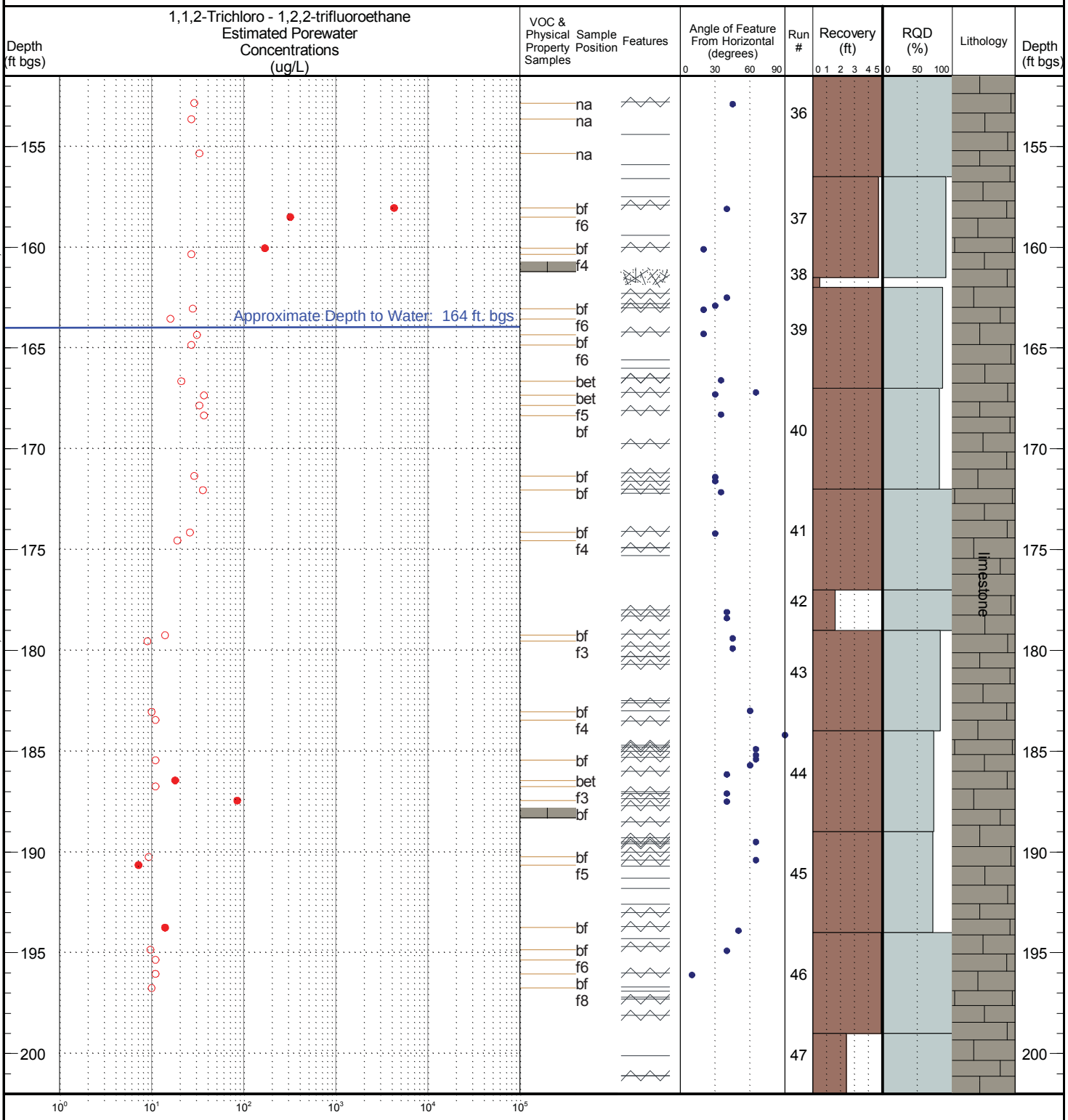
DISCRETE FRACTURE NETWORK APPROACH

# Figure 1 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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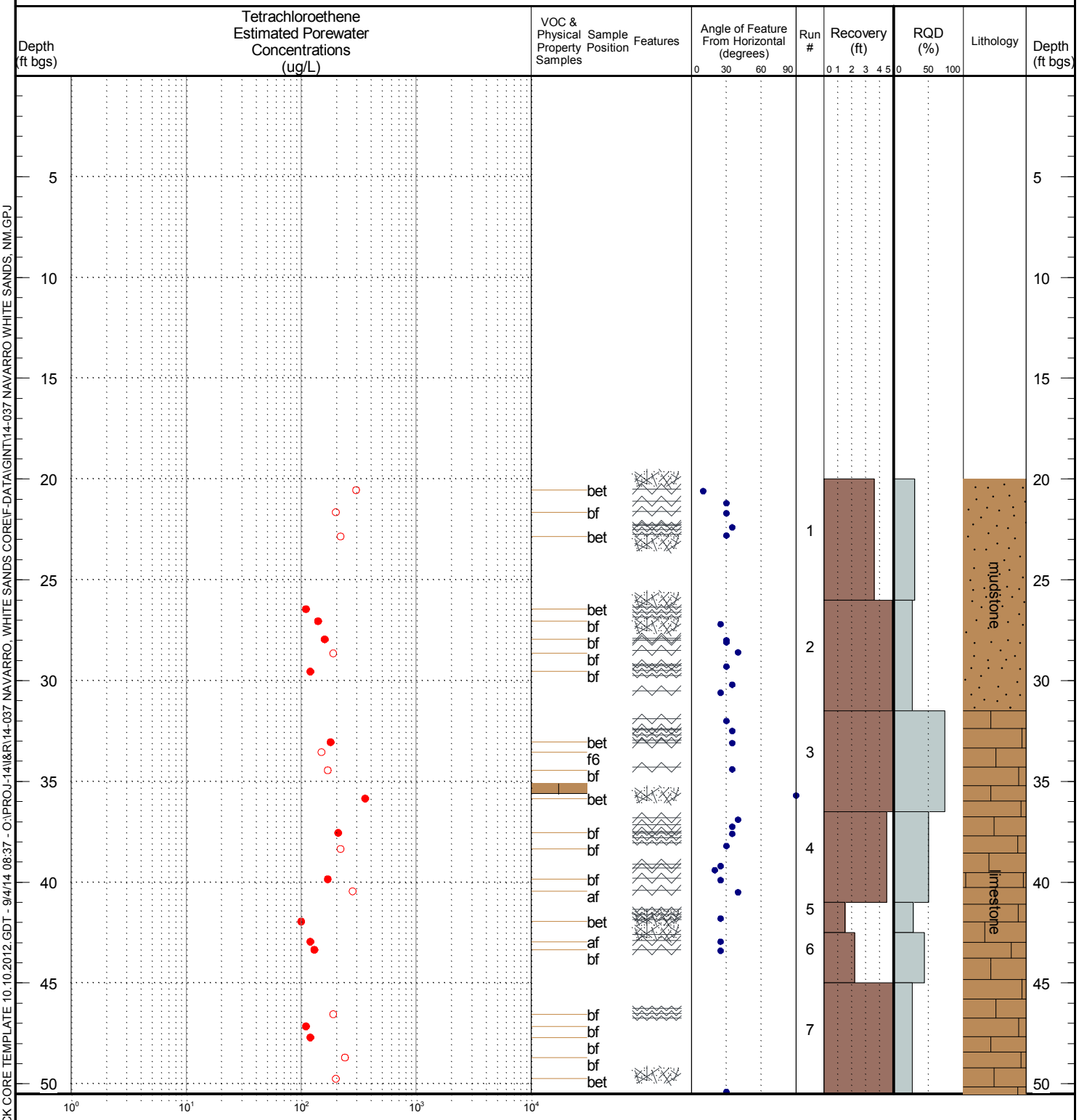
DISCRETE FRACTURE NETWORK APPROACH

# Figure 2 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

Tetrachloroethene
Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

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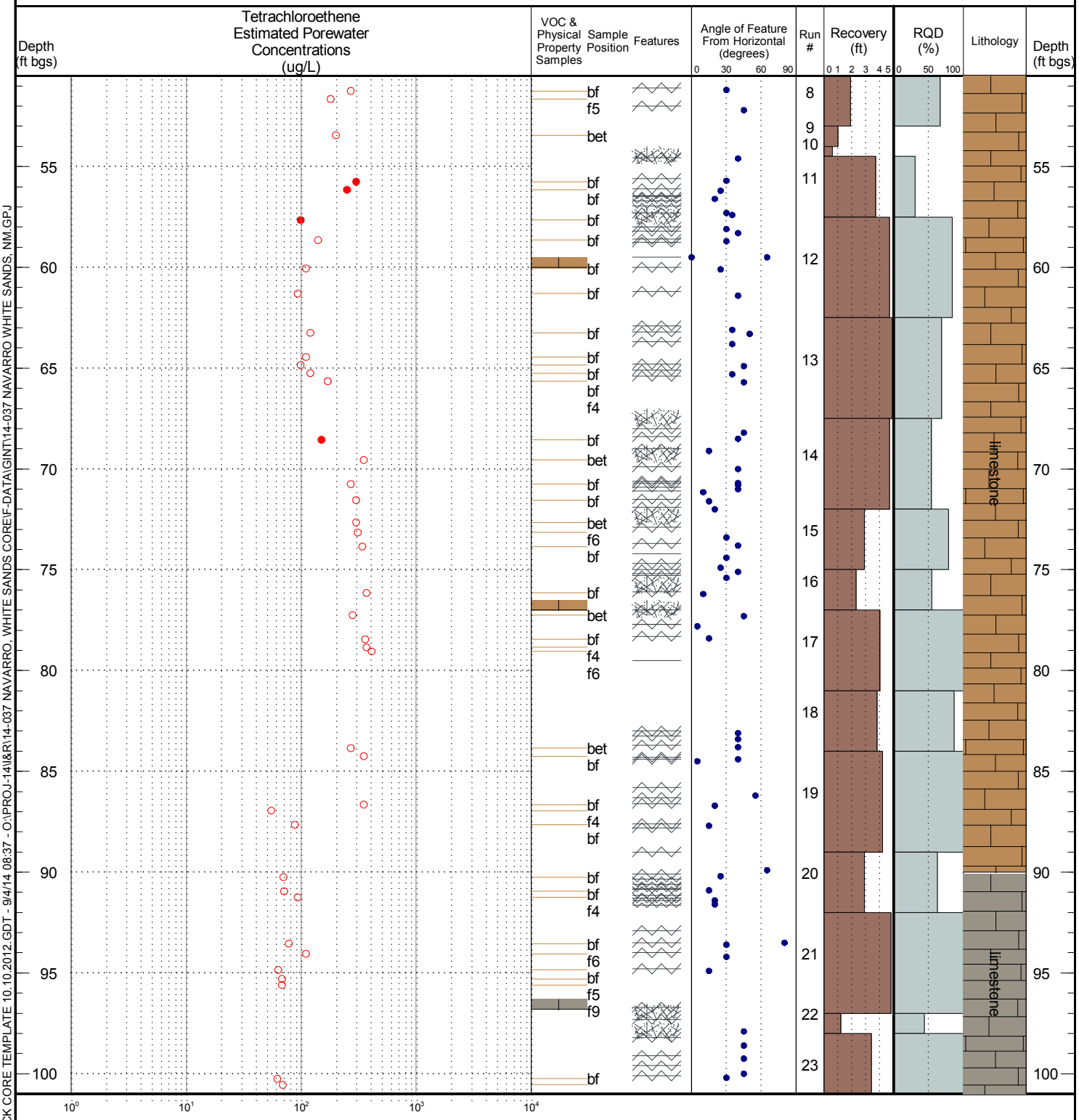
DISCRETE FRACTURE NETWORK APPROACH

# Figure 2 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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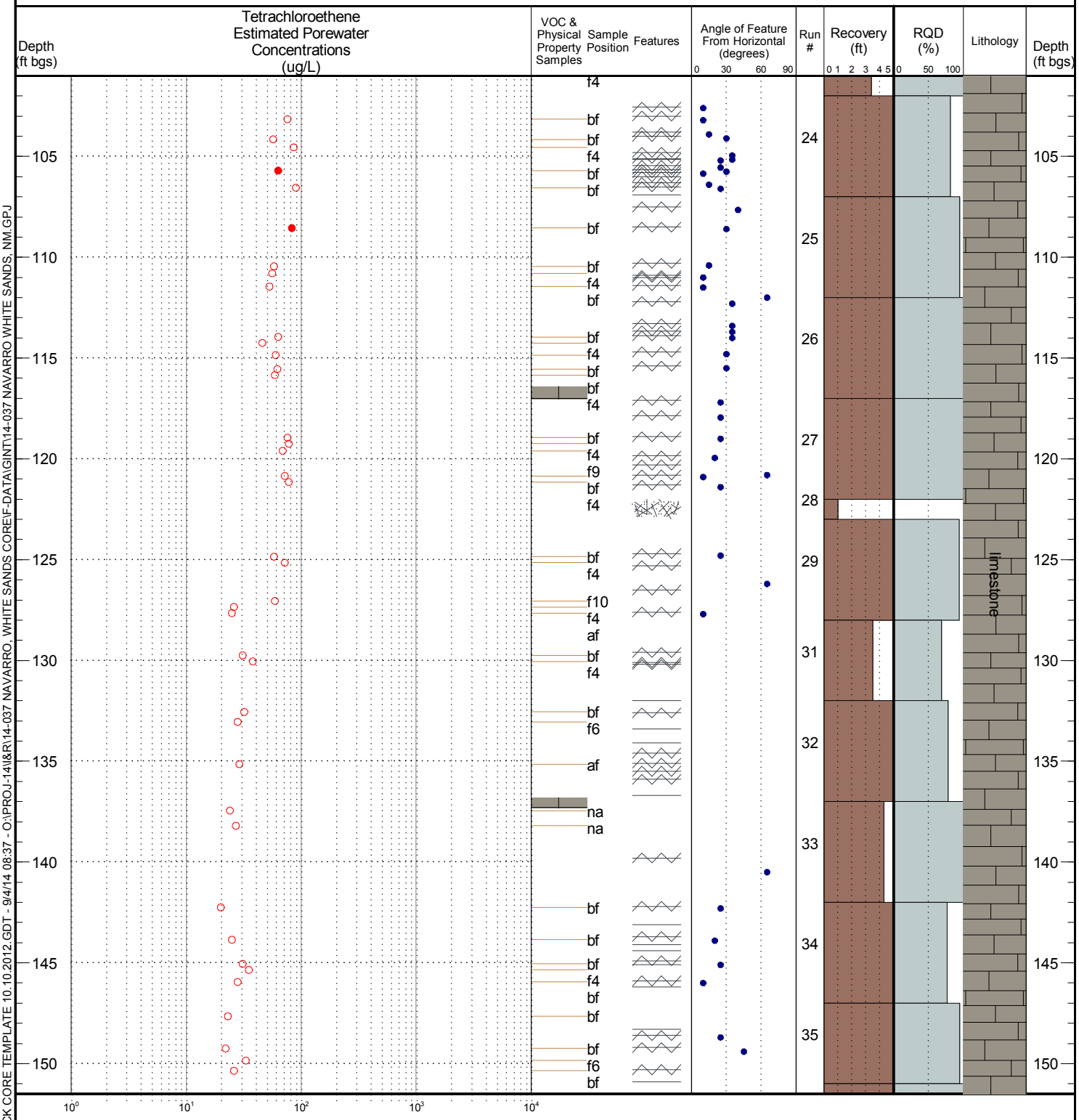
DISCRETE FRACTURE NETWORK APPROACH

# Figure 2 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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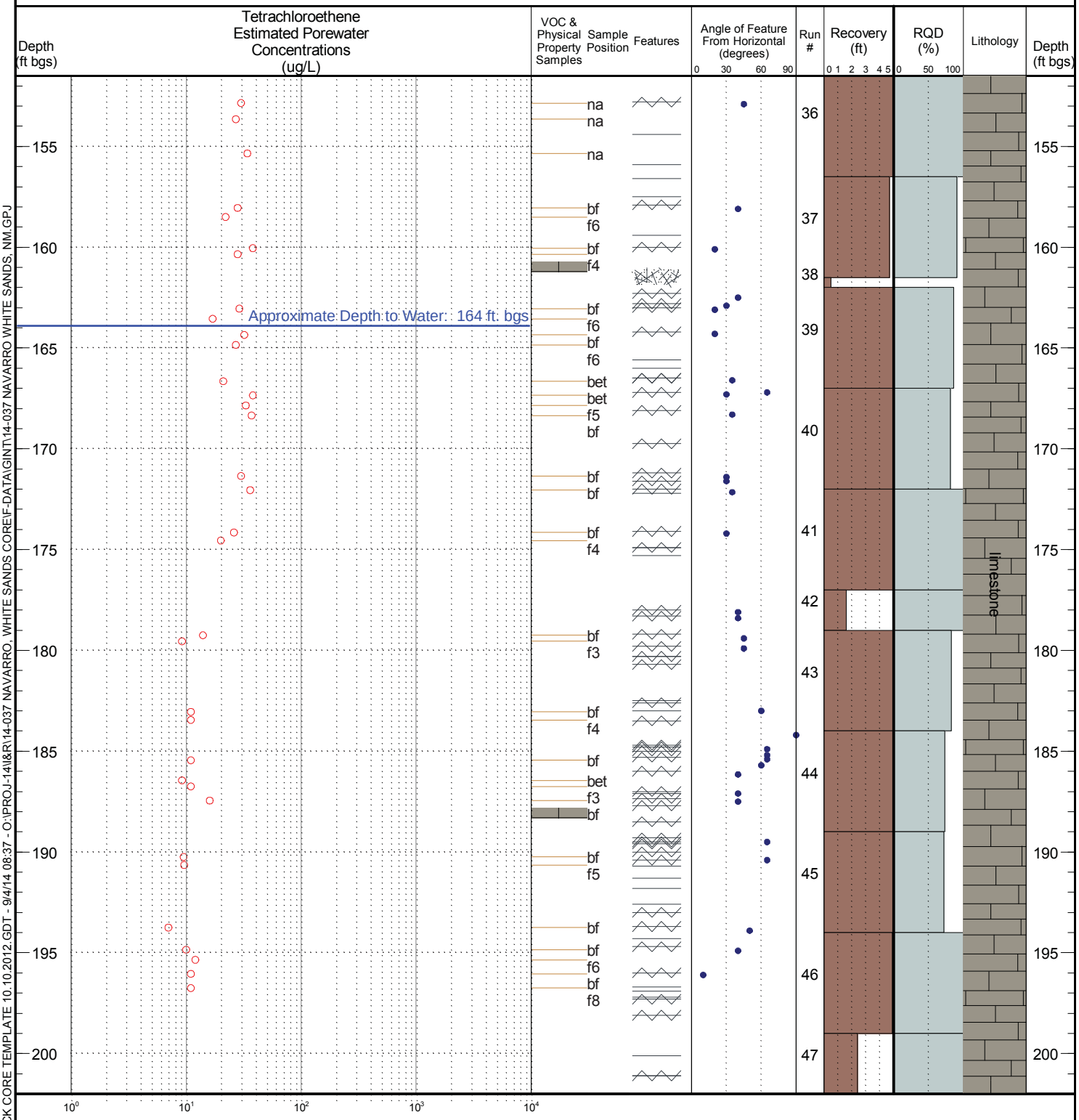
DISCRETE FRACTURE NETWORK APPROACH

# Figure 2 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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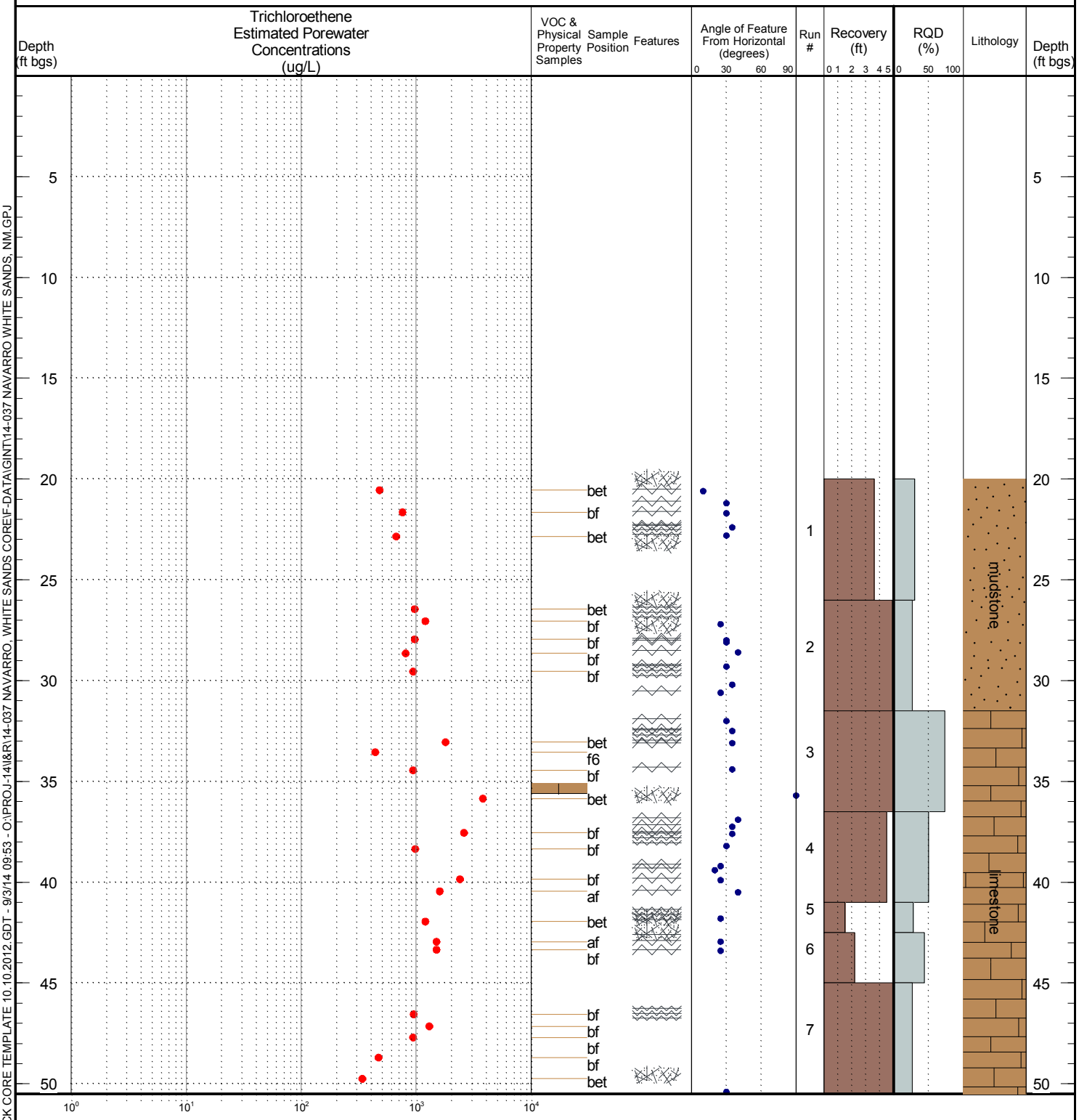
DISCRETE FRACTURE NETWORK APPROACH

# Figure 3 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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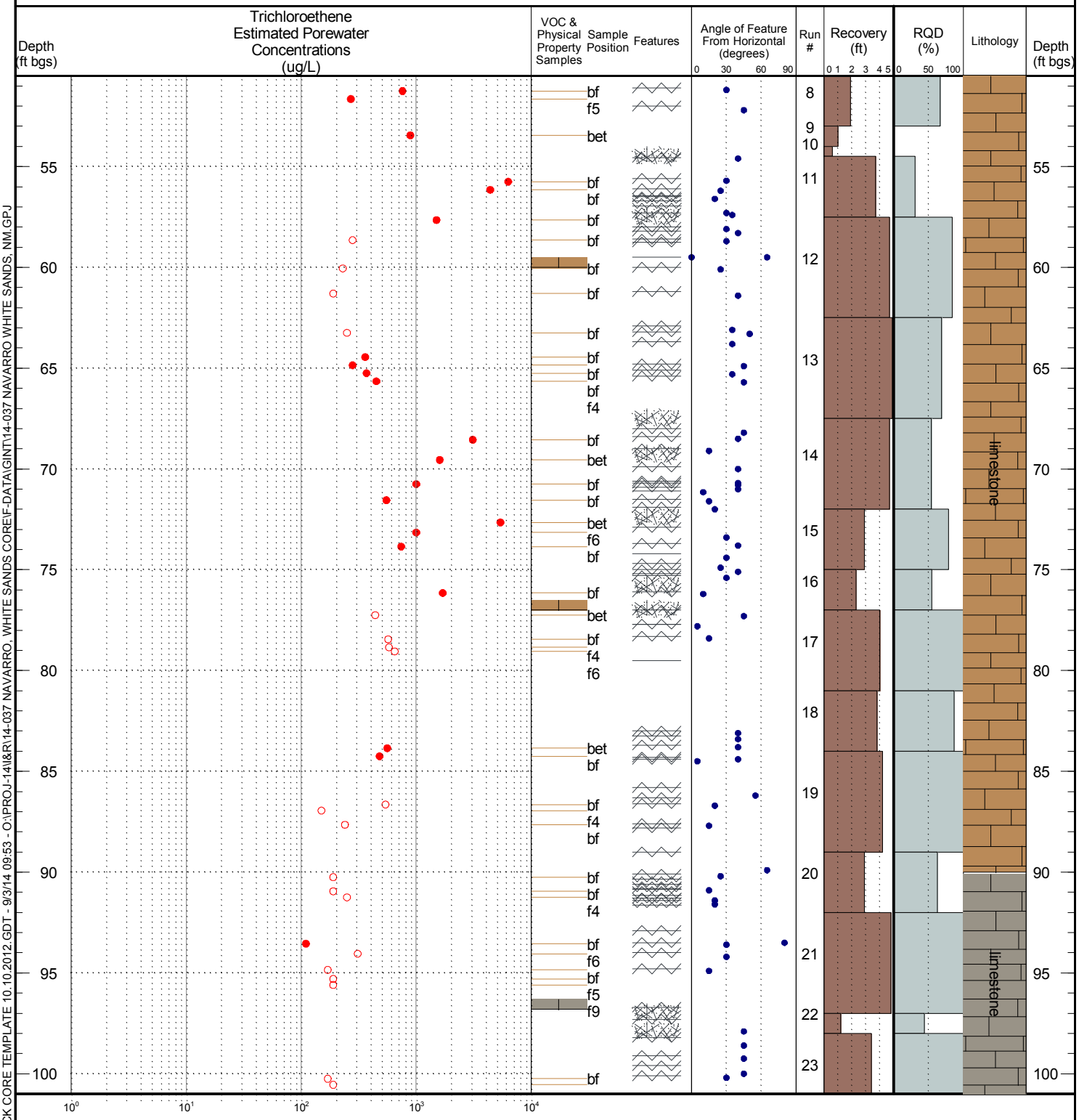
DISCRETE FRACTURE NETWORK APPROACH

# Figure 3 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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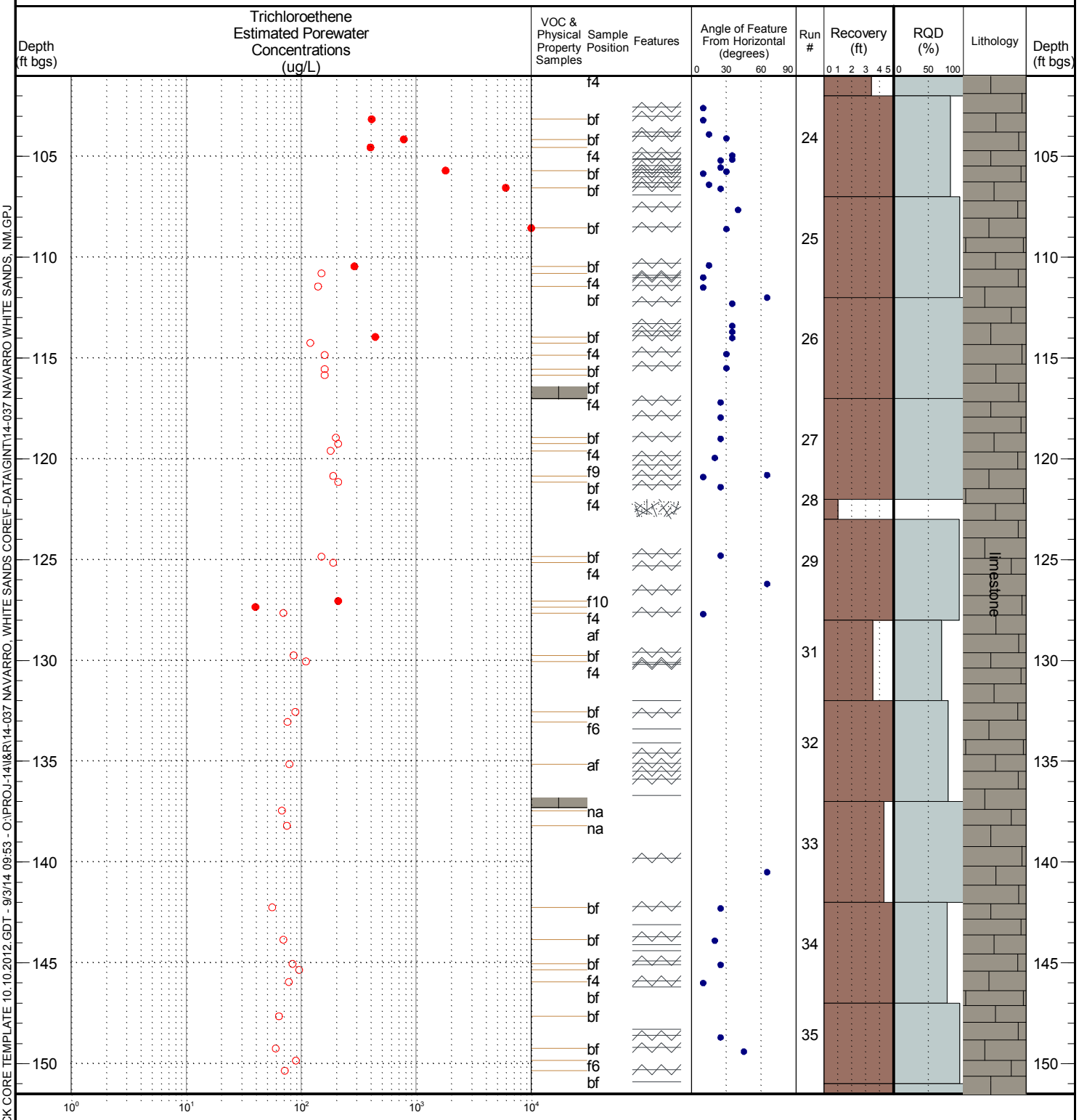
DISCRETE FRACTURE NETWORK APPROACH

# Figure 3 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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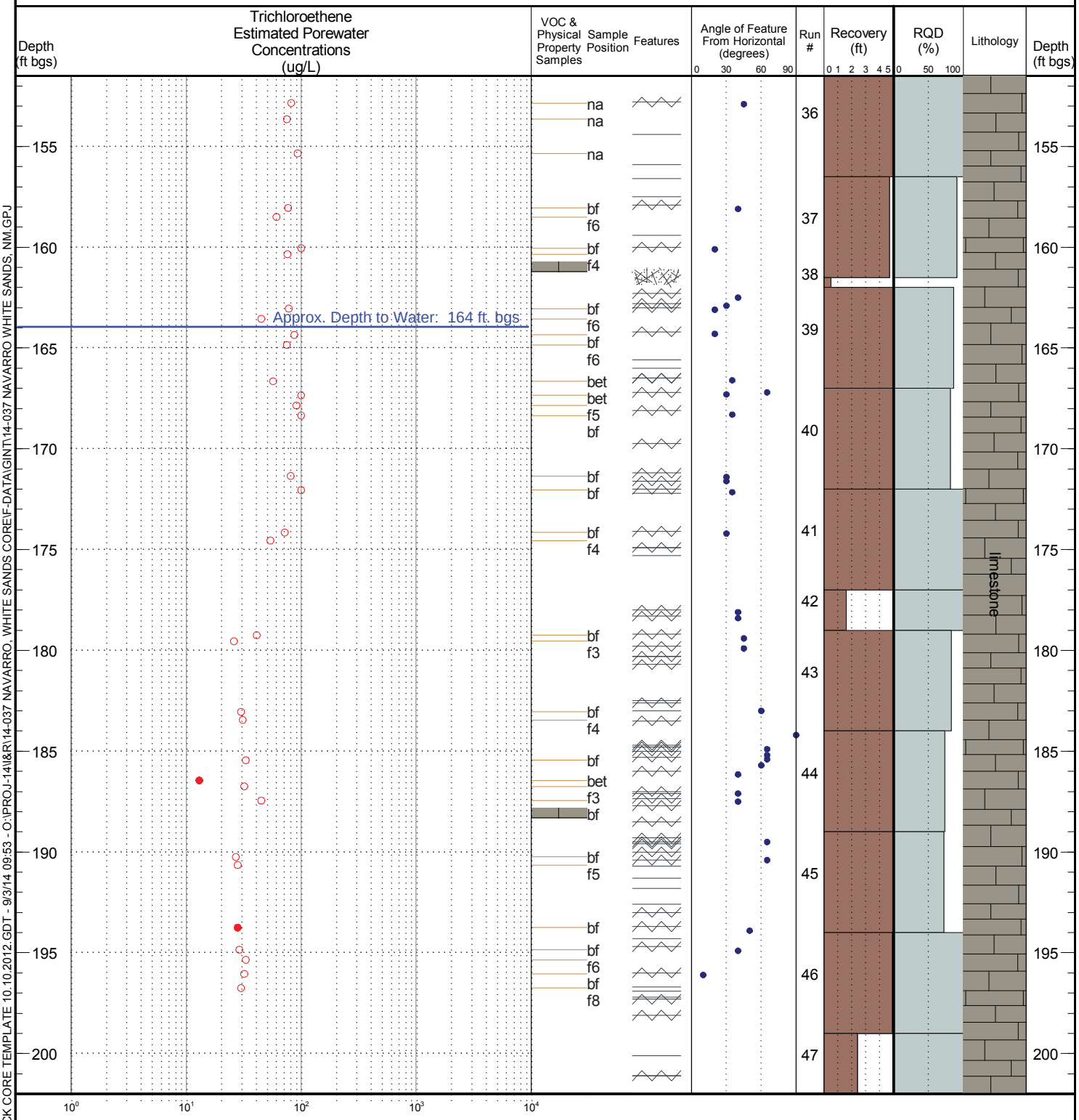
DISCRETE FRACTURE NETWORK APPROACH

# Figure 3 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National

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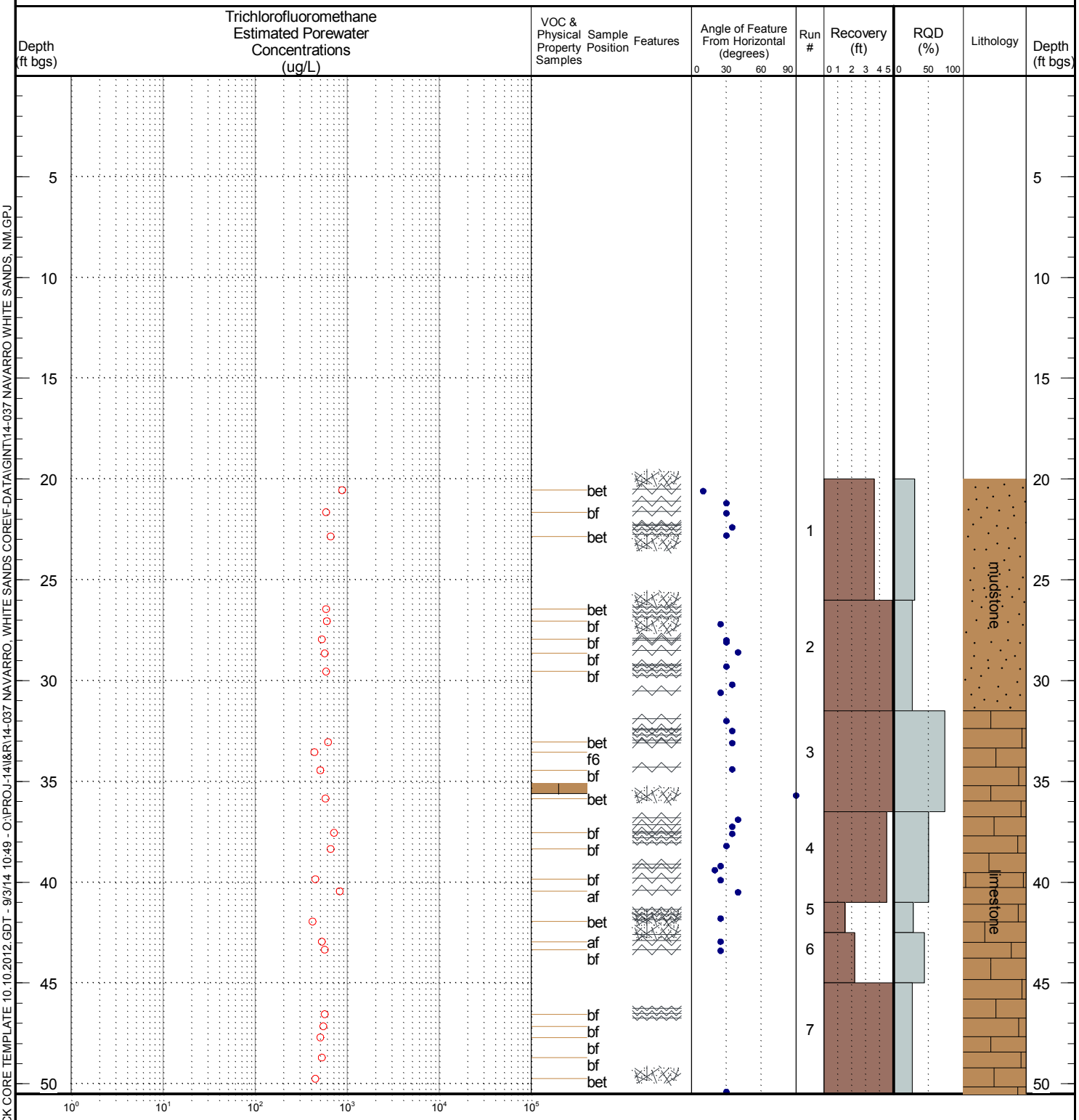
DISCRETE FRACTURE NETWORK APPROACH

# Figure 4 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

Trichlorofluoromethane Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

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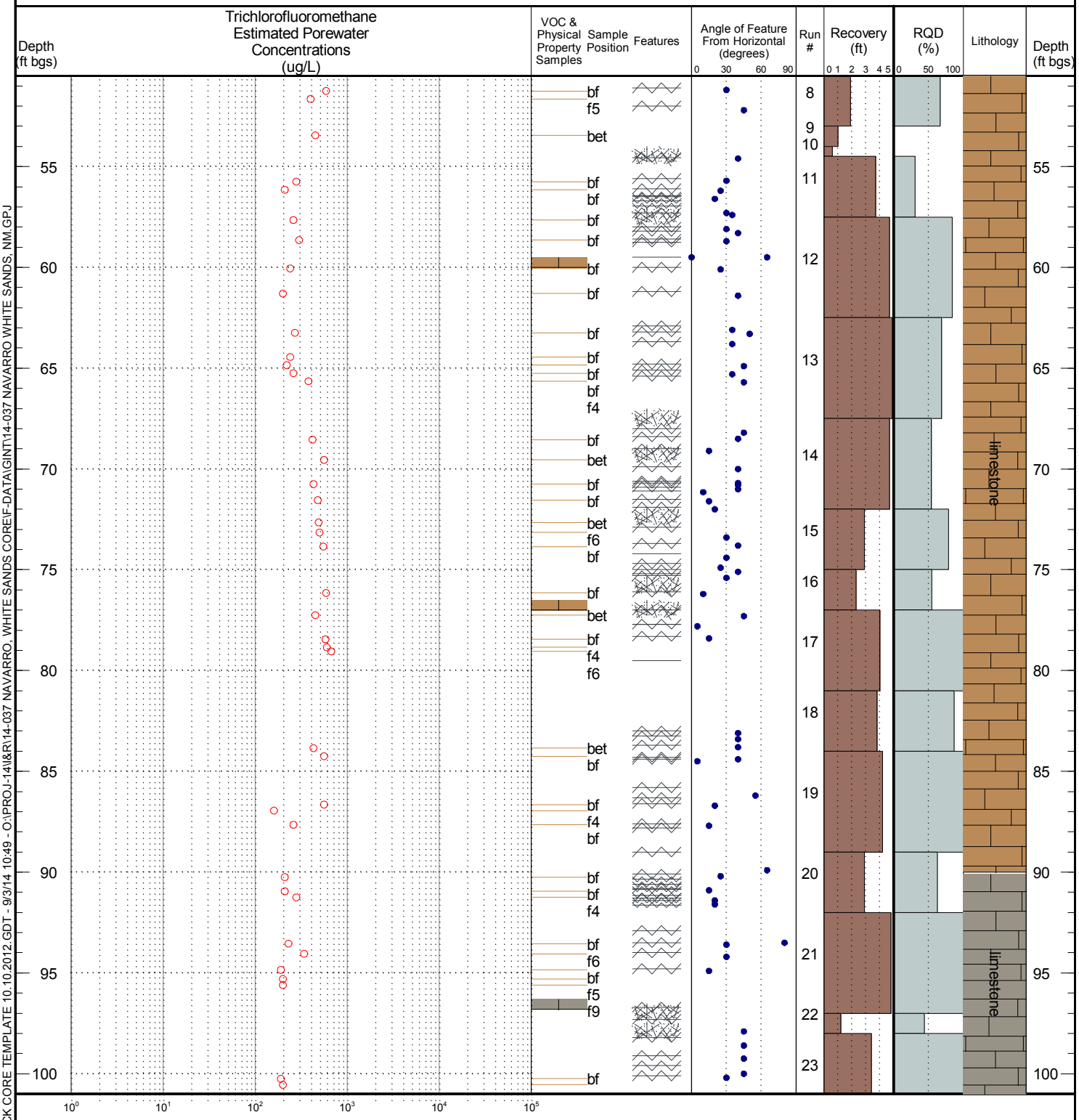
DISCRETE FRACTURE NETWORK APPROACH

# Figure 4 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National

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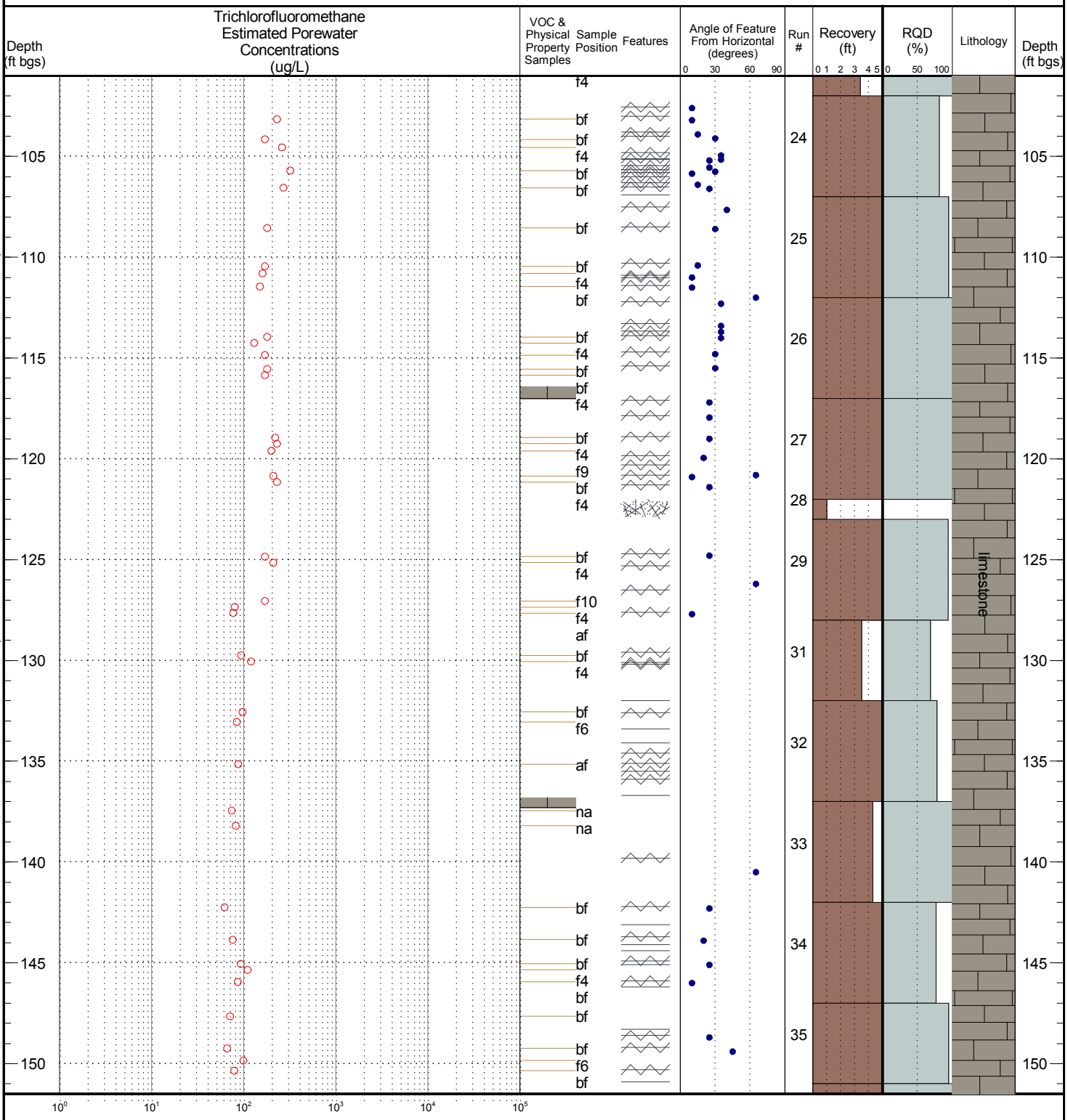
DISCRETE FRACTURE NETWORK APPROACH

# Figure 4 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National

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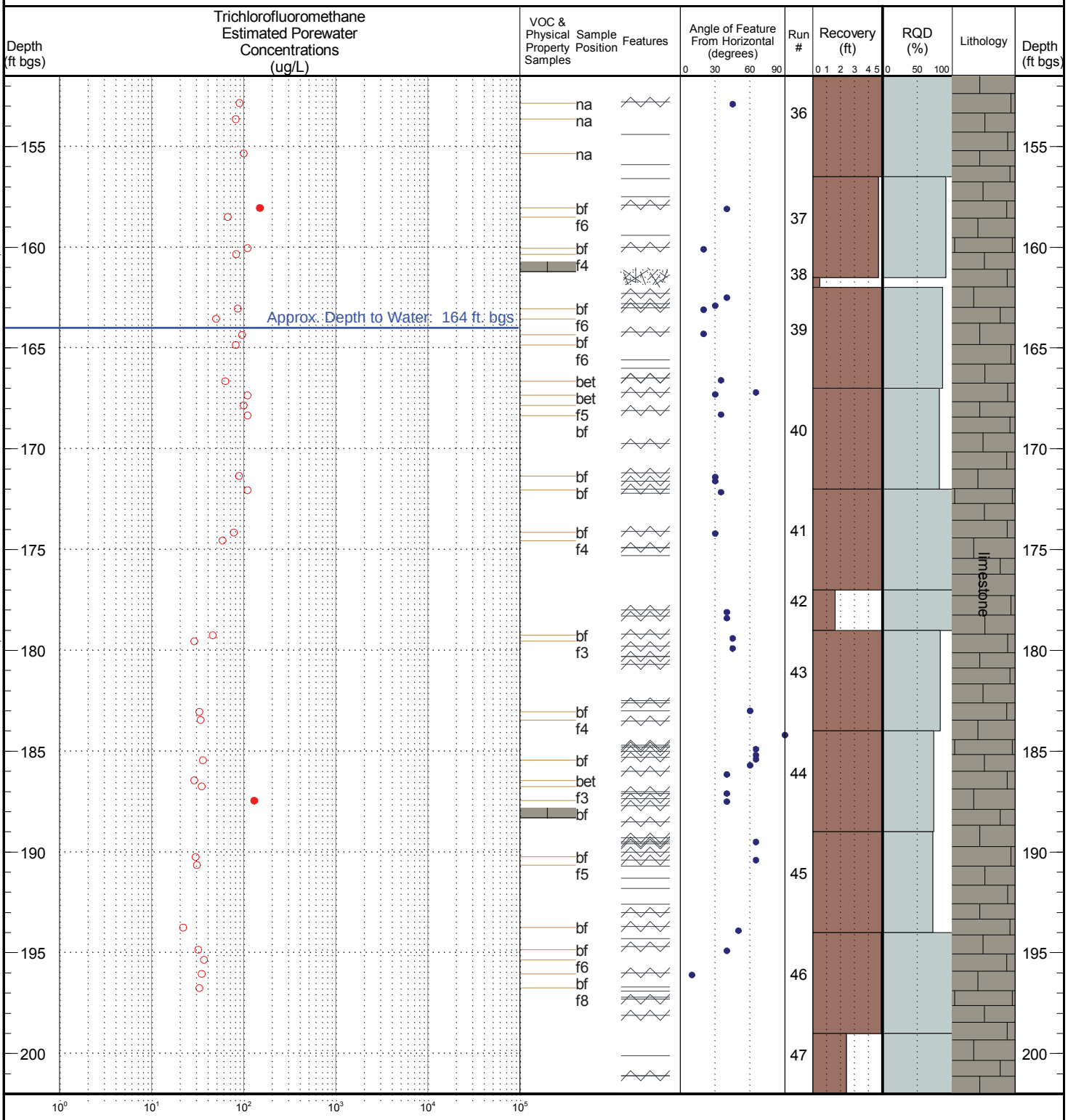
DISCRETE FRACTURE NETWORK APPROACH

# Figure 4 200-SB-6

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/23/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/25/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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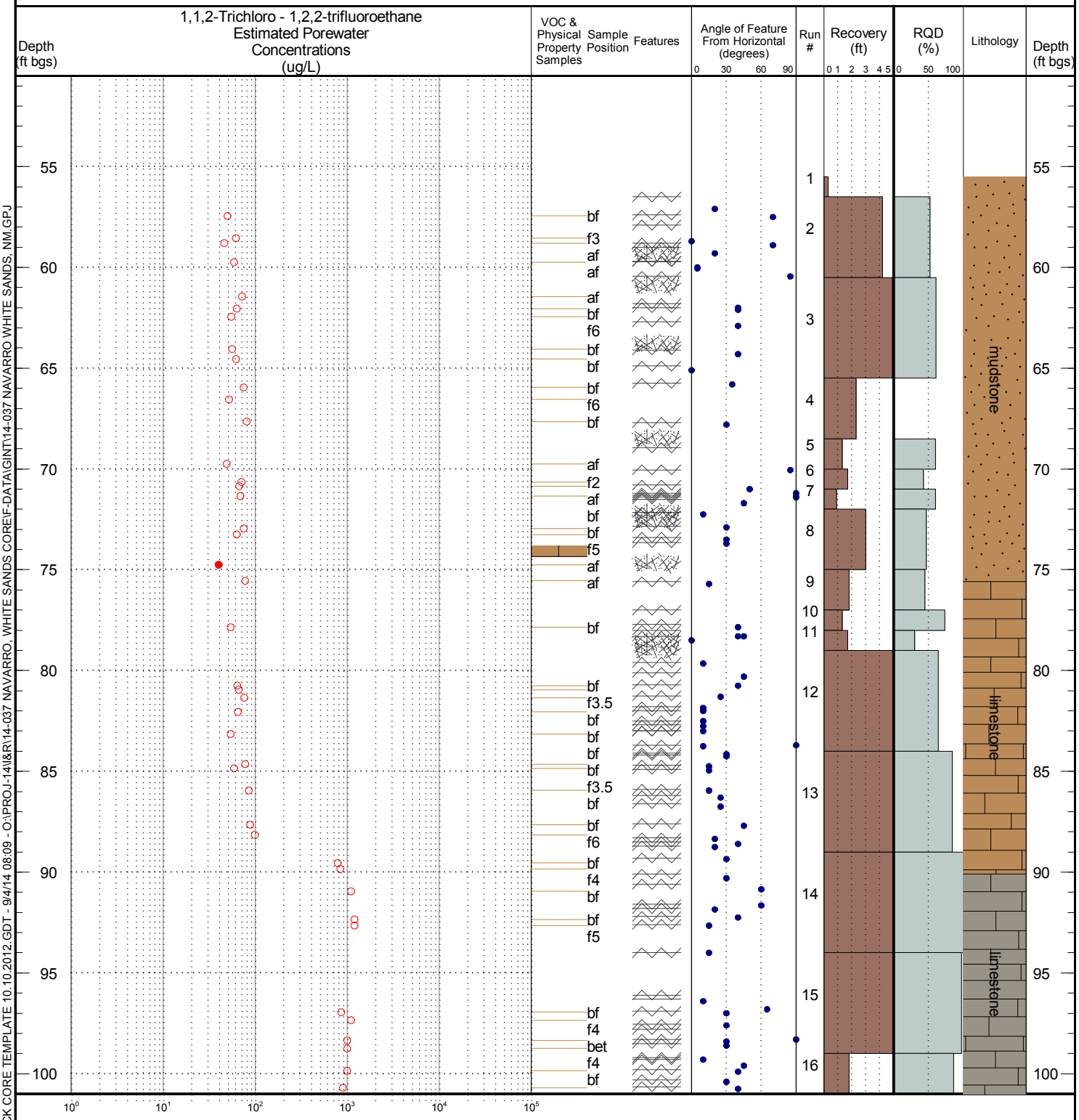
# Figure 5 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/17/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/21/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

1,1,2-Trichloro - 1,2,2-trifluoroethane Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

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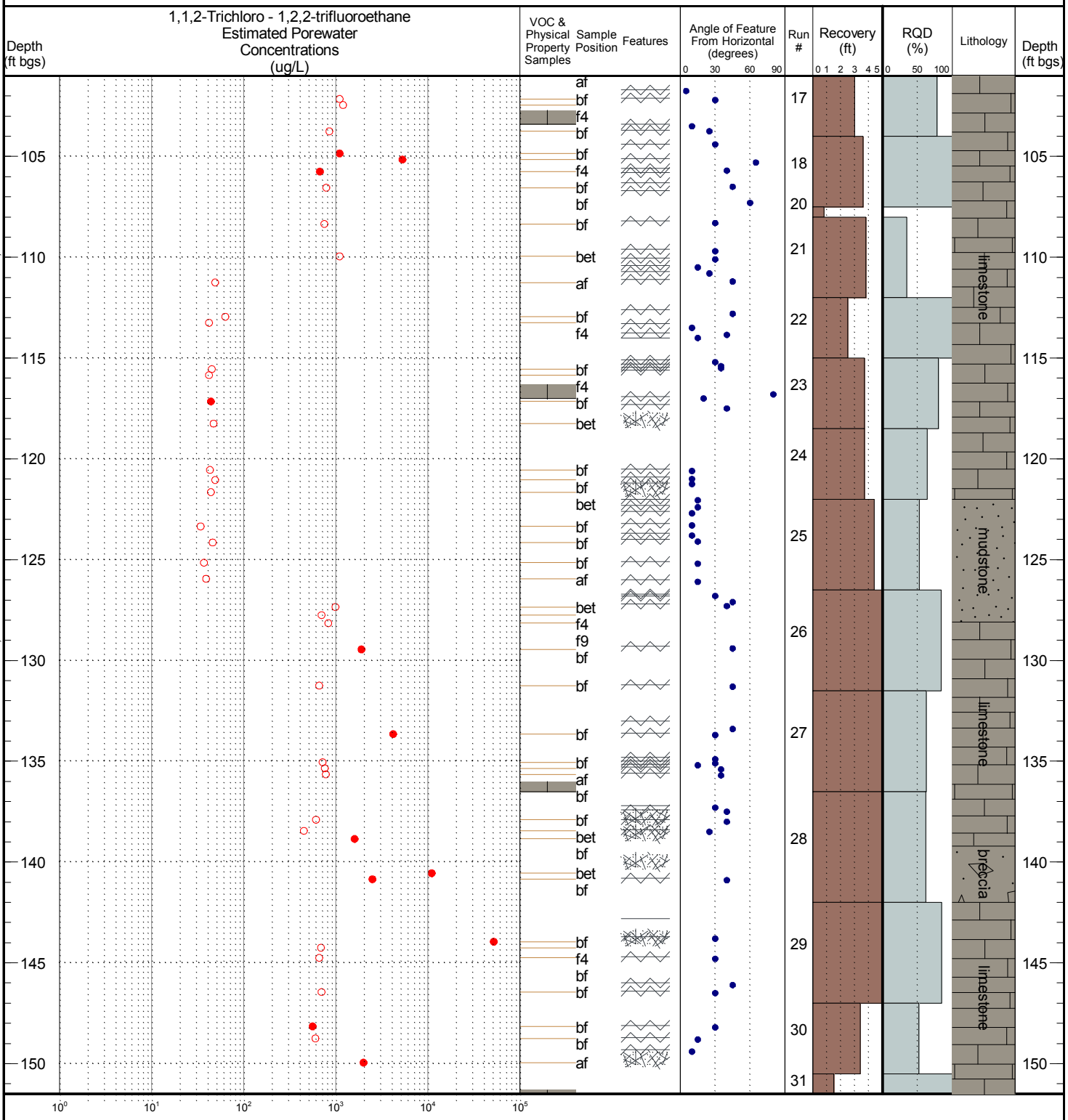
DISCRETE FRACTURE NETWORK APPROACH

# Figure 5 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/17/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/21/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

1,1,2-Trichloro - 1,2,2-trifluoroethane Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

af = above feature
bf = Below feature
bet = Between features
mat = Matrix
f# = Inches from feature

= Fracture
= Mechanical Fracture
= Series of Fractures
= Rubble

Mudstone
Limestone
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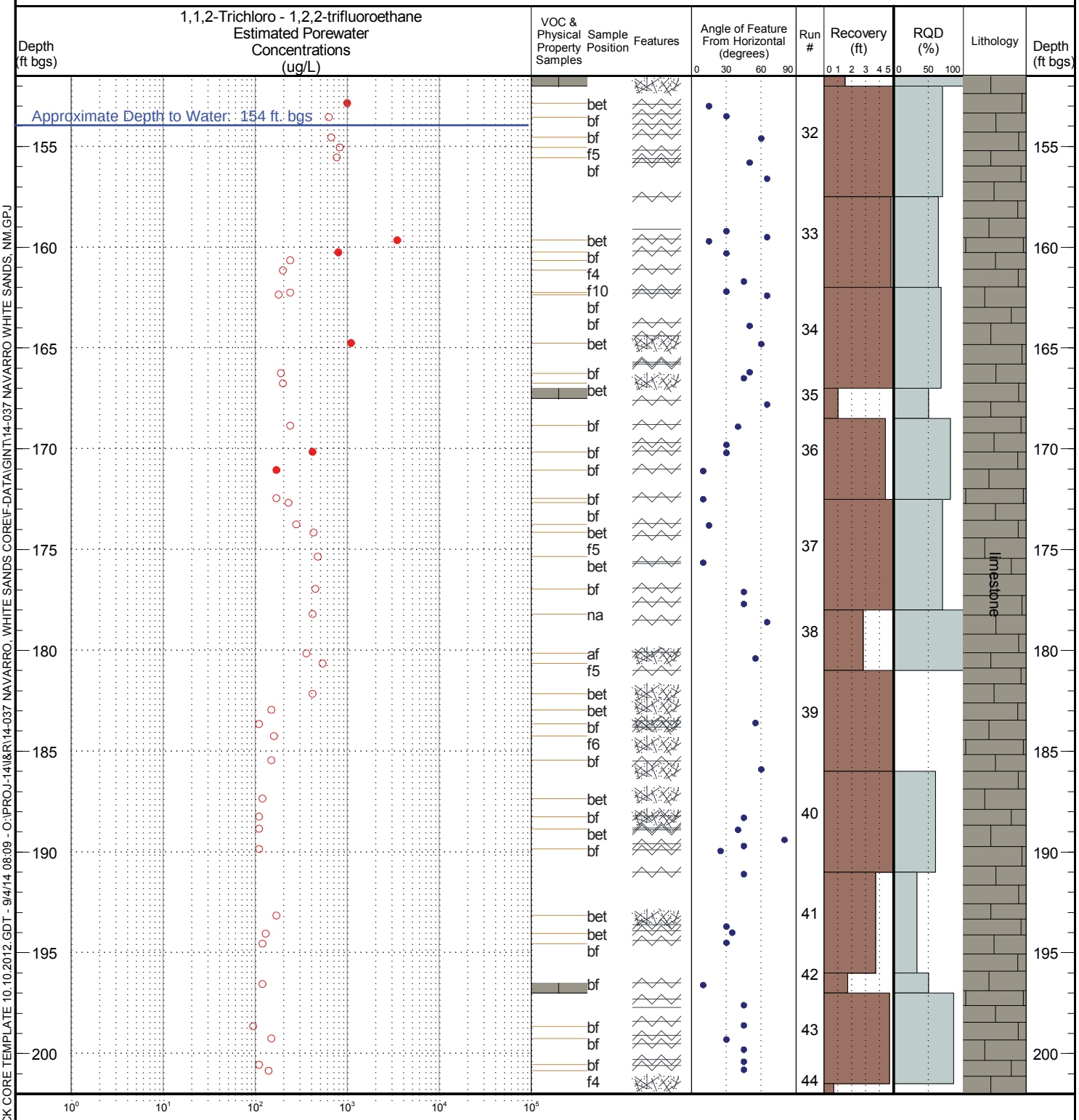


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DISCRETE FRACTURE NETWORK APPROACH

# Figure 6 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/17/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/21/2014
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**Sampler(s)** PPM
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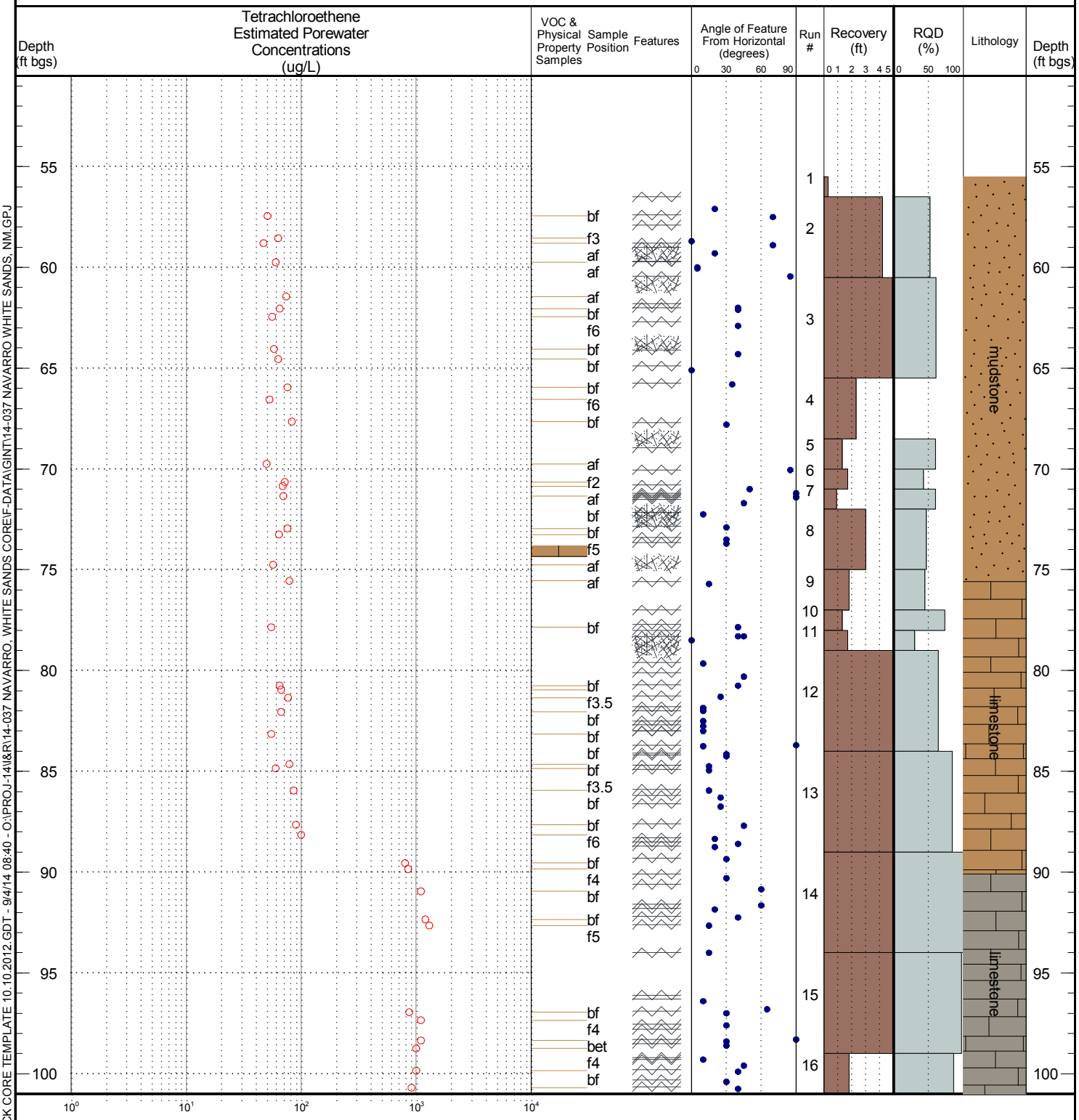


## Notes

Tetrachloroethene
Results given as Estimated Porewater Concentrations (ug/L), Detects noted by filled symbol, Non Detects are noted by open symbols at the detection limit.

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DISCRETE FRACTURE NETWORK APPROACH

# Figure 6 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/17/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/21/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
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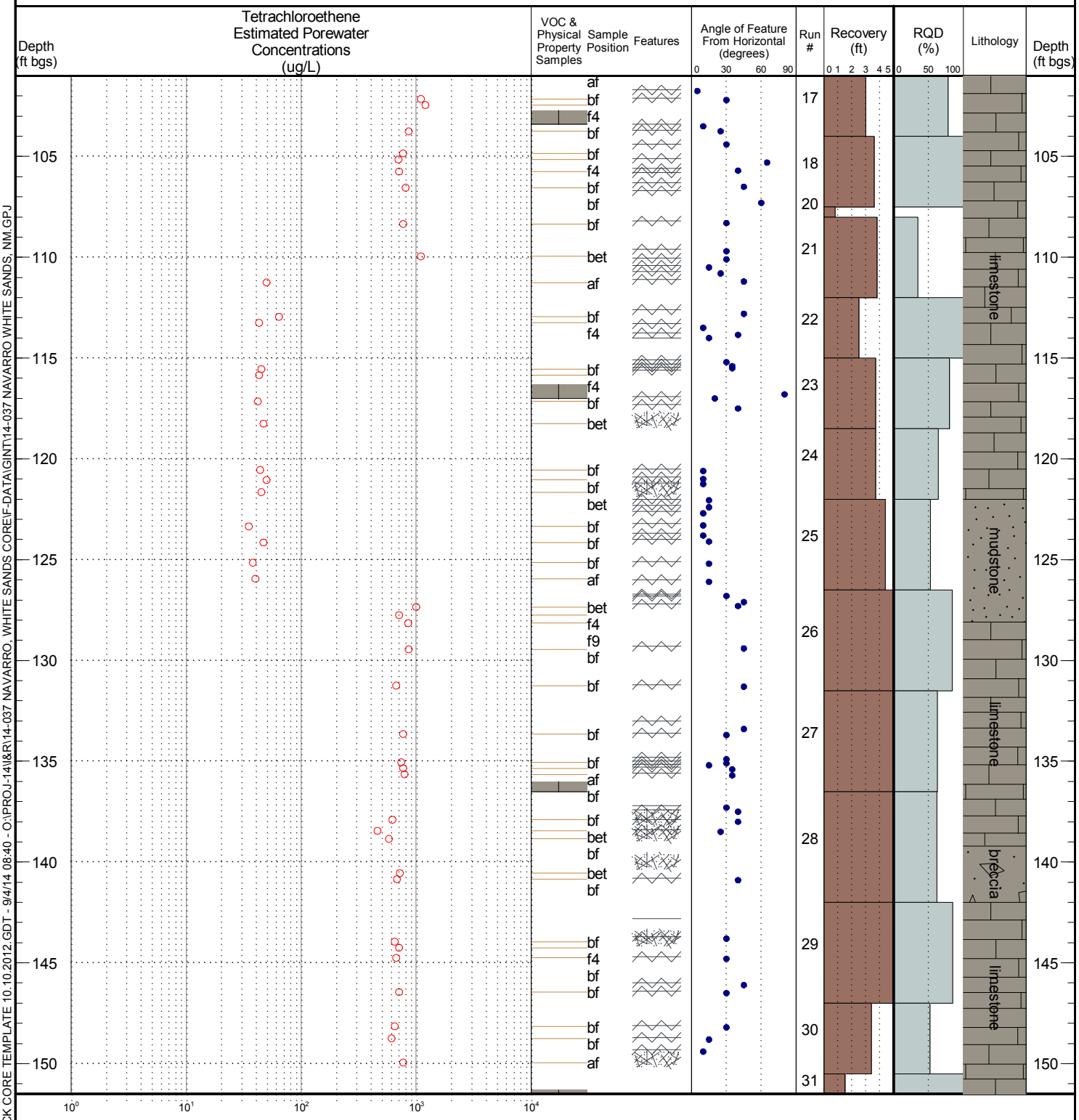


## Notes

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DISCRETE FRACTURE NETWORK APPROACH

# Figure 6 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

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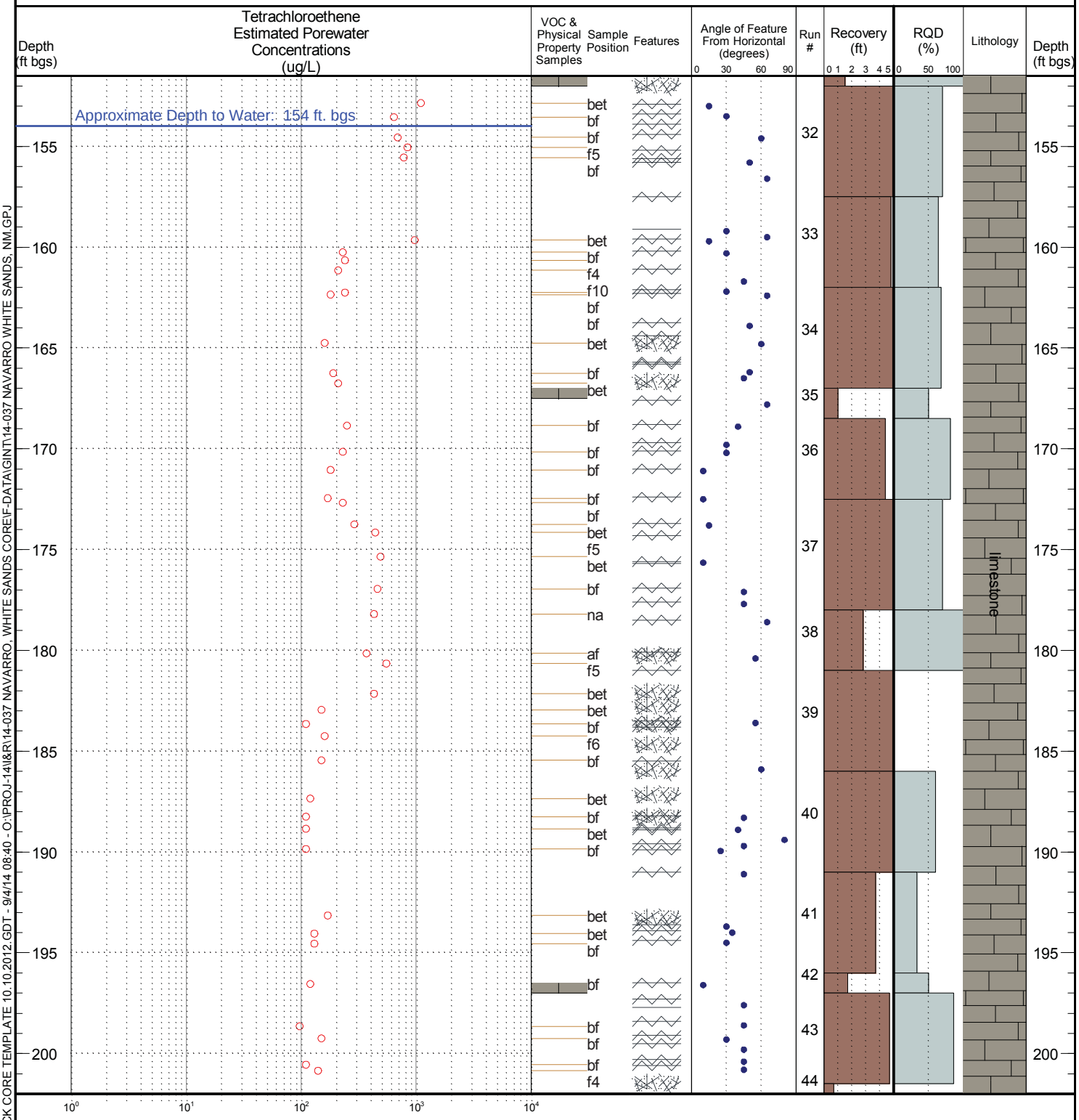


## Notes

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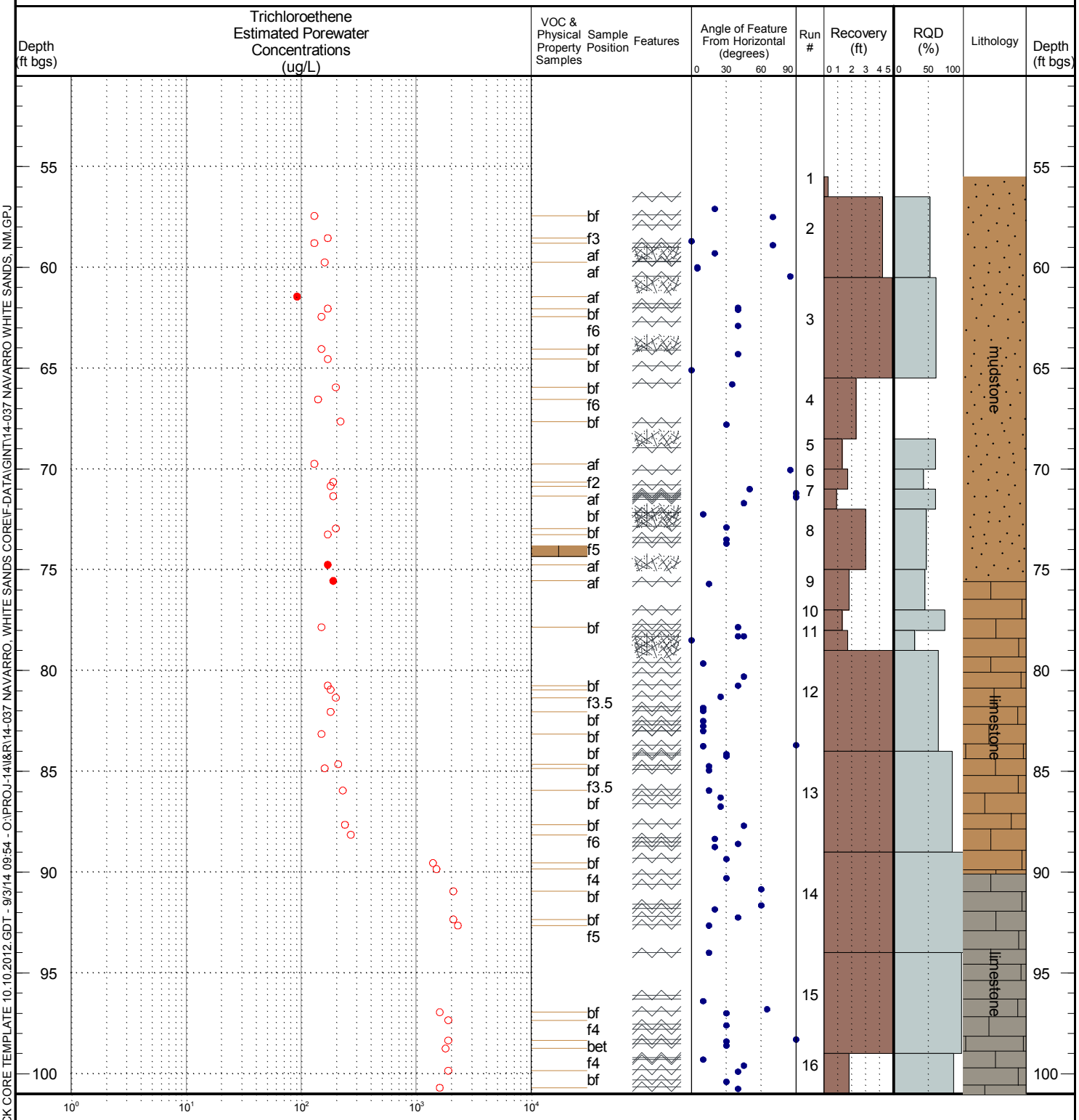
DISCRETE FRACTURE NETWORK APPROACH

# Figure 7 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/17/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/21/2014
**Stone Project Number** 14-037
**Sampler(s)** PPM
**Project Location** Las Cruces, NM
**Drilling Contractor** WDC/National




## Notes

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DISCRETE FRACTURE NETWORK APPROACH

# Figure 7 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
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**Project Location** Las Cruces, NM
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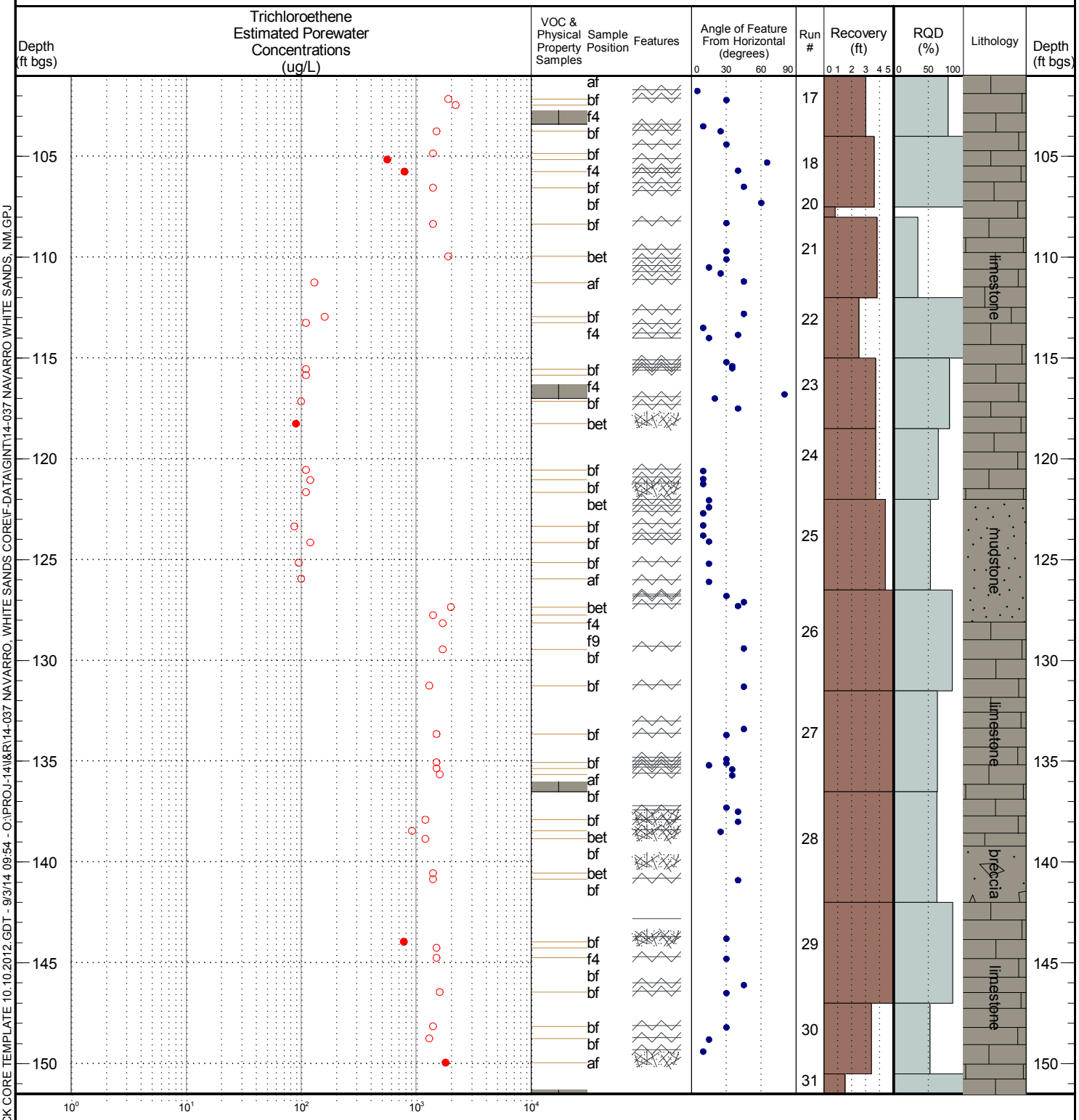


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DISCRETE FRACTURE NETWORK APPROACH

# Figure 7 200-SB-7

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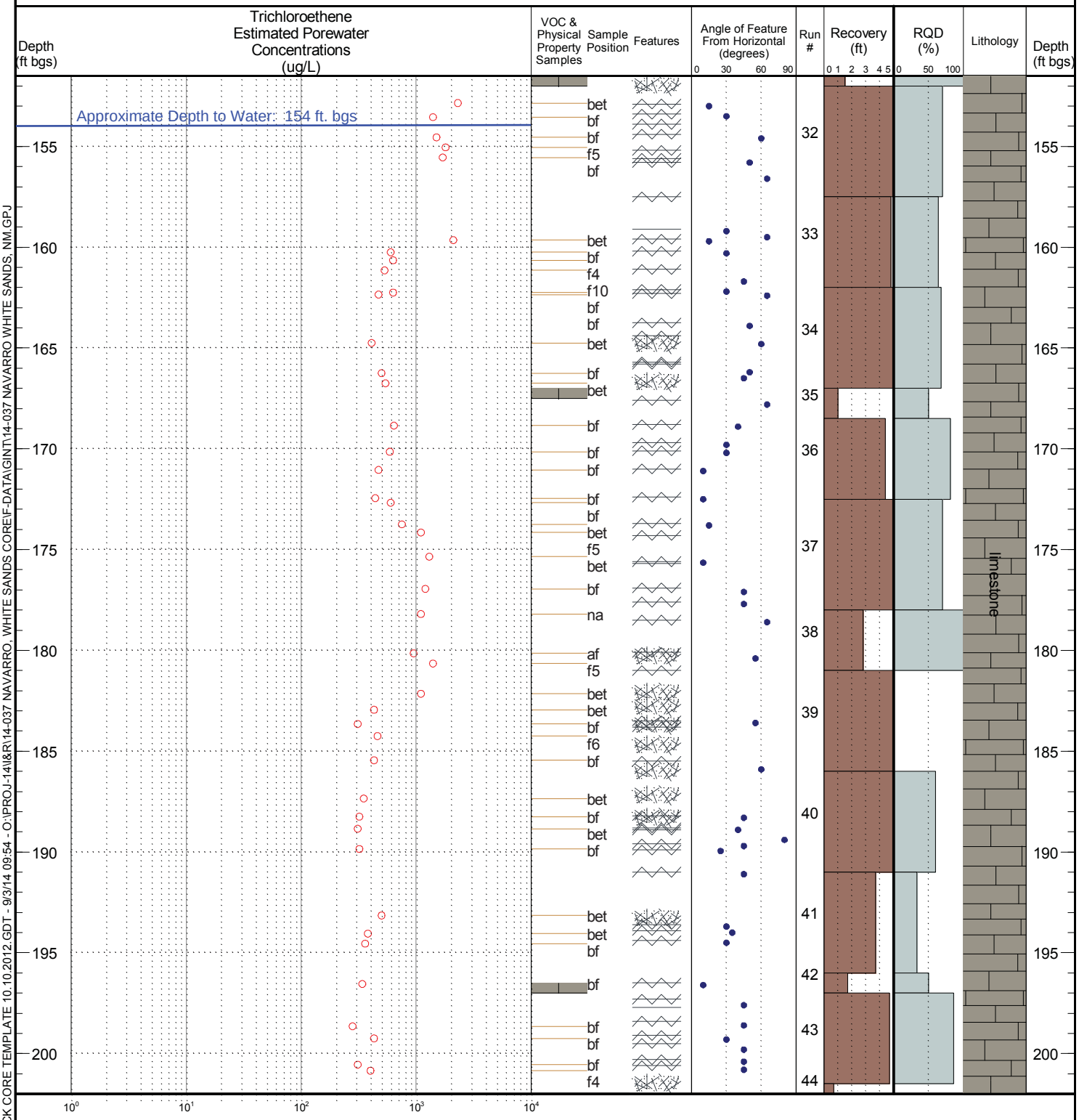


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DISCRETE FRACTURE NETWORK APPROACH

# Figure 8 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
**Date Started** 6/17/2014
**Client** Navarro Research and Engineering
**Date Completed** 6/21/2014
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**Project Location** Las Cruces, NM
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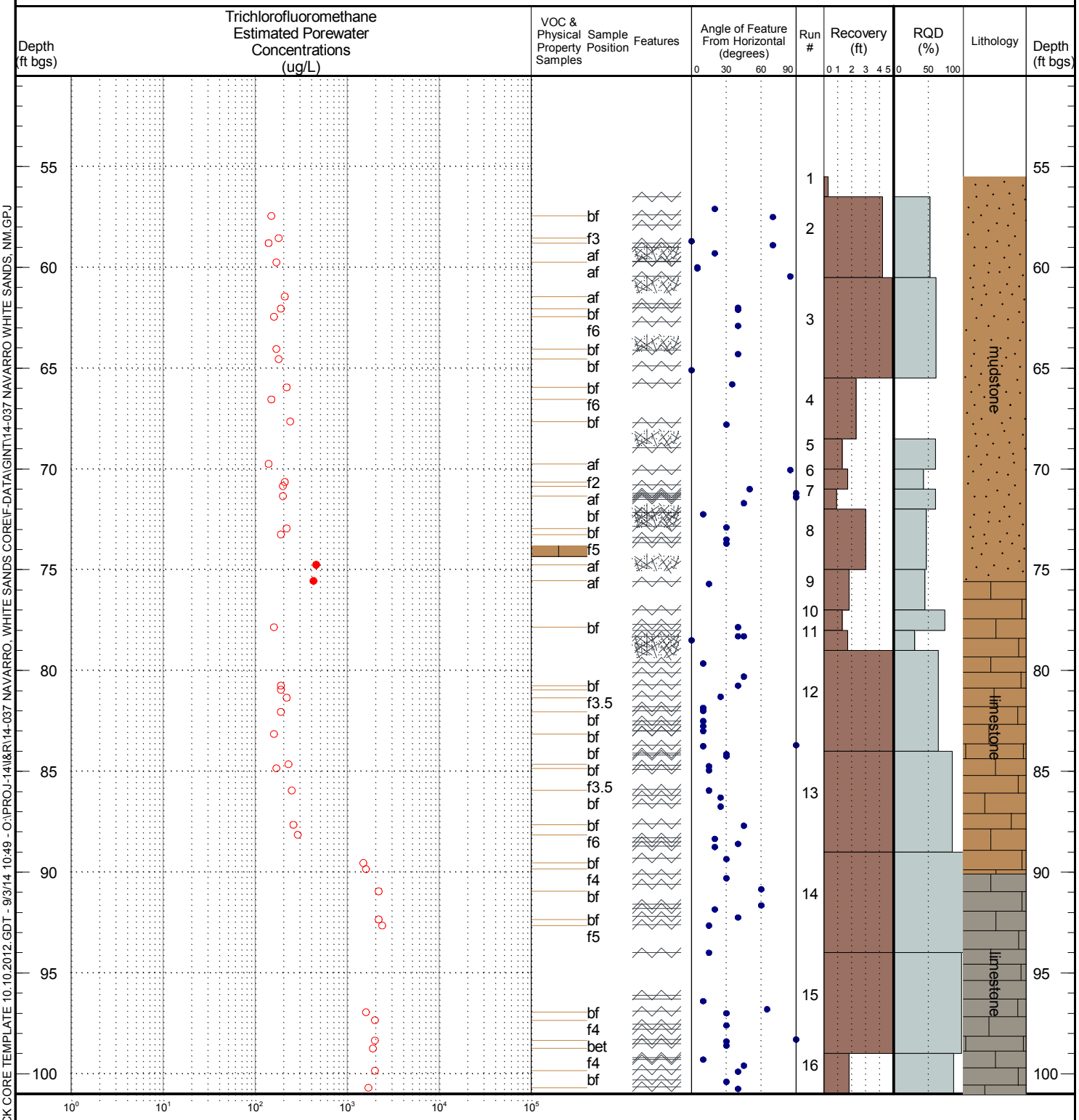


## Notes

Trichlorofluoromethane
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DISCRETE FRACTURE NETWORK APPROACH

# Figure 8 200-SB-7

**Total Depth Below Ground Surface** 202 ft.

**Project Name** White Sands Test Facility
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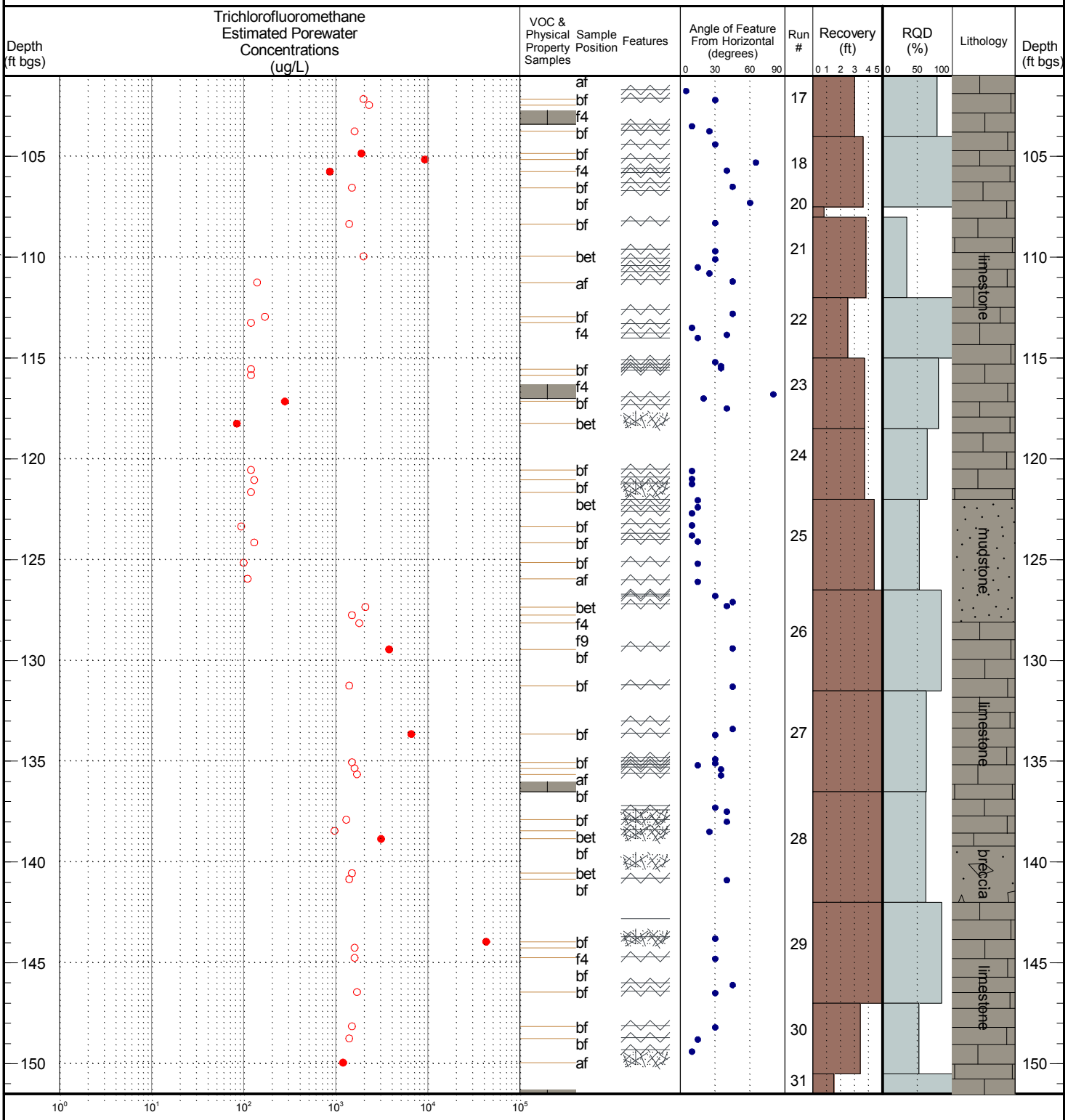


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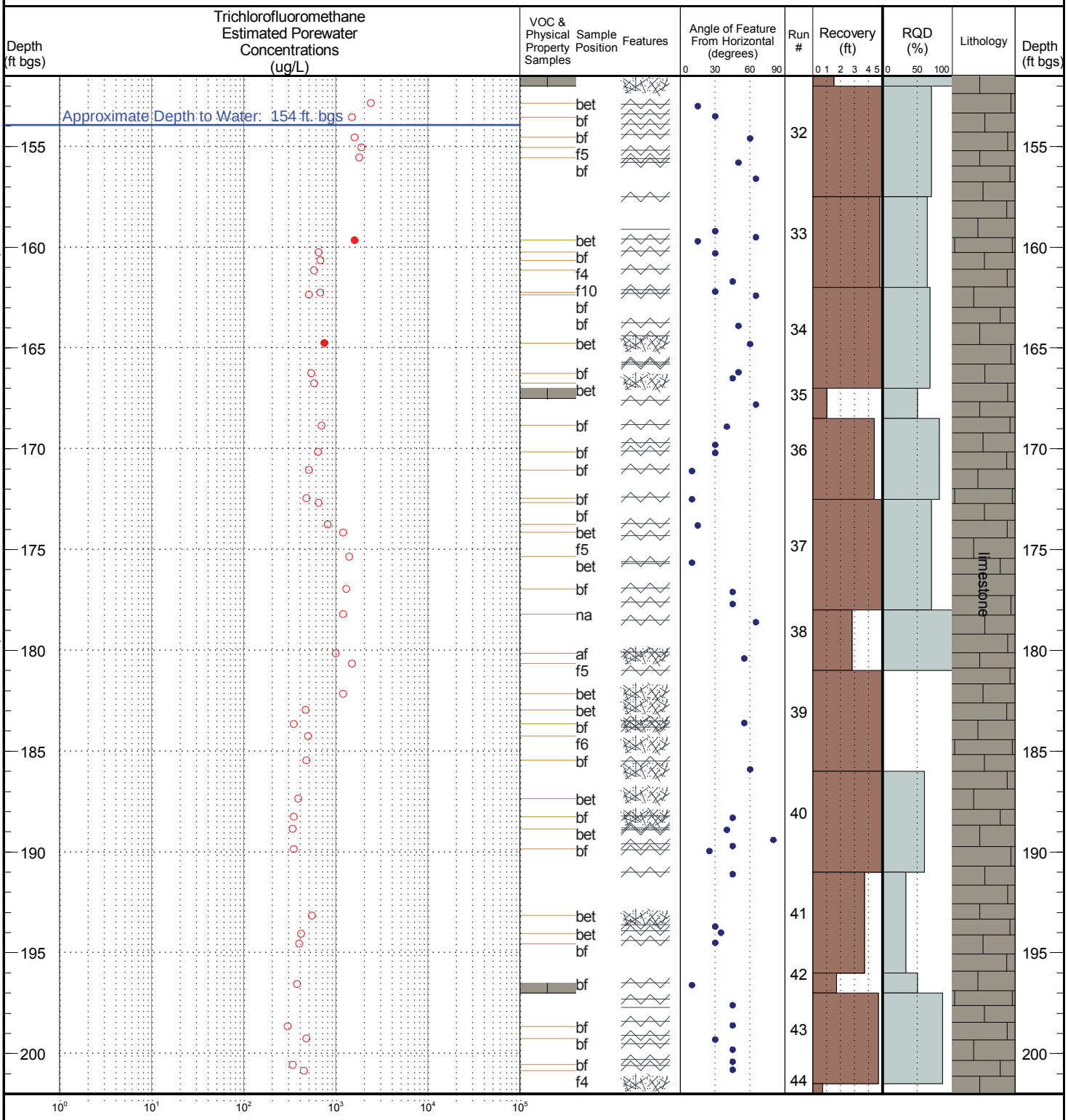


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# 8. APPENDICES

# APPENDIX A: VOC ANALYTICAL REPORT

# Final Data Report for Laboratory Services – REVISION 1

**PREPARED FOR: NAVARRO RESEARCH & ENGINEERING**

**SITE ID: NAVARRO, WHITE SANDS, NM**

**Stone Project ID: 14-037**

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***DATES OF PERFORMANCE: June 24 – July 7, 2014 (SDG-1)***
***REPORT DATE: September 22, 2014***

**Prepared for:**
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**Prepared by:**
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STONE ENVIRONMENTAL, INC. LABORATORY

# NARRATIVE – REVISION 1

September 22, 2014

This data package presents the analytical results for rock samples analyzed by Stone Environmental, Inc. Laboratory (Stone) at Stone's Mobilab Unit 1 located in Barre, Vermont. Samples in this sample delivery group (SDG-1) were collected at the White Sands Site (Site) in Las Cruces, New Mexico by Stone personnel on June 19-21, 2014. A total of 101 samples were collected during this period from boring locations 200-SB-7. This total sample number includes 3 trip blanks, 6 equipment blanks, 4 field duplicate samples, and 4 matrix spike and matrix spike duplicate (MS/MSD) pairs.

Samples were overnight shipped via FedEx to the laboratory by Stone field personnel. Sample receipt temperatures ranged from 6.4 to 12.4 degrees C. The upper end of that range is just above the receipt temperature acceptance limit of 10 degrees C for methanol samples; however, no data were qualified. All samples in this SDG were received by laboratory personnel on June 24 and 25, 2014 and analyzed at Stone's Mobilab Unit 1 between June 30 and July 7, 2014.

Samples were stored in a laboratory freezer upon receipt until extraction. After extraction, sample extracts were again stored in a freezer until analysis. Copies of the chains of custody (COC) as well as a summary of samples logged into Stone's laboratory information management system (LIMS) are included in the Sample Login Summary Section of this report. All sample results are reported in units of µg/kg. Rock samples are reported on a wet-weight basis (i.e., as received). In accordance with Stone's SOP SEI-10.17.1, rock samples were collected into 15 milliliters of methanol and then rinsed with an additional 5 milliliters of methanol during the sample preparation phase for the microwave assisted extraction (MAE) technique; therefore, the total volume of methanol for rock samples is 20 milliliters. All blank samples are also reported in units of µg/kg, assuming a default mass of 15 grams and a total methanol volume of 15 milliliters.

Rock samples were extracted on June 24-30, 2014 via the microwave assisted extraction (MAE) technique in accordance with Stone's SOP SEI-10.17.1. Samples were extracted, or prepared, in batches of up to 10 samples. A prep laboratory control sample (PLCS) and prep blank (PBLK) sample were extracted along with each batch of 10 rock samples. Note that all MS/MSD samples were spiked with the

same spike as the PLCS and underwent the MAE process in the same manner as all PLCS samples and rock field samples. Stone has developed a set of MAE-specific control limits for the PLCS based on recovery data from past PLCS samples as well as those from this project. PLCS and MS/MSD sample recoveries were evaluated against Stone's MAE-specific control limits. An example of the nomenclature used for the PLCS samples is "PLCS-052214-A2", indicating that this PLCS would have been extracted on May 22, 2014 in extraction vessel "A2".

Samples were analyzed by EPA SW846 Method 8260 (gas chromatography / mass spectrometry (GC/MS)) set in selective ion monitoring (SIM) mode for 20 target volatile organic compounds (VOCs) in accordance with Stone's Standard Operating Procedure (SOP) SEI-10.15.11, "The Determination of Volatile Organic Compounds By GC/MS (SW846 USEPA Method 8260C)". All manual integrations have been checked and marked as reviewed by the secondary data reviewer.

Stone's Method 8260C (GC/MS) is provided under the National Environmental Laboratory Accreditation Program (NELAP) fields of testing. The analytical results associated with the samples presented in this report were generated under a quality system that adheres to requirements specified in the NELAP standards. Results for the quality control (QC) samples (continuing calibration verification samples (VSTD), laboratory control samples (LCS), laboratory method blanks (VBLK), matrix spike and matrix spike duplicate samples (MS/MSDs), PLCS and PBLK samples) are provided in the Quality Control Summaries section of this report. All QA/QC results associated with these data were found to be within the tolerances set forth in SOP SEI-10.15.11 and NELAP standards. Exceptions are noted below:

- ICAL Deficiencies:
    - No deficiencies noted.
- VSTD Deficiencies:
    - No deficiencies noted.
- LCS Deficiencies:
    - No deficiencies noted.
- VBLK Deficiencies:
    - No deficiencies noted.
- MS/MSD Deficiencies:
    - The MSD sample associated with parent sample 200-SB-7-92.30 was marginally outside the acceptance criteria for recovery for both Bromodichloromethane (<62%) and Toluene (>130%). Additionally, the relative percent difference (RPD) between the MS and MSD samples was greater than the acceptance criteria (<50%) for both Dibromochloromethane and Bromoform. As there were no detections of any of these compounds in the parent sample, no data were qualified on this basis.

- PLCS Deficiencies:
    - No deficiencies
- PBLK Deficiencies:
    - PBLK-062414-A1 had Trichloroethene (TCE) present at a level just above the method detection limit (MDL), but less than ½ the reporting limit (RL). No sample data associated with PBLK-062414-A1 were qualified.
    - PBLK-062514-B1 had Toluene present at a level just above the MDL, but less than ½ the RL. No sample data associated with PBLK-062514-B1 were qualified.
    - PBLK-063014-C1 had Toluene present at a level just above the MDL, but less than ½ the RL. No sample data associated with PBLK-063014-C1 were qualified.
- Surrogate Standard and Internal Standard Deficiencies:
    - No deficiencies.

During the extraction batch prepared in vessel batch "A" on June 26, 2014, an equipment failure occurred. This equipment failure resulted in the need for additional sample transfers from extraction vessel back to sample vial and then from sample vial back to extraction vessel. An additional 10mL of methanol was required to complete these transfers. This additional methanol was accounted for during the sample review process and calculations were performed accordingly. The PLCS (PLCS-062414-A2) associated with this batch of samples was treated in the same manner as the samples and did not exhibit any QC outages. Therefore, no samples were qualified on this basis. The affected samples are summarized in the following table:

| Sample ID |
|---|
| PLCS-062614-A2 |
| 200-SB-7-90.90-VOC |
| 200-SB-7-92.60-VOC |
| 200-SB-7-96.90-VOC |
| 200-SB-7-97.30-VOC |
| 200-SB-7-98.30-VOC |
| 200-SB-7-98.70-VOC |
| 200-SB-7-99.80-VOC |
| 200-SB-7-100.65-VOC |
| 200-SB-7-102.10-VOC |
| 200-SB-7-102.40-VOC |

When applicable, the final results were annotated with the following codes:

U - The analyte was analyzed for, but was not detected above the reported quantitation limit.

J - The reported result is an estimated value (e.g., matrix interference was observed or the analyte was positively identified, but the associated numerical value is between the method detection limit and reporting limit).

Q - One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

B - Indicates the analyte was found in the associated laboratory blank as well as the sample.

E - Estimated value, marginally above the calibration levels.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: _____

Hillary Easter, Analytical Chemist, Stone Environmental, Inc.

# SAMPLE LOGIN SUMMARY

Sample Login Summary

Sample Weights Summary

Chain of Custody Records

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temperature Units | Comments | Lab ID Parent | Custody ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-1 | 200-SB-7 | 115.50 | Rock | 200-SB-7-115.50-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:49 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-2 | 200-SB-7 | 115.80 | Rock | 200-SB-7-115.80-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:51 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-3 | 200-SB-7 | 117.10 | Rock | 200-SB-7-117.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:52 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-4 | 200-SB-7 | 118.20 | Rock | 200-SB-7-118.20-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:53 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-5 | 200-SB-7 | 120.50 | Rock | 200-SB-7-120.50-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:16 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-6 | 200-SB-7 | 121.00 | Rock | 200-SB-7-121.00-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:18 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-7 | 200-SB-7 | 121.60 | Rock | 200-SB-7-121.60-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:19 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-8 | 200-SB-7 | 123.30 | Rock | 200-SB-7-123.30-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:52 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-9 | 200-SB-7 | 124.10 | Rock | 200-SB-7-124.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:54 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-10 | 200-SB-7 | 125.10 | Rock | 200-SB-7-125.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:59 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-11 | 200-SB-7 | 125.90 | Rock | 200-SB-7-125.90-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 2:59 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-12 | 200-SB-7 | 127.30 | Rock | 200-SB-7-127.30-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 3:27 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-13 | 200-SB-7 | 127.70 | Rock | 200-SB-7-127.70-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 3:29 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-14 | 200-SB-7 | 128.10 | Rock | 200-SB-7-128.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 3:30 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-15 | 200-SB-7 | 129.40 | Rock | 200-SB-7-129.40-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 3:33 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | SEI-15 | LLI_14-037_3_1406210659 |
| SEI-15-MS | 200-SB-7 | 129.40 | Rock | 200-SB-7-129.40-VOC-MS | Matrix Spike | 1 | CJM | 6/20/2014 | 3:34 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | SEI-15 | LLI_14-037_3_1406210659 |
| SEI-15-MSD | 200-SB-7 | 129.40 | Rock | 200-SB-7-129.40-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/20/2014 | 3:35 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | SEI-15 | LLI_14-037_3_1406210659 |
| SEI-18 | 200-SB-7 | 131.20 | Rock | 200-SB-7-131.20-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 3:37 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-19 | 200-SB-7 | 133.60 | Rock | 200-SB-7-133.60-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 3:58 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-20 | FD | 000.01 | Rock | FD-04 | Field Duplicate | 1 | CJM | 6/20/2014 | 3:59 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-21 | 200-SB-7 | 135.00 | Rock | 200-SB-7-135.00-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:02 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-22 | 200-SB-7 | 135.30 | Rock | 200-SB-7-135.30-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:04 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-23 | 200-SB-7 | 135.60 | Rock | 200-SB-7-135.60-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:05 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-24 | 200-SB-7 | 137.85 | Rock | 200-SB-7-137.85-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:26 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-25 | 200-SB-7 | 138.40 | Rock | 200-SB-7-138.40-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:28 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-26 | 200-SB-7 | 138.80 | Rock | 200-SB-7-138.80-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:29 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-27 | 200-SB-7 | 140.50 | Rock | 200-SB-7-140.50-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:30 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-28 | 200-SB-7 | 140.80 | Rock | 200-SB-7-140.80-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:31 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-29 | EB | 000.01 | Rock | EB-04 | Equipment Blank | 1 | TWM | 6/19/2014 | 5:33 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-30 | EB | 000.02 | Rock | EB-05 | Equipment Blank | 1 | CJM | 6/20/2014 | 6:13 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-31 | EB | 000.03 | Rock | EB-06 | Equipment Blank | 1 | CJM | 6/20/2014 | 1:18 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-32 | EB | 000.04 | Rock | EB-07 | Equipment Blank | 1 | CJM | 6/20/2014 | 4:15 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-33 | TB | 000.01 | Rock | TB-03 | Trip Blank | 1 | CJM | 6/21/2014 | 6:57 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.4 | C | | | LLI_14-037_3_1406210659 |
| SEI-34 | 200-SB-7 | 143.90 | Rock | 200-SB-7-143.90-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:52 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-35 | 200-SB-7 | 144.20 | Rock | 200-SB-7-144.20-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:53 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-36 | 200-SB-7 | 144.70 | Rock | 200-SB-7-144.70-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:54 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-37 | 200-SB-7 | 146.40 | Rock | 200-SB-7-146.40-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 4:55 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-38 | 200-SB-7 | 148.10 | Rock | 200-SB-7-148.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 5:32 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-39 | 200-SB-7 | 148.70 | Rock | 200-SB-7-148.70-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 5:34 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-40 | 200-SB-7 | 149.90 | Rock | 200-SB-7-149.90-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 5:35 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-41 | 200-SB-7 | 152.80 | Rock | 200-SB-7-152.80-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 8:46 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | SEI-41 | LLI_14-037_4_1406211346 |
| SEI-41-MS | 200-SB-7 | 152.80 | Rock | 200-SB-7-152.80-VOC-MS | Matrix Spike | 1 | CJM | 6/21/2014 | 8:47 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | SEI-41 | LLI_14-037_4_1406211346 |
| SEI-41-MSD | 200-SB-7 | 152.80 | Rock | 200-SB-7-152.80-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/21/2014 | 8:49 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | SEI-41 | LLI_14-037_4_1406211346 |
| SEI-44 | 200-SB-7 | 153.50 | Rock | 200-SB-7-153.50-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 8:50 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-45 | 200-SB-7 | 154.50 | Rock | 200-SB-7-154.50-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 8:52 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-46 | 200-SB-7 | 155.00 | Rock | 200-SB-7-155.00-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 8:53 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-47 | 200-SB-7 | 155.50 | Rock | 200-SB-7-155.50-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 8:55 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-48 | 200-SB-7 | 159.60 | Rock | 200-SB-7-159.60-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:17 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-49 | 200-SB-7 | 160.20 | Rock | 200-SB-7-160.20-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:19 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-50 | 200-SB-7 | 160.60 | Rock | 200-SB-7-160.60-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:20 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-51 | 200-SB-7 | 161.10 | Rock | 200-SB-7-161.10-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:21 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-52 | 200-SB-7 | 162.20 | Rock | 200-SB-7-162.20-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:23 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-53 | 200-SB-7 | 162.30 | Rock | 200-SB-7-162.30-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:47 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-54 | 200-SB-7 | 164.70 | Rock | 200-SB-7-164.70-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:49 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-55 | 200-SB-7 | 166.20 | Rock | 200-SB-7-166.20-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:53 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-56 | 200-SB-7 | 166.70 | Rock | 200-SB-7-166.70-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 9:50 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-57 | 200-SB-7 | 168.80 | Rock | 200-SB-7-168.80-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 10:45 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-58 | 200-SB-7 | 170.10 | Rock | 200-SB-7-170.10-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 10:46 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temperature Units | Comments | Lab ID Parent | Custody ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-59 | 200-SB-7 | 171.00 | Rock | 200-SB-7-171.00-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 10:47 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-60 | 200-SB-7 | 172.40 | Rock | 200-SB-7-172.40-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 10:48 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-61 | 200-SB-7 | 172.65 | Rock | 200-SB-7-172.65-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:21 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-63 | EB | 000.05 | Rock | EB-08 | Equipment Blank | 1 | CJM | 6/20/2014 | 5:40 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-64 | EB | 000.06 | Rock | EB-09 | Equipment Blank | 1 | CJM | 6/21/2014 | 6:42 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-65 | FD | 000.02 | Rock | FD-05 | Field Duplicate | 1 | CJM | 6/21/2014 | 8:55 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12 | C | | | LLI_14-037_4_1406211346 |
| SEI-66 | 200-SB-7 | 100.65 | Rock | 200-SB-7-100.65-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 9:01 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-67 | 200-SB-7 | 102.10 | Rock | 200-SB-7-102.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 9:31 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-68 | 200-SB-7 | 102.40 | Rock | 200-SB-7-102.40-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 9:34 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-69 | 200-SB-7 | 103.70 | Rock | 200-SB-7-103.70-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 9:35 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-70 | 200-SB-7 | 104.80 | Rock | 200-SB-7-104.80-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 10:01 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-71 | 200-SB-7 | 105.10 | Rock | 200-SB-7-105.10-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 10:04 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-72 | 200-SB-7 | 105.70 | Rock | 200-SB-7-105.70-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 10:05 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-73 | 200-SB-7 | 106.50 | Rock | 200-SB-7-106.50-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 10:07 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-74 | 200-SB-7 | 108.30 | Rock | 200-SB-7-108.30-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 12:53 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-75 | 200-SB-7 | 109.90 | Rock | 200-SB-7-109.90-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 12:58 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-76 | 200-SB-7 | 111.20 | Rock | 200-SB-7-111.20-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:00 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-77 | 200-SB-7 | 112.90 | Rock | 200-SB-7-112.90-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:14 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-78 | 200-SB-7 | 113.20 | Rock | 200-SB-7-113.20-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 1:15 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-79 | 200-SB-7 | 084.60 | Rock | 200-SB-7-84.60-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:53 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-80 | 200-SB-7 | 084.80 | Rock | 200-SB-7-84.80-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:55 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-81 | 200-SB-7 | 085.90 | Rock | 200-SB-7-85.90-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:57 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-82 | 200-SB-7 | 087.60 | Rock | 200-SB-7-87.60-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:59 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-83 | 200-SB-7 | 088.10 | Rock | 200-SB-7-88.10-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 5:01 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-84 | 200-SB-7 | 089.50 | Rock | 200-SB-7-89.50-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 5:21 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-85 | 200-SB-7 | 089.80 | Rock | 200-SB-7-89.80-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 5:23 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-86 | 200-SB-7 | 090.90 | Rock | 200-SB-7-90.90-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 5:25 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-87 | 200-SB-7 | 092.30 | Rock | 200-SB-7-92.30-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 5:26 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | SEI-87 | LLI_14-037_2_1406210658 |
| SEI-87-MS | 200-SB-7 | 092.30 | Rock | 200-SB-7-92.30-VOC-MS | Matrix Spike | 1 | TWM | 6/19/2014 | 5:30 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | SEI-87 | LLI_14-037_2_1406210658 |
| SEI-87-MSD | 200-SB-7 | 092.30 | Rock | 200-SB-7-92.30-VOC-MSD | Matrix Spike Duplicate | 1 | TWM | 6/19/2014 | 5:31 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | SEI-87 | LLI_14-037_2_1406210658 |
| SEI-90 | 200-SB-7 | 092.60 | Rock | 200-SB-7-92.60-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 5:33 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-91 | 200-SB-7 | 096.90 | Rock | 200-SB-7-96.90-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 8:29 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-92 | 200-SB-7 | 097.30 | Rock | 200-SB-7-97.30-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 8:31 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-93 | 200-SB-7 | 098.30 | Rock | 200-SB-7-98.30-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 8:33 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-94 | 200-SB-7 | 098.70 | Rock | 200-SB-7-98.70-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 8:34 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-95 | 200-SB-7 | 099.80 | Rock | 200-SB-7-99.80-VOC | Normal Sample | 1 | CJM | 6/20/2014 | 8:59 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-96 | FD | 000.03 | Rock | FD-02 | Field Duplicate | 1 | TWM | 6/19/2014 | 5:02 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-97 | FD | 000.04 | Rock | FD-03 | Field Duplicate | 1 | CJM | 6/20/2014 | 12:56 PM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-98 | TB | 000.02 | Rock | TB-02 | Trip Blank | 1 | TWM | 6/21/2014 | 6:57 AM | SEI-6.37.x | MJG | 6/25/2014 | 11:40 AM | 10.6 | C | | | LLI_14-037_2_1406210658 |
| SEI-99 | TB | 000.04 | Rock | TB-04 | Trip Blank | 1 | TWM | 6/21/2014 | 1:44 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.0 | C | | | 3 |
| SEI-100 | 200-SB-7 | 173.70 | Rock | 200-SB-7-173.70-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:22 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 12.0 | C | | SEI-100 | 4 |
| SEI-100-MS | 200-SB-7 | 173.70 | Rock | 200-SB-7-173.70-VOC-MS | Matrix Spike | 1 | CJM | 6/21/2014 | 11:24 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | SEI-100 | 5 |
| SEI-100-MSD | 200-SB-7 | 173.70 | Rock | 200-SB-7-173.70-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/21/2014 | 11:25 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | SEI-100 | 5 |

| Lab ID | Sample Name | Container ID | Initial Mass | Final Vial Mass | Final Sample Weight |
|---|---|---|---|---|---|
| SEI-1 | 200-SB-7-115.50-VOC | VOC-0074 | 40.65 | 64.25 | 23.6 |
| SEI-2 | 200-SB-7-115.80-VOC | VOC-0075 | 41.08 | 66 | 24.92 |
| SEI-3 | 200-SB-7-117.10-VOC | VOC-0076 | 41.18 | 66.8 | 25.62 |
| SEI-4 | 200-SB-7-118.20-VOC | VOC-0077 | 40.62 | 63.25 | 22.63 |
| SEI-5 | 200-SB-7-120.50-VOC | VOC-0078 | 40.53 | 64.9 | 24.37 |
| SEI-6 | 200-SB-7-121.00-VOC | VOC-0079 | 41.08 | 62.75 | 21.67 |
| SEI-7 | 200-SB-7-121.60-VOC | VOC-0080 | 40.75 | 64.65 | 23.9 |
| SEI-8 | 200-SB-7-123.30-VOC | VOC-0081 | 41.24 | 72.15 | 30.91 |
| SEI-9 | 200-SB-7-124.10-VOC | VOC-0082 | 40.76 | 63.5 | 22.74 |
| SEI-10 | 200-SB-7-125.10-VOC | VOC-0083 | 41.23 | 69.3 | 28.07 |
| SEI-11 | 200-SB-7-125.90-VOC | VOC-0084 | 40.87 | 67.5 | 26.63 |
| SEI-12 | 200-SB-7-127.30-VOC | VOC-0085 | 40.84 | 57.55 | 16.71 |
| SEI-13 | 200-SB-7-127.70-VOC | VOC-0086 | 41.2 | 64.85 | 23.65 |
| SEI-14 | 200-SB-7-128.10-VOC | VOC-0087 | 41.18 | 61.1 | 19.92 |
| SEI-15 | 200-SB-7-129.40-VOC | VOC-0089 | 40.73 | 60.3 | 19.57 |
| SEI-15-MS | 200-SB-7-129.40-VOC-MS | VOC-0090 | 40.58 | 60.4 | 19.82 |
| SEI-15-MSD | 200-SB-7-129.40-VOC-MSD | VOC-0091 | 40.61 | 68.3 | 27.69 |
| SEI-18 | 200-SB-7-131.20-VOC | VOC-0092 | 40.83 | 66.15 | 25.32 |
| SEI-19 | 200-SB-7-133.60-VOC | VOC-0093 | 41.14 | 63.15 | 22.01 |
| SEI-20 | FD-04 | VOC-0094 | 40.76 | 61.25 | 20.49 |
| SEI-21 | 200-SB-7-135.00-VOC | VOC-0095 | 40.74 | 63.65 | 22.91 |
| SEI-22 | 200-SB-7-135.30-VOC | VOC-0096 | 41.09 | 62.95 | 21.86 |
| SEI-23 | 200-SB-7-135.60-VOC | VOC-0097 | 40.64 | 61.9 | 21.26 |
| SEI-24 | 200-SB-7-137.85-VOC | VOC-0098 | 41.27 | 68.55 | 27.28 |
| SEI-25 | 200-SB-7-138.40-VOC | VOC-0099 | 40.57 | 77.1 | 36.53 |
| SEI-26 | 200-SB-7-138.80-VOC | VOC-0100 | 40.98 | 70.15 | 29.17 |
| SEI-27 | 200-SB-7-140.50-VOC | VOC-0101 | 40.67 | 64.05 | 23.38 |
| SEI-28 | 200-SB-7-140.80-VOC | VOC-0102 | 41.08 | 65.95 | 24.87 |
| SEI-29 | EB-04 | VOC-0005 | 40.98 | | 15 |
| SEI-30 | EB-05 | VOC-0006 | 40.95 | | 15 |
| SEI-31 | EB-06 | VOC-0007 | 40.89 | | 15 |
| SEI-32 | EB-07 | VOC-0008 | 40.91 | | 15 |
| SEI-33 | TB-03 | VOC-0126 | 40.58 | | 15 |
| SEI-34 | 200-SB-7-143.90-VOC | VOC-0103 | 41.37 | 67.16 | 25.79 |
| SEI-35 | 200-SB-7-144.20-VOC | VOC-0104 | 40.69 | 66.61 | 25.92 |
| SEI-36 | 200-SB-7-144.70-VOC | VOC-0105 | 41.35 | 68.56 | 27.21 |
| SEI-37 | 200-SB-7-146.40-VOC | VOC-0106 | 40.66 | 66.36 | 25.7 |
| SEI-38 | 200-SB-7-148.10-VOC | VOC-0107 | 40.92 | 69.25 | 28.33 |
| SEI-39 | 200-SB-7-148.70-VOC | VOC-0108 | 40.82 | 70.71 | 29.89 |
| SEI-40 | 200-SB-7-149.90-VOC | VOC-0109 | 41.46 | 65.36 | 23.9 |
| SEI-41 | 200-SB-7-152.80-VOC | VOC-0127 | 41.02 | 58.38 | 17.36 |
| SEI-41-MS | 200-SB-7-152.80-VOC-MS | VOC-0130 | 40.91 | 61.53 | 20.62 |
| SEI-41-MSD | 200-SB-7-152.80-VOC-MSD | VOC-0131 | 40.65 | 61.24 | 20.59 |
| SEI-44 | 200-SB-7-153.50-VOC | VOC-0132 | 41.26 | 70.02 | 28.76 |
| SEI-45 | 200-SB-7-154.50-VOC | VOC-0133 | 40.45 | 67.16 | 26.71 |

| Lab ID | Sample Name | Container ID | Initial Mass | Final Vial Mass | Final Sample Weight |
|---|---|---|---|---|---|
| SEI-46 | 200-SB-7-155.00-VOC | VOC-0134 | 40.81 | 62.61 | 21.8 |
| SEI-47 | 200-SB-7-155.50-VOC | VOC-0135 | 40.69 | 64.12 | 23.43 |
| SEI-48 | 200-SB-7-159.60-VOC | VOC-0137 | 40.42 | 59.32 | 18.9 |
| SEI-49 | 200-SB-7-160.20-VOC | VOC-0138 | 40.86 | 63.36 | 22.5 |
| SEI-50 | 200-SB-7-160.60-VOC | VOC-0139 | 40.76 | 62.22 | 21.46 |
| SEI-51 | 200-SB-7-161.10-VOC | VOC-0140 | 40.92 | 66.16 | 25.24 |
| SEI-52 | 200-SB-7-162.20-VOC | VOC-0141 | 40.51 | 61.9 | 21.39 |
| SEI-53 | 200-SB-7-162.30-VOC | VOC-0142 | 40.97 | 69.4 | 28.43 |
| SEI-54 | 200-SB-7-164.70-VOC | VOC-0143 | 40.54 | 73.02 | 32.48 |
| SEI-55 | 200-SB-7-166.20-VOC | VOC-0144 | 40.38 | 67.43 | 27.05 |
| SEI-56 | 200-SB-7-166.70-VOC | VOC-0145 | 40.6 | 65.78 | 25.18 |
| SEI-57 | 200-SB-7-168.80-VOC | VOC-0146 | 41.04 | 62.07 | 21.03 |
| SEI-58 | 200-SB-7-170.10-VOC | VOC-0147 | 40.54 | 63.41 | 22.87 |
| SEI-59 | 200-SB-7-171.00-VOC | VOC-0148 | 40.95 | 69.38 | 28.43 |
| SEI-60 | 200-SB-7-172.40-VOC | VOC-0149 | 40.91 | 71.53 | 30.62 |
| SEI-61 | 200-SB-7-172.65-VOC | VOC-0150 | 40.84 | 63.36 | 22.52 |
| SEI-63 | EB-08 | VOC-0009 | 40.94 | | 15 |
| SEI-64 | EB-09 | VOC-0110 | 41.4 | | 15 |
| SEI-65 | FD-05 | VOC-0136 | 40.84 | 67.4 | 26.56 |
| SEI-66 | 200-SB-7-100.65-VOC | VOC-0058 | 40.88 | 65.8 | 24.92 |
| SEI-67 | 200-SB-7-102.10-VOC | VOC-0059 | 40.75 | 61.75 | 21 |
| SEI-68 | 200-SB-7-102.40-VOC | VOC-0060 | 41.01 | 59.34 | 18.33 |
| SEI-69 | 200-SB-7-103.70-VOC | VOC-0061 | 40.95 | 58.55 | 17.6 |
| SEI-70 | 200-SB-7-104.80-VOC | VOC-0062 | 40.51 | 60.09 | 19.58 |
| SEI-71 | 200-SB-7-105.10-VOC | VOC-0063 | 40.26 | 62 | 21.74 |
| SEI-72 | 200-SB-7-105.70-VOC | VOC-0066 | 40.87 | 62.04 | 21.17 |
| SEI-73 | 200-SB-7-106.50-VOC | VOC-0067 | 40.61 | 59.34 | 18.73 |
| SEI-74 | 200-SB-7-108.30-VOC | VOC-0068 | 41.24 | 60.99 | 19.75 |
| SEI-75 | 200-SB-7-109.90-VOC | VOC-0070 | 41.17 | 55.11 | 13.94 |
| SEI-76 | 200-SB-7-111.20-VOC | VOC-0071 | 41.02 | 62.29 | 21.27 |
| SEI-77 | 200-SB-7-112.90-VOC | VOC-0072 | 40.43 | 57.15 | 16.72 |
| SEI-78 | 200-SB-7-113.20-VOC | VOC-0073 | 41.18 | 66.1 | 24.92 |
| SEI-79 | 200-SB-7-84.60-VOC | VOC-0040 | 41.16 | 61.87 | 20.71 |
| SEI-80 | 200-SB-7-84.80-VOC | VOC-0041 | 41.08 | 68.28 | 27.2 |
| SEI-81 | 200-SB-7-85.90-VOC | VOC-0042 | 40.6 | 59.59 | 18.99 |
| SEI-82 | 200-SB-7-87.60-VOC | VOC-0043 | 40.6 | 58.92 | 18.32 |
| SEI-83 | 200-SB-7-88.10-VOC | VOC-0044 | 40.89 | 57.09 | 16.2 |
| SEI-84 | 200-SB-7-89.50-VOC | VOC-0046 | 40.9 | 59.85 | 18.95 |
| SEI-85 | 200-SB-7-89.80-VOC | VOC-0047 | 41.02 | 58.83 | 17.81 |
| SEI-86 | 200-SB-7-90.90-VOC | VOC-0048 | 40.95 | 60.68 | 19.73 |
| SEI-87 | 200-SB-7-92.30-VOC | VOC-0049 | 40.7 | 53.64 | 12.94 |
| SEI-87-MS | 200-SB-7-92.30-VOC-MS | VOC-0051 | 40.63 | 52.86 | 12.23 |
| SEI-87-MSD | 200-SB-7-92.30-VOC-MSD | VOC-0052 | 41.04 | 59.02 | 17.98 |
| SEI-90 | 200-SB-7-92.60-VOC | VOC-0050 | 40.92 | 58.86 | 17.94 |
| SEI-91 | 200-SB-7-96.90-VOC | VOC-0053 | 40.73 | 66.84 | 26.11 |

14-037 Navarro, White Sands CORE
SDG-1: Summary of Sample Weights

| Lab ID | Sample Name | Container ID | Initial Mass | Final Vial Mass | Final Sample Weight |
|---|---|---|---|---|---|
| SEI-92 | 200-SB-7-97.30-VOC | VOC-0054 | 40.81 | 62.05 | 21.24 |
| SEI-93 | 200-SB-7-98.30-VOC | VOC-0055 | 41.06 | 62.54 | 21.48 |
| SEI-94 | 200-SB-7-98.70-VOC | VOC-0056 | 40.65 | 62.9 | 22.25 |
| SEI-95 | 200-SB-7-99.80-VOC | VOC-0057 | 41.06 | 62.68 | 21.62 |
| SEI-96 | FD-02 | VOC-0045 | 40.59 | 60.6 | 20.01 |
| SEI-97 | FD-03 | VOC-0069 | 40.95 | 59.71 | 18.76 |
| SEI-98 | TB-02 | VOC-0125 | 40.95 | | 15 |
| SEI-99 | TB-04 | | | | 15 |
| SEI-100 | 200-SB-7-173.70-VOC | VOC-0151 | 41.01 | 58.99 | 17.98 |
| SEI-100-MS | 200-SB-7-173.70-VOC-MS | VOC-0152 | 40.64 | 63.53 | 22.89 |
| SEI-100-MSD | 200-SB-7-173.70-VOC-MSD | VOC-0153 | 40.93 | 63.39 | 22.46 |

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

SDG-1

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Lab ID SEI # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-115.50-VOC | Rock VOC | VOC-0074 | 40mL VOA | 1 | 6/20/2014 | 13:49 | MeOH | MAE | 1 | VOCs Rock |
| 200-SB-7-115.80-VOC | Rock VOC | VOC-0075 | 40mL VOA | 1 | 6/20/2014 | 13:51 | MeOH | MAE | 2 | VOCs Rock |
| 200-SB-7-117.10-VOC | Rock VOC | VOC-0076 | 40mL VOA | 1 | 6/20/2014 | 13:52 | MeOH | MAE | 3 | VOCs Rock |
| 200-SB-7-118.20-VOC | Rock VOC | VOC-0077 | 40mL VOA | 1 | ~~12/30/1899~~ 6/20/2014 | 13:53 | MeOH | MAE | 4 | VOCs Rock |
| 200-SB-7-120.50-VOC | Rock VOC | VOC-0078 | 40mL VOA | 1 | 6/20/2014 | 14:16 | MeOH | MAE | 5 | VOCs Rock |
| 200-SB-7-121.00-VOC | Rock VOC | VOC-0079 | 40mL VOA | 1 | 6/20/2014 | 14:18 | MeOH | MAE | 6 | VOCs Rock |
| 200-SB-7-121.60-VOC | Rock VOC | VOC-0080 | 40mL VOA | 1 | 6/20/2014 | 14:19 | MeOH | MAE | 7 | VOCs Rock |
| 200-SB-7-123.30-VOC | Rock VOC | VOC-0081 | 40mL VOA | 1 | 6/20/2014 | 14:52 | MeOH | MAE | 8 | VOCs Rock |
| 200-SB-7-124.10-VOC | Rock VOC | VOC-0082 | 40mL VOA | 1 | 6/20/2014 | 14:54 | MeOH | MAE | 9 | VOCs Rock |
| 200-SB-7-125.10-VOC | Rock VOC | VOC-0083 | 40mL VOA | 1 | 6/20/2014 | 14:59 | MeOH | MAE | 10 | VOCs Rock |
| 200-SB-7-125.90-VOC | Rock VOC | VOC-0084 | 40mL VOA | 1 | 6/20/2014 | 14:59 | MeOH | MAE | 11 | VOCs Rock |
| 200-SB-7-127.30-VOC | Rock VOC | VOC-0085 | 40mL VOA | 1 | 6/20/2014 | 15:27 | MeOH | MAE | 12 | VOCs Rock |
| 200-SB-7-127.70-VOC | Rock VOC | VOC-0086 | 40mL VOA | 1 | 6/20/2014 | 15:29 | MeOH | MAE | 13 | VOCs Rock |
| 200-SB-7-128.10-VOC | Rock VOC | VOC-0087 | 40mL VOA | 1 | 6/20/2014 | 15:30 | MeOH | MAE | 14 | VOCs Rock |
| 200-SB-7-129.40-VOC | Rock VOC | VOC-0089 | 40mL VOA | 1 | 6/20/2014 | 15:33 | MeOH | MAE | 15 | VOCs Rock |

Saturday, June 21, 2014

Cooler ID 3

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Lab ID SEI # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-129.40-VOC-MS | Rock VOC | VOC-0090 | 40mL VOA | 1 | 6/20/2014 | 15:34 | MeOH | MAE | 15-MS | VOCs Rock |
| 200-SB-7-129.~~4~~40-VOC-MSD | Rock VOC | VOC-0091 | 40mL VOA | 1 | 6/20/2014 | 15:35 | MeOH | MAE | 15-MSD | VOCs Rock |
| 200-SB-7-131.20-VOC MB 6/24/14 | Rock VOC | VOC-0092 | 40mL VOA | 1 | 6/20/2014 | 15:37 | MeOH | MAE | 18 | VOCs Rock |
| 200-SB-7-133.60-VOC | Rock VOC | VOC-0093 | 40mL VOA | 1 | 6/20/2014 | 15:58 | MeOH | MAE | 19 | VOCs Rock |
| FD-04 | Rock VOC | VOC-0094 | 40mL VOA | 1 | 6/20/2014 | 15:59 | MeOH | MAE | 20 | VOCs Rock |
| 200-SB-7-135.00-VOC | Rock VOC | VOC-0095 | 40mL VOA | 1 | 6/20/2014 | 16:02 | MeOH | MAE | 21 | VOCs Rock |
| 200-SB-7-135.30-VOC | Rock VOC | VOC-0096 | 40mL VOA | 1 | 6/20/2014 | 16:04 | MeOH | MAE | 22 | VOCs Rock |
| 200-SB-7-135.60-VOC | Rock VOC | VOC-0097 | 40mL VOA | 1 | 6/20/2014 | 16:05 | MeOH | MAE | 23 | VOCs Rock |
| 200-SB-7-137.85-VOC | Rock VOC | VOC-0098 | 40mL VOA | 1 | 6/20/2014 | 16:26 | MeOH | MAE | 24 | VOCs Rock |
| 200-SB-7-138.40-VOC | Rock VOC | VOC-0099 | 40mL VOA | 1 | 6/20/2014 | 16:28 | MeOH | MAE | 25 | VOCs Rock |
| 200-SB-7-138.80-VOC | Rock VOC | VOC-0100 | 40mL VOA | 1 | 6/20/2014 | 16:29 | MeOH | MAE | 26 | VOCs Rock |
| 200-SB-7-140.50-VOC | Rock VOC | VOC-0101 | 40mL VOA | 1 | 6/20/2014 | 16:30 | MeOH | MAE | 27 | VOCs Rock |
| 200-SB-7-140.80-VOC | Rock VOC | VOC-0102 | 40mL VOA | 1 | ~~12/30/1899~~ 6/20/2014 | 16:31 | MeOH | MAE | 28 | VOCs Rock |
| EB-04 | Equip Blank | VOC-0005 | 40mL VOA | 1 | 6/19/2014 | 17:33 | MeOH | None | 29 | VOCs Rock |
| EB-05 | Equip Blank | VOC-0006 | 40mL VOA | 1 | 6/20/2014 | 06:13 | MeOH | None | 30 | VOCs Rock |
| EB-06 | Equip Blank | VOC-0007 | 40mL VOA | 1 | 6/20/2014 | 13:18 | MeOH | None | 31 | VOCs Rock |
| EB-07 | Equip Blank | VOC-0008 | 40mL VOA | 1 | 6/20/2014 | 16:15 | MeOH | None | 32 | VOCs Rock |
| TB-03 | Trip Blank | VOC-0126 | 40mL VOA | 1 | 6/21/2014 | 06:57 | MeOH | None | 33 | VOCs Rock |

| | | |
|---|---|---|
| Relinquished By: | Date/Time: 6/23/14 1300 | Sample Integrity: |
| Received By: | Date/Time: 6/24/14 11:50 | Temperature: 12.4°C |
| Relinquished By: | Date/Time: | In Tact: ✓ |
| Received By: | Date/Time: | On Ice:_____ Ice Packs: ✓ |

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

SDG-1

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SET # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-160.20-VOC | Rock VOC | VOC-0138 | 40mL VOA | 1 | 6/21/2014 | 09:19 | MeOH | MAE | 49 | VOCs Rock |
| 200-SB-7-155.50-VOC | Rock VOC | VOC-0135 | 40mL VOA | 1 | 6/21/2014 | 08:55 | MeOH | MAE | 47 | VOCs Rock |
| 200-SB-7-159.60-VOC | Rock VOC | VOC-0137 | 40mL VOA | 1 | 6/21/2014 | 09:17 | MeOH | MAE | 48 | VOCs Rock |
| 200-SB-7-155.00-VOC | Rock VOC | VOC-0134 | 40mL VOA | 1 | 6/21/2014 | 08:53 | MeOH | MAE | 46 | VOCs Rock |
| 200-SB-7-161.10-VOC | Rock VOC | VOC-0140 | 40mL VOA | 1 | 6/21/2014 | 09:21 | MeOH | MAE | 51 | VOCs Rock |
| 200-SB-7-162.20-VOC | Rock VOC | VOC-0141 | 40mL VOA | 1 | 6/21/2014 | 09:23 | MeOH | MAE | 52 | VOCs Rock |
| 200-SB-7-160.60-VOC | Rock VOC | VOC-0139 | 40mL VOA | 1 | 6/21/2014 | 09:20 | MeOH | MAE | 50 | VOCs Rock |
| 200-SB-7-149.90-VOC | Rock VOC | VOC-0109 | 40mL VOA | 1 | 6/20/2014 | 17:35 | MeOH | MAE | 40. | VOCs Rock |
| 200-SB-7-144.70-VOC | Rock VOC | VOC-0105 | 40mL VOA | 1 | 6/20/2014 | 16:54 | MeOH | MAE | 36 | VOCs Rock |
| 200-SB-7-153.50-VOC | Rock VOC | VOC-0132 | 40mL VOA | 1 | 6/21/2014 | 08:50 | MeOH | MAE | 44 | VOCs Rock |
| EB-09 | Equip Blank | VOC-0110 | 40mL VOA | 1 | 6/21/2014 | 06:42 | MeOH | None | 64 | VOCs Rock |
| 200-SB-7-152.80-VOC-MS | Rock VOC | VOC-0130 | 40mL VOA | 1 | 6/21/2014 | 08:47 | MeOH | MAE | 41-MS | VOCs Rock |
| 200-SB-7-154.50-VOC | Rock VOC | VOC-0133 | 40mL VOA | 1 | 6/21/2014 | 08:52 | MeOH | MAE | 45 | VOCs Rock |
| 200-SB-7-152.80-VOC-MSD | Rock VOC | VOC-0131 | 40mL VOA | 1 | 6/21/2014 | 08:49 | MeOH | MAE | 41-MSD | VOCs Rock |
| 200-SB-7-152.80-VOC | Rock VOC | VOC-0127 | 40mL VOA | 1 | 6/21/2014 | 08:46 | MeOH | MAE | 41 | VOCs Rock |

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SE1 # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| EB-08 | Equip Blank | VOC-0009 | 40mL VOA | 1 | 6/20/2014 | 17:40 | MeOH | None | 63 | VOCs Rock |
| 200-SB-7-144.20-VOC | Rock VOC | VOC-0104 | 40mL VOA | 1 | 6/20/2014 | 16:53 | MeOH | MAE | 35 | VOCs Rock |
| 200-SB-7-146.40-VOC | Rock VOC | VOC-0106 | 40mL VOA | 1 | 6/20/2014 | 16:55 | MeOH | MAE | 37 | VOCs Rock |
| 200-SB-7-148.70-VOC | Rock VOC | VOC-0108 | 40mL VOA | 1 | 6/20/2014 | 17:34 | MeOH | MAE | 39 | VOCs Rock |
| 200-SB-7-143.90-VOC | Rock VOC | VOC-0103 | 40mL VOA | 1 | 6/20/2014 | 16:52 | MeOH | MAE | 34 | VOCs Rock |
| 200-SB-7-148.10-VOC | Rock VOC | VOC-0107 | 40mL VOA | 1 | 6/20/2014 | 17:32 | MeOH | MAE | 38 | VOCs Rock |
| FD-05 | Rock VOC | VOC-0136 | 40mL VOA | 1 | 6/21/2014 | 08:55 | MeOH | MAE | 65 | VOCs Rock |
| 200-SB-7-162.30-VOC | Rock VOC | VOC-0142 | 40mL VOA | 1 | 6/21/2014 | 09:47 | MeOH | MAE | 53 | VOCs Rock |
| 200-SB-7-164.70-VOC | Rock VOC | VOC-0143 | 40mL VOA | 1 | 6/21/2014 | 09:49 | MeOH | MAE | 54 | VOCs Rock |
| 200-SB-7-166.20-VOC | Rock VOC | VOC-0144 | 40mL VOA | 1 | 6/21/2014 | 09:50 | MeOH | MAE | 55 | VOCs Rock |
| 200-SB-7-166.70-VOC | Rock VOC | VOC-0145 | 40mL VOA | 1 | ~~12/30/1899~~ 6/21/2014 | 09:53 | MeOH | MAE | 56 | VOCs Rock |
| 200-SB-7-168.80-VOC | Rock VOC | VOC-0146 | 40mL VOA | 1 | 6/21/2014 | 10:45 | MeOH | MAE | 57 | VOCs Rock |
| 200-SB-7-170.10-VOC | Rock VOC | VOC-0147 | 40mL VOA | 1 | 6/21/2014 | 10:46 | MeOH | MAE | 58 | VOCs Rock |
| 200-SB-7-171.00-VOC | Rock VOC | VOC-0148 | 40mL VOA | 1 | 6/21/2014 | 10:47 | MeOH | MAE | 59 | VOCs Rock |
| 200-SB-7-172.40-VOC | Rock VOC | VOC-0149 | 40mL VOA | 1 | 6/21/2014 | 10:48 | MeOH | MAE | 60 | VOCs Rock |
| 200-SB-7-172.65-VOC | Rock VOC | VOC-0150 | 40mL VOA | 1 | 6/21/2014 | 11:21 | MeOH | MAE | 61 | VOCs Rock |
| 200-SB-7-173.70-VOC 58.99 g | Rock VOC | VOC-0151 | 40mL VOA | 1 | 6/21/2014 | 11:22 | MeOH | MAE | ~~62~~ 100 | VOCs Rock MJS 6/25/14 |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | | Date/Time: | 6/23/14 | Sample Integrity: | |
| Received By: | | Date/Time: | 6/24/14 1150 | Temperature: | 12.0°C |
| Relinquished By: | | Date/Time: | | In Tact: | |
| Received By: | | Date/Time: | | On Ice: | Ice Packs: ✓ |

* TB-04 Rock VOC VOC-170 " " 6/21/14 1344 " SE1-99 VOCs Rock



* sample in cooler, but not on COC

# Chain of Custody Record

STONE ENVIRONMENTAL INC

535 Stone Cutters Way
Montpelier, Vermont
05602 USA

Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

SDG-1

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SEI # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-100.65-VOC | Rock VOC | VOC-0058 | 40mL VOA | 1 | 6/20/2014 | 09:01 | MeOH | MAE | 66 | VOCs Rock |
| 200-SB-7-102.10-VOC | Rock VOC | VOC-0059 | 40mL VOA | 1 | 6/20/2014 | 09:31 | MeOH | MAE | 67 | VOCs Rock |
| 200-SB-7-102.40-VOC | Rock VOC | VOC-0060 | 40mL VOA | 1 | 6/20/2014 | 09:34 | MeOH | MAE | 68 | VOCs Rock |
| 200-SB-7-103.70-VOC | Rock VOC | VOC-0061 | 40mL VOA | 1 | 6/20/2014 | 09:35 | MeOH | MAE | 69 | VOCs Rock |
| 200-SB-7-104.80-VOC | Rock VOC | VOC-0062 | 40mL VOA | 1 | 6/20/2014 | 10:01 | MeOH | MAE | 70 | VOCs Rock |
| 200-SB-7-105.10-VOC | Rock VOC | VOC-0063 | 40mL VOA | 1 | 6/20/2014 | 10:04 | MeOH | MAE | 71 | VOCs Rock |
| 200-SB-7-105.70-VOC | Rock VOC | VOC-0066 | 40mL VOA | 1 | 6/20/2014 | 10:05 | MeOH | MAE | 72 | VOCs Rock |
| 200-SB-7-106.50-VOC | Rock VOC | VOC-0067 | 40mL VOA | 1 | 6/20/2014 | 10:07 | MeOH | MAE | 73 | VOCs Rock |
| 200-SB-7-108.30-VOC | Rock VOC | VOC-0068 | 40mL VOA | 1 | 6/20/2014 | 12:53 | MeOH | MAE | 74 | VOCs Rock |
| FD-03 | Rock VOC | VOC-0069 | 40mL VOA | 1 | 6/20/2014 | 12:56 | MeOH | MAE | 97 | VOCs Rock |
| 200-SB-7-109.90-VOC | Rock VOC | VOC-0070 | 40mL VOA | 1 | 6/20/2014 | 12:58 | MeOH | MAE | 75 | VOCs Rock |
| 200-SB-7-111.20-VOC | Rock VOC | VOC-0071 | 40mL VOA | 1 | ~~12/30/1899~~ 6/20/2014 | 13:00 | MeOH | MAE | 76 | VOCs Rock |
| 200-SB-7-112.90-VOC | Rock VOC | VOC-0072 | 40mL VOA | 1 | 6/20/2014 | 13:14 | MeOH | MAE | 77 | VOCs Rock |
| 200-SB-7-113.20-VOC | Rock VOC | VOC-0073 | 40mL VOA | 1 | 6/20/2014 | 13:15 | MeOH | MAE | 78 | VOCs Rock |
| 200-SB-7-84.60-VOC | Rock VOC | VOC-0040 | 40mL VOA | 1 | 6/19/2014 | 16:53 | MeOH | MAE | 79 | VOCs Rock |

| Sample ID | Sample mass (g) | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SEI # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-84.80-VOC | | Rock VOC | VOC-0041 | 40mL VOA | 1 | 6/19/2014 | 16:55 | MeOH | MAE | 80 | VOCs Rock |
| 200-SB-7-85.90-VOC | | Rock VOC | VOC-0042 | 40mL VOA | 1 | 6/19/2014 | 16:57 | MeOH | MAE | 81 | VOCs Rock |
| 200-SB-7-87.60-VOC | | Rock VOC | VOC-0043 | 40mL VOA | 1 | 6/19/2014 | 16:59 | MeOH | MAE | 82 | VOCs Rock |
| 200-SB-7-88.10-VOC | | Rock VOC | VOC-0044 | 40mL VOA | 1 | 6/19/2014 | 17:01 | MeOH | MAE | 83 | VOCs Rock |
| FD-02 | | Rock VOC | VOC-0045 | 40mL VOA | 1 | 6/19/2014 | 17:02 | MeOH | MAE | 96 | VOCs Rock |
| 200-SB-7-89.50-VOC | | Rock VOC | VOC-0046 | 40mL VOA | 1 | 6/19/2014 | 17:21 | MeOH | MAE | 84 | VOCs Rock |
| 200-SB-7-89.80-VOC | | Rock VOC | VOC-0047 | 40mL VOA | 1 | ~~12/30/1899~~ 6/19/2014 | 17:23 | MeOH | MAE | 85 | VOCs Rock |
| 200-SB-7-90.90-VOC | | Rock VOC | VOC-0048 | 40mL VOA | 1 | 6/19/2014 | 17:25 | MeOH | MAE | 86 | VOCs Rock |
| 200-SB-7-92.30-VOC | | Rock VOC | VOC-0049 | 40mL VOA | 1 | 6/19/2014 | 17:26 | MeOH | MAE | 87 | VOCs Rock |
| 200-SB-7-92.30-VOC-MS | 52.86 | Rock VOC | ~~VOC-0050~~ VOC-0051 | 40mL VOA | 1 | 6/19/2014 | 17:30 | MeOH | MAE | 87-MS | VOCs Rock |
| 200-SB-7-92.30-VOC-MSD | 59.02 | Rock VOC | ~~VOC-0051~~ VOC-0052 | 40mL VOA | 1 | 6/19/2014 | 17:31 | MeOH | MAE | 87-MSD | VOCs Rock |
| 200-SB-7-92.60-VOC | 58.86 | Rock VOC | ~~VOC-0052~~ VOC-0050 | 40mL VOA | 1 | 6/19/2014 | 17:33 | MeOH | MAE | 90 | VOCs Rock |
| 200-SB-7-96.90-VOC | | Rock VOC | VOC-0053 MJS 6/25/14 | 40mL VOA | 1 | 6/20/2014 | 08:29 | MeOH | MAE | 91 | VOCs Rock |
| 200-SB-7-97.30-VOC | | Rock VOC | VOC-0054 | 40mL VOA | 1 | 6/20/2014 | 08:31 | MeOH | MAE | 92 | VOCs Rock |
| 200-SB-7-98.30-VOC | | Rock VOC | VOC-0055 | 40mL VOA | 1 | 6/20/2014 | 08:33 | MeOH | MAE | 93 | VOCs Rock |
| 200-SB-7-98.70-VOC | | Rock VOC | VOC-0056 | 40mL VOA | 1 | 6/20/2014 | 08:34 | MeOH | MAE | 94 | VOCs Rock |
| 200-SB-7-99.80-VOC | | Rock VOC | VOC-0057 | 40mL VOA | 1 | 6/20/2014 | 08:59 | MeOH | MAE | 95 | VOCs Rock |
| TB-02 | | Trip Blank | VOC-0125 | 40mL VOA | 1 | 6/21/2014 | 06:57 | MeOH | None | 98 | VOCs Rock |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | [signature] | Date/Time: | 6/24/14 | Sample Integrity: | |
| Received By: | [signature] | Date/Time: | 6/25/14 1140 | Temperature: | 10.6°C |
| Relinquished By: | | Date/Time: | | In Tact: | |
| Received By: | | Date/Time: | | On Ice: ____ Ice Packs: | ✓ |

# Chain of Custody Record

SDG-2

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | sample mass(g) | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SEI # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-5-20.50-VOC | | Rock VOC | VOC-0181 | 40mL VOA | 1 | 6/23/2014 | 08:11 | MeOH | MAE | 102 | VOCs Rock |
| 200-SB-5-21.60-VOC | | Rock VOC | VOC-0182 | 40mL VOA | 1 | 6/23/2014 | 08:13 | MeOH | MAE | 103 | VOCs Rock |
| + 200-SB-7-173.70-VOC-MS | 63.53 | Rock VOC | VOC-0152 | 40mL VOA | 1 | 6/21/2014 | 11:24 | MeOH | MAE | ~~62~~ 100-MS | VOCs Rock |
| + 200-SB-7-173.70-VOC-MSD | 63.39 | Rock VOC | VOC-0153 | 40mL VOA | 1 | 6/21/2014 | 11:25 | MeOH | MAE | ~~62~~ 100-MSD | VOCs Rock |
| 200-SB-7-174.10-VOC | | Rock VOC | VOC-0154 | 40mL VOA | 1 | 6/21/2014 | 11:26 | MeOH | MAE | 104 | VOCs Rock |
| 200-SB-7-175.30-VOC | | Rock VOC | VOC-0155 | 40mL VOA | 1 | 6/21/2014 | 11:27 | MeOH | MAE | 105 | VOCs Rock |
| 200-SB-7-176.90-VOC | | Rock VOC | VOC-0156 | 40mL VOA | 1 | 6/21/2014 | 11:29 | MeOH | MAE | 106 | VOCs Rock |
| 200-SB-7-178.15-VOC | | Rock VOC | VOC-0157 | 40mL VOA | 1 | 6/21/2014 | 11:53 | MeOH | MAE | 107 | VOCs Rock |
| 200-SB-7-180.10-VOC | | Rock VOC | VOC-0158 | 40mL VOA | 1 | 6/21/2014 | 11:55 | MeOH | MAE | 108 | VOCs Rock |
| FD-06 | | Rock VOC | VOC-0159 | 40mL VOA | 1 | 6/21/2014 | 11:55 | MeOH | MAE | 131 | VOCs Rock |
| 200-SB-7-180.60-VOC | | Rock VOC | VOC-0160 | 40mL VOA | 1 | 6/21/2014 | 11:58 | MeOH | MAE | 109 | VOCs Rock |
| 200-SB-7-182.10-VOC | | Rock VOC | VOC-0161 | 40mL VOA | 1 | 6/21/2014 | 12:36 | MeOH | MAE | 110 | VOCs Rock |
| 200-SB-7-182.90-VOC | | Rock VOC | VOC-0162 | 40mL VOA | 1 | 6/21/2014 | 12:37 | MeOH | MAE | 111 | VOCs Rock |
| 200-SB-7-183.60-VOC | | Rock VOC | VOC-0163 | 40mL VOA | 1 | 6/21/2014 | 12:39 | MeOH | MAE | 112 | VOCs Rock |
| 200-SB-7-184.20-VOC | | Rock VOC | VOC-0164 | 40mL VOA | 1 | 6/21/2014 | 12:40 | MeOH | MAE | 113 | VOCs Rock |

MJS 6/25/14

Monday, June 23, 2014 Cooler ID 5

+ Logged in to SDG-1 LIMS w/ Parent

# LABORATORY ANALYTICAL RESULTS

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 06/30/2014 - 07/07/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Depth | | 084.60 | | 084.80 | | 085.90 | | 087.60 | | 088.10 | | 089.50 | | 089.80 | | 090.90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-84.60-VOC | | 200-SB-7-84.80-VOC | | 200-SB-7-85.90-VOC | | 200-SB-7-87.60-VOC | | 200-SB-7-88.10-VOC | | 200-SB-7-89.50-VOC | | 200-SB-7-89.80-VOC | | 200-SB-7-90.90-VOC | |
| Analysis Date | | 07/02/14 17:12 | N | 07/02/14 17:33 | N | 07/02/14 17:55 | N | 07/02/14 18:16 | N | 07/02/14 18:37 | N | 07/02/14 19:19 | N | 07/02/14 19:41 | N | 07/03/14 12:28 | N |
| Trichlorofluoromethane | 75694 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Chloromethane | 74-87-3 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| 1,1-Dichloroethene | 75-35-4 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Methylene Chloride | 75-09-2 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| t-Butyl-methyl ether | 1634-04-4 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Chloroform | 67-66-3 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| 2-Butanone | 78-93-3 | 386 | U | 294 | U | 421 | U | 437 | U | 494 | U | 422 | U | 449 | U | 608 | U |
| Benzene | 71-43-2 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 8.89 | J | 42.2 | U | 44.9 | U | 60.8 | U |
| 1,2-Dichloroethane | 107-06-2 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Trichloroethene | 79-01-6 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Bromodichloromethane | 75-27-4 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Toluene | 108-88-3 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Tetrachloroethene | 127-18-4 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Dibromochloromethane | 124-48-1 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Chlorobenzene | 108-90-7 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| m,p-Xylenes | 136777612 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Bromoform | 75-25-2 | 38.6 | U | 29.4 | U | 42.1 | U | 43.7 | U | 49.4 | U | 42.2 | U | 44.9 | U | 60.8 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 85 | % | 87 | % | 86 | % | 87 | % | 85 | % | 84 | % | 82 | % | 130 | D |

| Depth | | 092.30 | | 092.60 | | 096.90 | | 097.30 | | 098.30 | | 098.70 | | 099.80 | | 100.65 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-92.30-VOC | | 200-SB-7-92.60-VOC | | 200-SB-7-96.90-VOC | | 200-SB-7-97.30-VOC | | 200-SB-7-98.30-VOC | | 200-SB-7-98.70-VOC | | 200-SB-7-99.80-VOC | | 200-SB-7-100.65-VOC | |
| Analysis Date | | 07/07/14 17:44 | N | 07/03/14 12:49 | N | 07/03/14 13:11 | N | 07/03/14 13:33 | N | 07/03/14 13:55 | N | 07/03/14 14:17 | N | 07/03/14 14:39 | N | 07/03/14 15:01 | N |
| Trichlorofluoromethane | 75694 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Chloromethane | 74-87-3 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| 1,1-Dichloroethene | 75-35-4 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Methylene Chloride | 75-09-2 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| t-Butyl-methyl ether | 1634-04-4 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Chloroform | 67-66-3 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| 2-Butanone | 78-93-3 | 618 | U | 669 | U | 460 | U | 565 | U | 559 | U | 539 | U | 555 | U | 482 | U |
| Benzene | 71-43-2 | 61.8 | U | 66.9 | U | 46.0 | U | 10.2 | J | 55.9 | U | 53.9 | U | 55.5 | U | 10.1 | J |
| 1,2-Dichloroethane | 107-06-2 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Trichloroethene | 79-01-6 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Bromodichloromethane | 75-27-4 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Toluene | 108-88-3 | 61.8 | U | 66.9 | U | 46.0 | U | 121 | | 55.9 | U | 16.7 | J | 17.2 | J | 15.9 | J |
| 1,1,2-Trichloroethane | 79-00-5 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Tetrachloroethene | 127-18-4 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Dibromochloromethane | 124-48-1 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Chlorobenzene | 108-90-7 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| m,p-Xylenes | 136777612 | 20.4 | J | 66.9 | U | 46.0 | U | 22.6 | J | 55.9 | U | 53.9 | U | 15.0 | J | 17.3 | J |
| Bromoform | 75-25-2 | 61.8 | U | 66.9 | U | 46.0 | U | 56.5 | U | 55.9 | U | 53.9 | U | 55.5 | U | 48.2 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 87 | % | 88 | % | 87 | % | 85 | % | 86 | % | 87 | % | 86 | % | 87 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 06/30/2014 - 07/07/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Depth | | 102.10 | | 102.40 | | 103.70 | | 104.80 | | 105.10 | | 105.70 | | 106.50 | | 108.30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-102.10-VOC | | 200-SB-7-102.40-VOC | | 200-SB-7-103.70-VOC | | 200-SB-7-104.80-VOC | | 200-SB-7-105.10-VOC | | 200-SB-7-105.70-VOC | | 200-SB-7-106.50-VOC | | 200-SB-7-108.30-VOC | |
| Analysis Date | | 07/03/14 15:23 | N | 07/03/14 15:45 | N | 07/03/14 16:50 | N | 07/03/14 17:12 | N | 07/03/14 17:34 | N | 07/03/14 17:56 | N | 07/03/14 18:17 | N | 07/03/14 18:39 | N |
| Trichlorofluoromethane | 75694 | 57.1 | U | 65.5 | U | 45.5 | U | 53.9 | | 263 | | 24.2 | J | 42.7 | U | 40.5 | U |
| Chloromethane | 74-87-3 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 57.1 | U | 65.5 | U | 45.5 | U | 56.8 | | 283 | | 35.9 | J | 42.7 | U | 40.5 | U |
| 1,1-Dichloroethene | 75-35-4 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Methylene Chloride | 75-09-2 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| t-Butyl-methyl ether | 1634-04-4 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Chloroform | 67-66-3 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| 2-Butanone | 78-93-3 | 571 | U | 655 | U | 455 | U | 409 | U | 368 | U | 378 | U | 427 | U | 405 | U |
| Benzene | 71-43-2 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 7.69 | J | 40.5 | U |
| 1,2-Dichloroethane | 107-06-2 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Trichloroethene | 79-01-6 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 16.6 | J | 23.4 | J | 42.7 | U | 40.5 | U |
| Bromodichloromethane | 75-27-4 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Toluene | 108-88-3 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Tetrachloroethene | 127-18-4 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Dibromochloromethane | 124-48-1 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Chlorobenzene | 108-90-7 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| m,p-Xylenes | 136777612 | 12.0 | J | 20.9 | J | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Bromoform | 75-25-2 | 57.1 | U | 65.5 | U | 45.5 | U | 40.9 | U | 36.8 | U | 37.8 | U | 42.7 | U | 40.5 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 85 | % | 87 | % | 86 | % | 86 | % | 86 | % | 86 | % | 84 | % | 85 | % |

| Depth | | 109.90 | | 111.20 | | 112.90 | | 113.20 | | 115.50 | | 115.80 | | 117.10 | | 118.20 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-109.90-VOC | | 200-SB-7-111.20-VOC | | 200-SB-7-112.90-VOC | | 200-SB-7-113.20-VOC | | 200-SB-7-115.50-VOC | | 200-SB-7-115.80-VOC | | 200-SB-7-117.10-VOC | | 200-SB-7-118.20-VOC | |
| Analysis Date | | 07/03/14 19:21 | N | 07/03/14 19:42 | N | 07/07/14 15:16 | N | 07/03/14 20:03 | N | 06/30/14 14:32 | N | 06/30/14 14:54 | N | 06/30/14 15:15 | N | 06/30/14 15:36 | N |
| Trichlorofluoromethane | 75694 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 78.7 | | 23.3 | J |
| Chloromethane | 74-87-3 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 33.7 | | 35.4 | U |
| 1,1-Dichloroethene | 75-35-4 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Methylene Chloride | 75-09-2 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| t-Butyl-methyl ether | 1634-04-4 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Chloroform | 67-66-3 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| 2-Butanone | 78-93-3 | 574 | U | 376 | U | 478 | U | 321 | U | 339 | U | 321 | U | 312 | U | 354 | U |
| Benzene | 71-43-2 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 16.3 | J | 118 | | 5.00 | J | 35.4 | U |
| 1,2-Dichloroethane | 107-06-2 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Trichloroethene | 79-01-6 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 26.9 | J |
| Bromodichloromethane | 75-27-4 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Toluene | 108-88-3 | 14.3 | J | 12.0 | J | 47.8 | U | 105 | | 18.3 | J | 218 | | 15.3 | J | 15.9 | J |
| 1,1,2-Trichloroethane | 79-00-5 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Tetrachloroethene | 127-18-4 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Dibromochloromethane | 124-48-1 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Chlorobenzene | 108-90-7 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| m,p-Xylenes | 136777612 | 12.1 | J | 9.03 | J | 15.8 | J | 18.9 | J | 7.80 | J | 18.9 | J | 5.62 | J | 6.36 | J |
| Bromoform | 75-25-2 | 57.4 | U | 37.6 | U | 47.8 | U | 32.1 | U | 33.9 | U | 32.1 | U | 31.2 | U | 35.4 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 88 | % | 85 | % | 89 | % | 84 | % | 89 | % | 88 | % | 87 | % | 88 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 06/30/2014 - 07/07/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 120.50 | | 121.00 | | 121.60 | | 123.30 | | 124.10 | | 125.10 | | 125.90 | | 127.30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-7-120.50-VOC | | 200-SB-7-121.00-VOC | | 200-SB-7-121.60-VOC | | 200-SB-7-123.30-VOC | | 200-SB-7-124.10-VOC | | 200-SB-7-125.10-VOC | | 200-SB-7-125.90-VOC | | 200-SB-7-127.30-VOC | |
| **Analysis Date** | | 06/30/14 15:58 | N | 06/30/14 16:20 | N | 06/30/14 16:43 | N | 06/30/14 17:05 | N | 06/30/14 17:27 | N | 06/30/14 17:50 | N | 06/30/14 19:18 | N | 06/30/14 19:39 | N |
| Trichlorofluoromethane | 75694 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Chloromethane | 74-87-3 | 32.8 | U | 36.9 | U | 33.5 | U | 21.2 | J | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| 1,1-Dichloroethene | 75-35-4 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Methylene Chloride | 75-09-2 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| t-Butyl-methyl ether | 1634-04-4 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Chloroform | 67-66-3 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| 2-Butanone | 78-93-3 | 173 | J | 369 | U | 335 | U | 259 | U | 352 | U | 285 | U | 300 | U | 479 | U |
| Benzene | 71-43-2 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| 1,2-Dichloroethane | 107-06-2 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Trichloroethene | 79-01-6 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Bromodichloromethane | 75-27-4 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Toluene | 108-88-3 | 15.1 | J | 17.0 | J | 17.1 | J | 10.4 | J | 15.8 | J | 12.8 | J | 30.0 | U | 47.9 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Tetrachloroethene | 127-18-4 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Dibromochloromethane | 124-48-1 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Chlorobenzene | 108-90-7 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| m,p-Xylenes | 136777612 | 5.91 | J | 7.01 | J | 6.36 | J | 4.66 | J | 6.68 | J | 5.13 | J | 30.0 | U | 47.9 | U |
| Bromoform | 75-25-2 | 32.8 | U | 36.9 | U | 33.5 | U | 25.9 | U | 35.2 | U | 28.5 | U | 30.0 | U | 47.9 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 88 | % | 87 | % | 87 | % | 90 | % | 85 | % | 85 | % | 86 | % | 88 | % |

| **Depth** | | 127.70 | | 128.10 | | 129.40 | | 131.20 | | 133.60 | | 135.00 | | 135.30 | | 135.60 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-7-127.70-VOC | | 200-SB-7-128.10-VOC | | 200-SB-7-129.40-VOC | | 200-SB-7-131.20-VOC | | 200-SB-7-133.60-VOC | | 200-SB-7-135.00-VOC | | 200-SB-7-135.30-VOC | | 200-SB-7-135.60-VOC | |
| **Analysis Date** | | 06/30/14 20:00 | N | 06/30/14 20:22 | N | 07/07/14 15:38 | N | 06/30/14 20:43 | N | 06/30/14 21:04 | N | 06/30/14 21:45 | N | 06/30/14 22:06 | N | 06/30/14 22:27 | N |
| Trichlorofluoromethane | 75694 | 33.8 | U | 40.2 | U | 85.0 | | 31.6 | U | 148 | | 34.9 | U | 36.6 | U | 37.6 | U |
| Chloromethane | 74-87-3 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 33.8 | U | 40.2 | U | 89.9 | | 31.6 | U | 202 | | 34.9 | U | 36.6 | U | 37.6 | U |
| 1,1-Dichloroethene | 75-35-4 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Methylene Chloride | 75-09-2 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| t-Butyl-methyl ether | 1634-04-4 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Chloroform | 67-66-3 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| 2-Butanone | 78-93-3 | 338 | U | 402 | U | 409 | U | 316 | U | 363 | U | 349 | U | 366 | U | 376 | U |
| Benzene | 71-43-2 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| 1,2-Dichloroethane | 107-06-2 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Trichloroethene | 79-01-6 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Bromodichloromethane | 75-27-4 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Toluene | 108-88-3 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Tetrachloroethene | 127-18-4 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Dibromochloromethane | 124-48-1 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Chlorobenzene | 108-90-7 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| m,p-Xylenes | 136777612 | 33.8 | U | 40.2 | U | 12.3 | J | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Bromoform | 75-25-2 | 33.8 | U | 40.2 | U | 40.9 | U | 31.6 | U | 36.3 | U | 34.9 | U | 36.6 | U | 37.6 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 86 | % | 90 | % | 89 | % | 84 | % | 84 | % | 84 | % | 84 | % | 87 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 06/30/2014 - 07/07/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Depth | | 137.85 | | 138.40 | | 138.80 | | 140.50 | | 140.80 | | 143.90 | | 144.20 | | 144.70 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-137.85-VOC | | 200-SB-7-138.40-VOC | | 200-SB-7-138.80-VOC | | 200-SB-7-140.50-VOC | | 200-SB-7-140.80-VOC | | 200-SB-7-143.90-VOC | | 200-SB-7-144.20-VOC | | 200-SB-7-144.70-VOC | |
| Analysis Date | | 07/01/14 01:15 | N | 07/01/14 01:57 | N | 07/01/14 01:36 | N | 07/02/14 14:34 | N | 07/01/14 02:39 | N | 07/01/14 03:00 | N | 07/01/14 03:20 | N | 07/01/14 03:41 | N |
| Trichlorofluoromethane | 75694 | 29.3 | U | 21.9 | U | 71.0 | | 34.2 | U | 32.2 | U | 960 | | 30.9 | U | 29.4 | U |
| Chloromethane | 74-87-3 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 29.2 | J | 30.9 | U | 46.7 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 29.3 | U | 21.9 | U | 75.4 | | 553 | | 120 | | 2480 | | 30.9 | U | 29.4 | U |
| 1,1-Dichloroethene | 75-35-4 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Methylene Chloride | 75-09-2 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| t-Butyl-methyl ether | 1634-04-4 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Chloroform | 67-66-3 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| 2-Butanone | 78-93-3 | 293 | U | 219 | U | 274 | U | 342 | U | 322 | U | 310 | U | 309 | U | 294 | U |
| Benzene | 71-43-2 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| 1,2-Dichloroethane | 107-06-2 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Trichloroethene | 79-01-6 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 18.6 | J | 30.9 | U | 29.4 | U |
| Bromodichloromethane | 75-27-4 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Toluene | 108-88-3 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Tetrachloroethene | 127-18-4 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Dibromochloromethane | 124-48-1 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Chlorobenzene | 108-90-7 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| m,p-Xylenes | 136777612 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Bromoform | 75-25-2 | 29.3 | U | 21.9 | U | 27.4 | U | 34.2 | U | 32.2 | U | 31.0 | U | 30.9 | U | 29.4 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 87 | % | 84 | % | 85 | % | 90 | % | 88 | % | 87 | % | 86 | % | 88 | % |

| Depth | | 146.40 | | 148.10 | | 148.70 | | 149.90 | | 152.80 | | 153.50 | | 154.50 | | 155.00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-146.40-VOC | | 200-SB-7-148.10-VOC | | 200-SB-7-148.70-VOC | | 200-SB-7-149.90-VOC | | 200-SB-7-152.80-VOC | | 200-SB-7-153.50-VOC | | 200-SB-7-154.50-VOC | | 200-SB-7-155.00-VOC | |
| Analysis Date | | 07/01/14 04:02 | N | 07/01/14 04:23 | N | 07/01/14 05:47 | N | 07/01/14 06:08 | N | 07/07/14 16:41 | N | 07/01/14 06:29 | N | 07/01/14 06:50 | N | 07/01/14 07:10 | N |
| Trichlorofluoromethane | 75694 | 31.1 | U | 28.2 | U | 26.8 | U | 23.4 | J | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Chloromethane | 74-87-3 | 39.8 | | 16.1 | J | 20.1 | J | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 31.1 | U | 25.1 | J | 26.8 | U | 88.4 | | 46.5 | | 27.8 | U | 30.0 | U | 36.7 | U |
| 1,1-Dichloroethene | 75-35-4 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Methylene Chloride | 75-09-2 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| t-Butyl-methyl ether | 1634-04-4 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Chloroform | 67-66-3 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| 2-Butanone | 78-93-3 | 311 | U | 282 | U | 268 | U | 335 | U | 461 | U | 278 | U | 300 | U | 367 | U |
| Benzene | 71-43-2 | 31.1 | U | 4.24 | J | 8.03 | J | 33.5 | U | 46.1 | U | 5.56 | J | 30.0 | U | 36.7 | U |
| 1,2-Dichloroethane | 107-06-2 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Trichloroethene | 79-01-6 | 31.1 | U | 28.2 | U | 26.8 | U | 35.5 | | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Bromodichloromethane | 75-27-4 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Toluene | 108-88-3 | 31.1 | U | 28.2 | U | 45.0 | | 33.5 | U | 46.1 | U | 13.6 | J | 30.0 | U | 36.7 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 31.1 | U | 28.2 | U | 35.1 | | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Tetrachloroethene | 127-18-4 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Dibromochloromethane | 124-48-1 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Chlorobenzene | 108-90-7 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| m,p-Xylenes | 136777612 | 31.1 | U | 5.65 | J | 74.4 | | 33.5 | U | 15.2 | J | 17.8 | J | 30.0 | U | 36.7 | U |
| Bromoform | 75-25-2 | 31.1 | U | 28.2 | U | 26.8 | U | 33.5 | U | 46.1 | U | 27.8 | U | 30.0 | U | 36.7 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 89 | % | 86 | % | 86 | % | 85 | % | 89 | % | 85 | % | 89 | % | 87 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 06/30/2014 - 07/07/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Depth | | 155.50 | | 159.60 | | 160.20 | | 160.60 | | 161.10 | | 162.20 | | 162.30 | | 164.70 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-155.50-VOC | | 200-SB-7-159.60-VOC | | 200-SB-7-160.20-VOC | | 200-SB-7-160.60-VOC | | 200-SB-7-161.10-VOC | | 200-SB-7-162.20-VOC | | 200-SB-7-162.30-VOC | | 200-SB-7-164.70-VOC | |
| Analysis Date | | 07/01/14 07:31 | N | 07/01/14 07:52 | N | 07/01/14 08:13 | N | 07/01/14 08:34 | N | 07/01/14 08:55 | N | 07/01/14 18:57 | N | 07/01/14 19:20 | N | 07/01/14 19:43 | N |
| Trichlorofluoromethane | 75694 | 34.1 | U | 29.2 | J | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 40.9 | |
| Chloromethane | 74-87-3 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 34.1 | U | 157 | | 126 | | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 169 | |
| 1,1-Dichloroethene | 75-35-4 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Methylene Chloride | 75-09-2 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| t-Butyl-methyl ether | 1634-04-4 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Chloroform | 67-66-3 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| 2-Butanone | 78-93-3 | 341 | U | 423 | U | 356 | U | 373 | U | 317 | U | 374 | U | 281 | U | 246 | U |
| Benzene | 71-43-2 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| 1,2-Dichloroethane | 107-06-2 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Trichloroethene | 79-01-6 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Bromodichloromethane | 75-27-4 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Toluene | 108-88-3 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Tetrachloroethene | 127-18-4 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Dibromochloromethane | 124-48-1 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Chlorobenzene | 108-90-7 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| m,p-Xylenes | 136777612 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Bromoform | 75-25-2 | 34.1 | U | 42.3 | U | 35.6 | U | 37.3 | U | 31.7 | U | 37.4 | U | 28.1 | U | 24.6 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 84 | % | 87 | % | 86 | % | 87 | % | 86 | % | 87 | % | 87 | % | 87 | % |

| Depth | | 166.20 | | 166.70 | | 168.80 | | 170.10 | | 171.00 | | 172.40 | | 172.65 | | 173.70 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-7-166.20-VOC | | 200-SB-7-166.70-VOC | | 200-SB-7-168.80-VOC | | 200-SB-7-170.10-VOC | | 200-SB-7-171.00-VOC | | 200-SB-7-172.40-VOC | | 200-SB-7-172.65-VOC | | 200-SB-7-173.70-VOC | |
| Analysis Date | | 07/01/14 20:05 | N | 07/01/14 20:28 | N | 07/01/14 20:50 | N | 07/01/14 21:12 | N | 07/01/14 21:34 | N | 07/02/14 14:57 | N | 07/02/14 15:20 | N | 07/02/14 16:28 | N |
| Trichlorofluoromethane | 75694 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Chloromethane | 74-87-3 | 29.6 | U | 31.8 | U | 44.9 | | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 29.6 | U | 31.8 | U | 38.0 | U | 66.5 | | 27.0 | J | 26.1 | U | 35.5 | U | 44.5 | U |
| 1,1-Dichloroethene | 75-35-4 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Methylene Chloride | 75-09-2 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| t-Butyl-methyl ether | 1634-04-4 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Chloroform | 67-66-3 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| 2-Butanone | 78-93-3 | 162 | J | 318 | U | 380 | U | 228 | J | 281 | U | 261 | U | 355 | U | 445 | U |
| Benzene | 71-43-2 | 29.6 | U | 6.99 | J | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| 1,2-Dichloroethane | 107-06-2 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Trichloroethene | 79-01-6 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Bromodichloromethane | 75-27-4 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Toluene | 108-88-3 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Tetrachloroethene | 127-18-4 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Dibromochloromethane | 124-48-1 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Chlorobenzene | 108-90-7 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| m,p-Xylenes | 136777612 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Bromoform | 75-25-2 | 29.6 | U | 31.8 | U | 38.0 | U | 35.0 | U | 28.1 | U | 26.1 | U | 35.5 | U | 44.5 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 87 | % | 85 | % | 87 | % | 85 | % | 87 | % | 89 | % | 91 | % | 89 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 06/30/2014 - 07/03/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C,8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | FD | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | | FD-04 | | FD-05 | | FD-02 | | FD-03 | |
|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | **CAS #** | 06/30/14 21:25 | FD | 07/02/14 16:50 | FD | 07/02/14 18:58 | FD | 07/03/14 19:00 | FD |
| Trichlorofluoromethane | 75694 | 166 | | 30.1 | U | 40.0 | U | 42.6 | U |
| Chloromethane | 74-87-3 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 290 | | 30.1 | U | 40.0 | U | 42.6 | U |
| 1,1-Dichloroethene | 75-35-4 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Methylene Chloride | 75-09-2 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| t-Butyl-methyl ether | 1634-04-4 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Chloroform | 67-66-3 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| 2-Butanone | 78-93-3 | 390 | U | 301 | U | 400 | U | 426 | U |
| Benzene | 71-43-2 | 39.0 | U | 30.1 | U | 6.00 | J | 42.6 | U |
| 1,2-Dichloroethane | 107-06-2 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Trichloroethene | 79-01-6 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Bromodichloromethane | 75-27-4 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Toluene | 108-88-3 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Tetrachloroethene | 127-18-4 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Dibromochloromethane | 124-48-1 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Chlorobenzene | 108-90-7 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| m,p-Xylenes | 136777612 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Bromoform | 75-25-2 | 39.0 | U | 30.1 | U | 40.0 | U | 42.6 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 88 | % | 87 | % | 87 | % | 86 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/01/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Methanol | **Results Given as:** | ug/kg |
| **Location ID:** | EB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | | EB-04 | | EB-05 | | EB-06 | | EB-07 | | EB-08 | | EB-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | **CAS #** | 07/01/14 13:42 | EB | 07/01/14 14:04 | EB | 07/01/14 14:27 | EB | 07/01/14 14:51 | EB | 07/01/14 15:40 | EB | 07/01/14 16:31 | EB |
| Trichlorofluoromethane | 75694 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloromethane | 74-87-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Methylene Chloride | 75-09-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloroform | 67-66-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 2-Butanone | 78-93-3 | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U |
| Benzene | 71-43-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Trichloroethene | 79-01-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromodichloromethane | 75-27-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Toluene | 108-88-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Tetrachloroethene | 127-18-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Dibromochloromethane | 124-48-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chlorobenzene | 108-90-7 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| m,p-Xylenes | 136777612 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromoform | 75-25-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 89 | % | 91 | % | 91 | % | 87 | % | 89 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group:** | 1 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/30/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/21/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/01/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Methanol | **Results Given as:** | ug/kg |
| **Location ID:** | TB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | TB-03 | | TB-02 | | TB-04 | |
|---|---|---|---|---|---|---|---|
| **Analysis Date** | | 07/01/14 15:15 | TB | 07/01/14 17:46 | TB | 07/01/14 16:05 | TB |
| Trichlorofluoromethane | 75694 | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloromethane | 74-87-3 | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 40.0 | U | 40.0 | U | 40.0 | U |
| Methylene Chloride | 75-09-2 | 40.0 | U | 40.0 | U | 40.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloroform | 67-66-3 | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 40.0 | U | 40.0 | U | 40.0 | U |
| 2-Butanone | 78-93-3 | 400 | U | 400 | U | 400 | U |
| Benzene | 71-43-2 | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 40.0 | U | 40.0 | U | 40.0 | U |
| Trichloroethene | 79-01-6 | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromodichloromethane | 75-27-4 | 40.0 | U | 40.0 | U | 40.0 | U |
| Toluene | 108-88-3 | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 40.0 | U | 40.0 | U | 40.0 | U |
| Tetrachloroethene | 127-18-4 | 40.0 | U | 40.0 | U | 40.0 | U |
| Dibromochloromethane | 124-48-1 | 40.0 | U | 40.0 | U | 40.0 | U |
| Chlorobenzene | 108-90-7 | 40.0 | U | 40.0 | U | 40.0 | U |
| m,p-Xylenes | 136777612 | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromoform | 75-25-2 | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 87 | % | 87 | % | 89 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

# QUALITY CONTROL SUMMARIES

Continuing Calibration Verification Summaries (VSTD)

Laboratory Method Blank Summaries (VBLK)

Laboratory Control Sample Summaries (LCS)

Prep Blank Summaries (PBLK)

Prep Control Sample Summaries (PLCS)

Matrix Spike / Matrix Spike Duplicate Sample Summaries (MS/MSD)

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CC
Analysis Date: 06/30/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 16.74 | 16.3 |
| Chloromethane | 21.87 | -9.4 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.16 | 14.2 |
| 1,1-Dichloroethene | 17.17 | 14.2 |
| Methylene Chloride | 20.58 | -2.9 |
| t-Butyl-methyl ether | 23.58 | -17.9 |
| Chloroform | 22.1 | -10.5 |
| 1,1,1-Trichloroethane | 18.19 | 9.0 |
| 2-Butanone | 231.29 | -15.6 |
| Benzene | 19.42 | 2.9 |
| 1,2-Dichloroethane | 21.66 | -8.3 |
| Trichloroethene | 19.08 | 4.6 |
| Bromodichloromethane | 22.13 | -10.7 |
| Toluene | 19.11 | 4.5 |
| 1,1,2-Trichloroethane | 22.04 | -10.2 |
| Tetrachloroethene | 16.22 | 18.9 |
| Dibromochloromethane | 21.25 | -6.3 |
| Chlorobenzene | 19.79 | 1.1 |
| m,p-Xylenes | 36.62 | 8.5 |
| Bromoform | 21.58 | -7.9 |
| Bromofluorobenzene (SS) | 99.45 % | 99.45 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CD
Analysis Date: 06/30/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 23.23 | -16.2 |
| Chloromethane | 16.77 | 16.2 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 23.96 | -19.8 |
| 1,1-Dichloroethene | 22.37 | -11.9 |
| Methylene Chloride | 19.15 | 4.3 |
| t-Butyl-methyl ether | 19.66 | 1.7 |
| Chloroform | 19.31 | 3.5 |
| 1,1,1-Trichloroethane | 22.03 | -10.2 |
| 2-Butanone | 173.38 | 13.3 |
| Benzene | 19.44 | 2.8 |
| 1,2-Dichloroethane | 19.28 | 3.6 |
| Trichloroethene | 19.79 | 1.1 |
| Bromodichloromethane | 19.78 | 1.1 |
| Toluene | 22.15 | -10.8 |
| 1,1,2-Trichloroethane | 21.54 | -7.7 |
| Tetrachloroethene | 19.36 | 3.2 |
| Dibromochloromethane | 22.45 | -12.3 |
| Chlorobenzene | 20.34 | -1.7 |
| m,p-Xylenes | 38.46 | 3.9 |
| Bromoform | 22.77 | -13.9 |
| Bromofluorobenzene (SS) | 94.7 % | 94.7 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CE
Analysis Date: 07/01/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 18.32 | 8.4 |
| Chloromethane | 18.65 | 6.8 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 18.52 | 7.4 |
| 1,1-Dichloroethene | 19.7 | 1.5 |
| Methylene Chloride | 17.89 | 10.6 |
| t-Butyl-methyl ether | 18.6 | 7.0 |
| Chloroform | 18.53 | 7.3 |
| 1,1,1-Trichloroethane | 19.3 | 3.5 |
| 2-Butanone | 184.05 | 8.0 |
| Benzene | 19.03 | 4.8 |
| 1,2-Dichloroethane | 18.1 | 9.5 |
| Trichloroethene | 19.67 | 1.6 |
| Bromodichloromethane | 19.47 | 2.7 |
| Toluene | 20.72 | -3.6 |
| 1,1,2-Trichloroethane | 18.34 | 8.3 |
| Tetrachloroethene | 19.11 | 4.5 |
| Dibromochloromethane | 19.88 | .6 |
| Chlorobenzene | 20.23 | -1.2 |
| m,p-Xylenes | 39.47 | 1.3 |
| Bromoform | 19.89 | .5 |
| Bromofluorobenzene (SS) | 97.05 % | 97.05 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CF
Analysis Date: 07/02/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 16.62 | 16.9 |
| Chloromethane | 21.47 | -7.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.08 | 14.6 |
| 1,1-Dichloroethene | 17.46 | 12.7 |
| Methylene Chloride | 20.4 | -2.0 |
| t-Butyl-methyl ether | 23.47 | -17.4 |
| Chloroform | 22.62 | -13.1 |
| 1,1,1-Trichloroethane | 18.58 | 7.1 |
| 2-Butanone | 232.11 | -16.1 |
| Benzene | 19.74 | 1.3 |
| 1,2-Dichloroethane | 22.04 | -10.2 |
| Trichloroethene | 19.47 | 2.7 |
| Bromodichloromethane | 22.85 | -14.3 |
| Toluene | 19.52 | 2.4 |
| 1,1,2-Trichloroethane | 23.21 | -16.1 |
| Tetrachloroethene | 16.98 | 15.1 |
| Dibromochloromethane | 22.55 | -12.8 |
| Chlorobenzene | 20.51 | -2.6 |
| m,p-Xylenes | 37.5 | 6.3 |
| Bromoform | 22.91 | -14.6 |
| Bromofluorobenzene (SS) | 101.95 % | 101.95 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CG

Analysis Date: 07/03/2014

Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 17.44 | 12.8 |
| Chloromethane | 18.88 | 5.6 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 18.85 | 5.7 |
| 1,1-Dichloroethene | 17.77 | 11.2 |
| Methylene Chloride | 19.3 | 3.5 |
| t-Butyl-methyl ether | 20.67 | -3.4 |
| Chloroform | 20.89 | -4.5 |
| 1,1,1-Trichloroethane | 19.14 | 4.3 |
| 2-Butanone | 216.83 | -8.4 |
| Benzene | 19.03 | 4.8 |
| 1,2-Dichloroethane | 19.35 | 3.2 |
| Trichloroethene | 19.88 | .6 |
| Bromodichloromethane | 20.79 | -4.0 |
| Toluene | 20.12 | -.6 |
| 1,1,2-Trichloroethane | 18.81 | 6.0 |
| Tetrachloroethene | 18.39 | 8.1 |
| Dibromochloromethane | 20.7 | -3.5 |
| Chlorobenzene | 20.32 | -1.6 |
| m,p-Xylenes | 40.49 | -1.2 |
| Bromoform | 20.99 | -4.9 |
| Bromofluorobenzene (SS) | 101.85 % | 101.85 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CH

Analysis Date: 07/07/2014

Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 16.53 | 17.4 |
| Chloromethane | 19.94 | .3 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.85 | 10.8 |
| 1,1-Dichloroethene | 17.26 | 13.7 |
| Methylene Chloride | 19.41 | 3.0 |
| t-Butyl-methyl ether | 23.02 | -15.1 |
| Chloroform | 22.03 | -10.2 |
| 1,1,1-Trichloroethane | 18.81 | 6.0 |
| 2-Butanone | 228.66 | -14.3 |
| Benzene | 19.23 | 3.9 |
| 1,2-Dichloroethane | 19.88 | .6 |
| Trichloroethene | 19.53 | 2.3 |
| Bromodichloromethane | 21.88 | -9.4 |
| Toluene | 19.84 | .8 |
| 1,1,2-Trichloroethane | 19.85 | .7 |
| Tetrachloroethene | 17.26 | 13.7 |
| Dibromochloromethane | 21.37 | -6.9 |
| Chlorobenzene | 20.53 | -2.7 |
| m,p-Xylenes | 38.28 | 4.3 |
| Bromoform | 21.48 | -7.4 |
| Bromofluorobenzene (SS) | 100.95 % | 100.95 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CA |
| Date Analyzed | 6/30/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 1.00 | U |
| Chloromethane | 1.00 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 1.00 | U |
| 1,1-Dichloroethene | 1.00 | U |
| Methylene Chloride | 1.00 | U |
| t-Butyl-methyl ether | 1.00 | U |
| Chloroform | 1.00 | U |
| 1,1,1-Trichloroethane | 1.00 | U |
| 2-Butanone | 10.0 | U |
| Benzene | 1.00 | U |
| 1,2-Dichloroethane | 1.00 | U |
| Trichloroethene | 1.00 | U |
| Bromodichloromethane | 1.00 | U |
| Toluene | 1.00 | U |
| 1,1,2-Trichloroethane | 1.00 | U |
| Tetrachloroethene | 1.00 | U |
| Dibromochloromethane | 1.00 | U |
| Chlorobenzene | 1.00 | U |
| m,p-Xylenes | 1.00 | U |
| Bromoform | 1.00 | U |
| Bromofluorobenzene (SS) | 90 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CC |
| Date Analyzed | 6/30/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 89 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CD |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 83 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CE |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 91 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CF |
| Date Analyzed | 7/2/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CG |
| Date Analyzed | 7/3/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CH |
| Date Analyzed | 7/7/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification Summary*

QC Batch: CA

Analysis Date: 06/30/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | LCS Conc.(ug/L) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 1.00 U | 22.8 | 114 | 70-130 |
| Chloromethane | 1.00 U | 49.6 | 99 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 1.00 U | 19.8 | 99 | 70-130 |
| 1,1-Dichloroethene | 1.00 U | 23.7 | 119 | 70-130 |
| Methylene Chloride | 1.00 U | 22.0 | 110 | 60-140 |
| t-Butyl-methyl ether | 1.00 U | 22.8 | 114 | 60-140 |
| Chloroform | 1.00 U | 20.6 | 103 | 70-130 |
| 1,1,1-Trichloroethane | 1.00 U | 20.6 | 103 | 70-130 |
| 2-Butanone | 10.0 U | 234 | 117 | 60-140 |
| Benzene | 1.00 U | 20.2 | 101 | 70-130 |
| 1,2-Dichloroethane | 1.00 U | 22.5 | 113 | 70-130 |
| Trichloroethene | 1.00 U | 21.4 | 107 | 70-130 |
| Bromodichloromethane | 1.00 U | 22.4 | 112 | 70-130 |
| Toluene | 1.00 U | 20.4 | 102 | 70-130 |
| 1,1,2-Trichloroethane | 1.00 U | 20.9 | 104 | 70-130 |
| Tetrachloroethene | 1.00 U | 19.0 | 95 | 70-130 |
| Dibromochloromethane | 1.00 U | 21.6 | 108 | 70-130 |
| Chlorobenzene | 1.00 U | 21.2 | 106 | 70-130 |
| m,p-Xylenes | 1.00 U | 38.2 | 95 | 70-130 |
| Bromoform | 1.00 U | 22.0 | 110 | 70-130 |
| Bromofluorobenzene (SS) | 90 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CC
Analysis Date: 06/30/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1140 | 107 | 70-130 |
| Chloromethane | 53.3 U | 2810 | 106 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 917 | 86 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1220 | 115 | 70-130 |
| Methylene Chloride | 53.3 U | 1230 | 115 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1100 | 103 | 60-140 |
| Chloroform | 53.3 U | 1100 | 103 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1060 | 99 | 70-130 |
| 2-Butanone | 533 U | 11200 | 105 | 60-140 |
| Benzene | 53.3 U | 1070 | 100 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1250 | 117 | 70-130 |
| Trichloroethene | 53.3 U | 1140 | 107 | 70-130 |
| Bromodichloromethane | 53.3 U | 1210 | 114 | 70-130 |
| Toluene | 53.3 U | 1040 | 97 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1120 | 105 | 70-130 |
| Tetrachloroethene | 53.3 U | 961 | 90 | 70-130 |
| Dibromochloromethane | 53.3 U | 1120 | 105 | 70-130 |
| Chlorobenzene | 53.3 U | 1100 | 103 | 70-130 |
| m,p-Xylenes | 53.3 U | 1970 | 92 | 70-130 |
| Bromoform | 53.3 U | 1150 | 107 | 70-130 |
| Bromofluorobenzene (SS) | 89 % | 102 % | 102 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CD
Analysis Date: 07/01/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1240 | 116 | 70-130 |
| Chloromethane | 53.3 U | 2650 | 99 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1270 | 119 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1350 | 127 | 70-130 |
| Methylene Chloride | 53.3 U | 1160 | 109 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 998 | 94 | 60-140 |
| Chloroform | 53.3 U | 1080 | 101 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1240 | 116 | 70-130 |
| 2-Butanone | 533 U | 8320 | 78 | 60-140 |
| Benzene | 53.3 U | 1090 | 103 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1110 | 104 | 70-130 |
| Trichloroethene | 53.3 U | 1220 | 114 | 70-130 |
| Bromodichloromethane | 53.3 U | 1100 | 103 | 70-130 |
| Toluene | 53.3 U | 1180 | 111 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1090 | 102 | 70-130 |
| Tetrachloroethene | 53.3 U | 1200 | 112 | 70-130 |
| Dibromochloromethane | 53.3 U | 1100 | 103 | 70-130 |
| Chlorobenzene | 53.3 U | 1160 | 109 | 70-130 |
| m,p-Xylenes | 53.3 U | 2220 | 104 | 70-130 |
| Bromoform | 53.3 U | 1100 | 103 | 70-130 |
| Bromofluorobenzene (SS) | 83 % | 102 % | 102 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Control Sample Summary*

QC Batch: CE

Analysis Date: 07/01/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1290 | 121 | 70-130 |
| Chloromethane | 53.3 U | 2550 | 95 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1100 | 103 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1340 | 125 | 70-130 |
| Methylene Chloride | 53.3 U | 1150 | 108 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 887 | 83 | 60-140 |
| Chloroform | 53.3 U | 1040 | 98 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1140 | 107 | 70-130 |
| 2-Butanone | 533 U | 8970 | 84 | 60-140 |
| Benzene | 53.3 U | 1050 | 98 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1100 | 103 | 70-130 |
| Trichloroethene | 53.3 U | 1160 | 109 | 70-130 |
| Bromodichloromethane | 53.3 U | 1100 | 104 | 70-130 |
| Toluene | 53.3 U | 934 | 88 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1050 | 99 | 70-130 |
| Tetrachloroethene | 53.3 U | 1120 | 105 | 70-130 |
| Dibromochloromethane | 53.3 U | 1100 | 103 | 70-130 |
| Chlorobenzene | 53.3 U | 1120 | 105 | 70-130 |
| m,p-Xylenes | 53.3 U | 2130 | 100 | 70-130 |
| Bromoform | 53.3 U | 1110 | 104 | 70-130 |
| Bromofluorobenzene (SS) | 91 % | 100 % | 100 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CF
Analysis Date: 07/02/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1150 | 108 | 70-130 |
| Chloromethane | 53.3 U | 3060 | 115 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 945 | 89 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1190 | 112 | 70-130 |
| Methylene Chloride | 53.3 U | 1300 | 122 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1130 | 106 | 60-140 |
| Chloroform | 53.3 U | 1120 | 105 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1080 | 101 | 70-130 |
| 2-Butanone | 533 U | 11900 | 112 | 60-140 |
| Benzene | 53.3 U | 1080 | 101 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1290 | 121 | 70-130 |
| Trichloroethene | 53.3 U | 1130 | 106 | 70-130 |
| Bromodichloromethane | 53.3 U | 1260 | 118 | 70-130 |
| Toluene | 53.3 U | 1070 | 100 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1200 | 113 | 70-130 |
| Tetrachloroethene | 53.3 U | 981 | 92 | 70-130 |
| Dibromochloromethane | 53.3 U | 1220 | 114 | 70-130 |
| Chlorobenzene | 53.3 U | 1130 | 106 | 70-130 |
| m,p-Xylenes | 53.3 U | 1990 | 94 | 70-130 |
| Bromoform | 53.3 U | 1240 | 116 | 70-130 |
| Bromofluorobenzene (SS) | 87 % | 103 % | 103 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CG

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1130 | 106 | 70-130 |
| Chloromethane | 53.3 U | 2880 | 108 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1130 | 106 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1370 | 129 | 70-130 |
| Methylene Chloride | 53.3 U | 1080 | 102 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 892 | 84 | 60-140 |
| Chloroform | 53.3 U | 1040 | 98 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1210 | 113 | 70-130 |
| 2-Butanone | 533 U | 8610 | 81 | 60-140 |
| Benzene | 53.3 U | 1080 | 101 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1050 | 98 | 70-130 |
| Trichloroethene | 53.3 U | 1230 | 115 | 70-130 |
| Bromodichloromethane | 53.3 U | 1100 | 103 | 70-130 |
| Toluene | 53.3 U | 1150 | 108 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 985 | 92 | 70-130 |
| Tetrachloroethene | 53.3 U | 1180 | 111 | 70-130 |
| Dibromochloromethane | 53.3 U | 1040 | 97 | 70-130 |
| Chlorobenzene | 53.3 U | 1150 | 108 | 70-130 |
| m,p-Xylenes | 53.3 U | 2280 | 107 | 70-130 |
| Bromoform | 53.3 U | 1040 | 98 | 70-130 |
| Bromofluorobenzene (SS) | 88 % | 103 % | 103 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CH
Analysis Date: 07/07/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1320 | 124 | 70-130 |
| Chloromethane | 53.3 U | 3020 | 113 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1100 | 103 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1360 | 128 | 70-130 |
| Methylene Chloride | 53.3 U | 1210 | 114 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1050 | 99 | 60-140 |
| Chloroform | 53.3 U | 1140 | 107 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1210 | 114 | 70-130 |
| 2-Butanone | 533 U | 9910 | 93 | 60-140 |
| Benzene | 53.3 U | 1120 | 105 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1150 | 108 | 70-130 |
| Trichloroethene | 53.3 U | 1230 | 115 | 70-130 |
| Bromodichloromethane | 53.3 U | 1190 | 112 | 70-130 |
| Toluene | 53.3 U | 1190 | 112 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1160 | 109 | 70-130 |
| Tetrachloroethene | 53.3 U | 1170 | 110 | 70-130 |
| Dibromochloromethane | 53.3 U | 1190 | 111 | 70-130 |
| Chlorobenzene | 53.3 U | 1180 | 111 | 70-130 |
| m,p-Xylenes | 53.3 U | 2180 | 102 | 70-130 |
| Bromoform | 53.3 U | 1190 | 112 | 70-130 |
| Bromofluorobenzene (SS) | 88 % | 103 % | 103 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-062414-A1 |
| Date Analyzed | 6/30/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 15.5 | J |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 89 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-062514-A1 |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 85 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-062514-B1 |
| Date Analyzed | 6/30/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 21.9 | J |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 86 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-062514-B2 |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 86 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-062514-C1 |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-062614-C1 |
| Date Analyzed | 7/2/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-063014-A1 |
| Date Analyzed | 7/3/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 80.0 | U |
| Chloromethane | 80.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 80.0 | U |
| 1,1-Dichloroethene | 80.0 | U |
| Methylene Chloride | 80.0 | U |
| t-Butyl-methyl ether | 80.0 | U |
| Chloroform | 80.0 | U |
| 1,1,1-Trichloroethane | 80.0 | U |
| 2-Butanone | 800 | U |
| Benzene | 80.0 | U |
| 1,2-Dichloroethane | 80.0 | U |
| Trichloroethene | 25.6 | J |
| Bromodichloromethane | 80.0 | U |
| Toluene | 80.0 | U |
| 1,1,2-Trichloroethane | 80.0 | U |
| Tetrachloroethene | 80.0 | U |
| Dibromochloromethane | 80.0 | U |
| Chlorobenzene | 80.0 | U |
| m,p-Xylenes | 80.0 | U |
| Bromoform | 80.0 | U |
| Bromofluorobenzene (SS) | 90 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-063014-B1 |
| Date Analyzed | 7/3/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-063014-C1 |
| Date Analyzed | 7/7/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 18.1 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062414-A2

Analysis Date: 06/30/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 605 | 57 | 25-130 |
| Chloromethane | 53.3 U | 574 | 54 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 655 | 61 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 967 | 91 | 27-199 |
| Methylene Chloride | 53.3 U | 916 | 86 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 859 | 81 | 48-140 |
| Chloroform | 53.3 U | 906 | 85 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 903 | 85 | 65-130 |
| 2-Butanone | 533 U | 8830 | 83 | 41-130 |
| Benzene | 53.3 U | 951 | 89 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 998 | 94 | 61-130 |
| Trichloroethene | 15.5 J | 963 | 89 | 71-130 |
| Bromodichloromethane | 53.3 U | 959 | 90 | 62-130 |
| Toluene | 53.3 U | 1090 | 102 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 700 | 66 | 30-130 |
| Tetrachloroethene | 53.3 U | 950 | 89 | 56-130 |
| Dibromochloromethane | 53.3 U | 945 | 89 | 40-130 |
| Chlorobenzene | 53.3 U | 1070 | 100 | 70-130 |
| m,p-Xylenes | 53.3 U | 2090 | 98 | 69-130 |
| Bromoform | 53.3 U | 955 | 90 | 36-130 |
| Bromofluorobenzene (SS) | 89 % | 97 % | 97 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062514-A2

Analysis Date: 07/01/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 804 | 75 | 25-130 |
| Chloromethane | 53.3 U | 747 | 70 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 880 | 83 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1280 | 120 | 27-199 |
| Methylene Chloride | 53.3 U | 1040 | 97 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 1030 | 97 | 48-140 |
| Chloroform | 53.3 U | 926 | 87 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 970 | 91 | 65-130 |
| 2-Butanone | 533 U | 7970 | 75 | 41-130 |
| Benzene | 53.3 U | 991 | 93 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1040 | 98 | 61-130 |
| Trichloroethene | 53.3 U | 955 | 90 | 71-130 |
| Bromodichloromethane | 53.3 U | 949 | 89 | 62-130 |
| Toluene | 53.3 U | 1060 | 100 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 626 | 59 | 30-130 |
| Tetrachloroethene | 53.3 U | 942 | 88 | 56-130 |
| Dibromochloromethane | 53.3 U | 955 | 90 | 40-130 |
| Chlorobenzene | 53.3 U | 1040 | 98 | 70-130 |
| m,p-Xylenes | 53.3 U | 1990 | 93 | 69-130 |
| Bromoform | 53.3 U | 979 | 92 | 36-130 |
| Bromofluorobenzene (SS) | 85 % | 91 % | 91 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062514-B1

Analysis Date: 07/01/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1130 | 106 | 25-130 |
| Chloromethane | 53.3 U | 796 | 75 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1290 | 121 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1680 | 158 | 27-199 |
| Methylene Chloride | 53.3 U | 1040 | 97 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 945 | 89 | 48-140 |
| Chloroform | 53.3 U | 954 | 89 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1200 | 112 | 65-130 |
| 2-Butanone | 533 U | 7360 | 69 | 41-130 |
| Benzene | 53.3 U | 1080 | 101 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 971 | 91 | 61-130 |
| Trichloroethene | 53.3 U | 1100 | 103 | 71-130 |
| Bromodichloromethane | 53.3 U | 919 | 86 | 62-130 |
| Toluene | 53.3 U | 1210 | 114 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 583 | 55 | 30-130 |
| Tetrachloroethene | 53.3 U | 1160 | 108 | 56-130 |
| Dibromochloromethane | 53.3 U | 939 | 88 | 40-130 |
| Chlorobenzene | 53.3 U | 1090 | 102 | 70-130 |
| m,p-Xylenes | 53.3 U | 2290 | 107 | 69-130 |
| Bromoform | 53.3 U | 937 | 88 | 36-130 |
| Bromofluorobenzene (SS) | 86 % | 95 % | 95 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062514-B2

Analysis Date: 06/30/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 517 | 48 | 25-130 |
| Chloromethane | 53.3 U | 601 | 56 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 541 | 51 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 884 | 83 | 27-199 |
| Methylene Chloride | 53.3 U | 843 | 79 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 906 | 85 | 48-140 |
| Chloroform | 53.3 U | 838 | 79 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 778 | 73 | 65-130 |
| 2-Butanone | 533 U | 8540 | 80 | 41-130 |
| Benzene | 53.3 U | 846 | 79 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1020 | 95 | 61-130 |
| Trichloroethene | 53.3 U | 821 | 77 | 71-130 |
| Bromodichloromethane | 53.3 U | 933 | 88 | 62-130 |
| Toluene | 21.9 J | 945 | 87 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 630 | 59 | 30-130 |
| Tetrachloroethene | 53.3 U | 775 | 73 | 56-130 |
| Dibromochloromethane | 53.3 U | 919 | 86 | 40-130 |
| Chlorobenzene | 53.3 U | 953 | 89 | 70-130 |
| m,p-Xylenes | 53.3 U | 1810 | 85 | 69-130 |
| Bromoform | 53.3 U | 946 | 89 | 36-130 |
| Bromofluorobenzene (SS) | 86 % | 85 % | 85 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062514-C2

Analysis Date: 07/01/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 918 | 86 | 25-130 |
| Chloromethane | 53.3 U | 741 | 69 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 979 | 92 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1410 | 133 | 27-199 |
| Methylene Chloride | 53.3 U | 978 | 92 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 928 | 87 | 48-140 |
| Chloroform | 53.3 U | 893 | 84 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1040 | 97 | 65-130 |
| 2-Butanone | 533 U | 7030 | 66 | 41-130 |
| Benzene | 53.3 U | 980 | 92 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 954 | 89 | 61-130 |
| Trichloroethene | 53.3 U | 981 | 92 | 71-130 |
| Bromodichloromethane | 53.3 U | 885 | 83 | 62-130 |
| Toluene | 53.3 U | 1080 | 101 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 569 | 53 | 30-130 |
| Tetrachloroethene | 53.3 U | 990 | 93 | 56-130 |
| Dibromochloromethane | 53.3 U | 898 | 84 | 40-130 |
| Chlorobenzene | 53.3 U | 1020 | 95 | 70-130 |
| m,p-Xylenes | 53.3 U | 2040 | 95 | 69-130 |
| Bromoform | 53.3 U | 915 | 86 | 36-130 |
| Bromofluorobenzene (SS) | 87 % | 83 % | 83 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062614-A2

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1060

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 80.0 U | 706 | 66 | 25-130 |
| Chloromethane | 80.0 U | 638 | 60 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 80.0 U | 828 | 78 | 35-130 |
| 1,1-Dichloroethene | 80.0 U | 1450 | 137 | 27-199 |
| Methylene Chloride | 80.0 U | 985 | 93 | 56-130 |
| t-Butyl-methyl ether | 80.0 U | 897 | 84 | 48-140 |
| Chloroform | 80.0 U | 936 | 88 | 71-130 |
| 1,1,1-Trichloroethane | 80.0 U | 995 | 94 | 65-130 |
| 2-Butanone | 800 U | 9100 | 86 | 41-130 |
| Benzene | 80.0 U | 1020 | 96 | 71-130 |
| 1,2-Dichloroethane | 80.0 U | 1020 | 95 | 61-130 |
| Trichloroethene | 25.6 J | 1030 | 95 | 71-130 |
| Bromodichloromethane | 80.0 U | 903 | 85 | 62-130 |
| Toluene | 80.0 U | 1150 | 108 | 63-130 |
| 1,1,2-Trichloroethane | 80.0 U | 390 | 37 | 30-130 |
| Tetrachloroethene | 80.0 U | 1030 | 97 | 56-130 |
| Dibromochloromethane | 80.0 U | 904 | 85 | 40-130 |
| Chlorobenzene | 80.0 U | 1120 | 105 | 70-130 |
| m,p-Xylenes | 80.0 U | 2270 | 107 | 69-130 |
| Bromoform | 80.0 U | 928 | 87 | 36-130 |
| Bromofluorobenzene (SS) | 90 % | 101 % | 101 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-062614-C2

Analysis Date: 07/02/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 979 | 92 | 25-130 |
| Chloromethane | 53.3 U | 898 | 84 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1040 | 98 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1540 | 145 | 27-199 |
| Methylene Chloride | 53.3 U | 934 | 88 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 857 | 80 | 48-140 |
| Chloroform | 53.3 U | 923 | 87 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1140 | 107 | 65-130 |
| 2-Butanone | 533 U | 7420 | 70 | 41-130 |
| Benzene | 53.3 U | 1060 | 99 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 930 | 87 | 61-130 |
| Trichloroethene | 53.3 U | 1120 | 105 | 71-130 |
| Bromodichloromethane | 53.3 U | 927 | 87 | 62-130 |
| Toluene | 53.3 U | 1210 | 114 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 555 | 52 | 30-130 |
| Tetrachloroethene | 53.3 U | 1170 | 110 | 56-130 |
| Dibromochloromethane | 53.3 U | 913 | 86 | 40-130 |
| Chlorobenzene | 53.3 U | 1120 | 105 | 70-130 |
| m,p-Xylenes | 53.3 U | 2380 | 112 | 69-130 |
| Bromoform | 53.3 U | 916 | 86 | 36-130 |
| Bromofluorobenzene (SS) | 87 % | 99 % | 99 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-063014-B2

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 736 | 69 | 25-130 |
| Chloromethane | 53.3 U | 626 | 59 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 834 | 78 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1140 | 107 | 27-199 |
| Methylene Chloride | 53.3 U | 873 | 82 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 802 | 75 | 48-140 |
| Chloroform | 53.3 U | 846 | 79 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 977 | 92 | 65-130 |
| 2-Butanone | 533 U | 7020 | 66 | 41-130 |
| Benzene | 53.3 U | 937 | 88 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 890 | 83 | 61-130 |
| Trichloroethene | 53.3 U | 971 | 91 | 71-130 |
| Bromodichloromethane | 53.3 U | 892 | 84 | 62-130 |
| Toluene | 53.3 U | 1110 | 104 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 626 | 59 | 30-130 |
| Tetrachloroethene | 53.3 U | 1040 | 97 | 56-130 |
| Dibromochloromethane | 53.3 U | 924 | 87 | 40-130 |
| Chlorobenzene | 53.3 U | 1040 | 97 | 70-130 |
| m,p-Xylenes | 53.3 U | 2170 | 102 | 69-130 |
| Bromoform | 53.3 U | 917 | 86 | 36-130 |
| Bromofluorobenzene (SS) | 88 % | 91 % | 91 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-063014-C2

Analysis Date: 07/07/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 740 | 69 | 25-130 |
| Chloromethane | 53.3 U | 1280 | 120 | 32-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 810 | 76 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1160 | 109 | 27-199 |
| Methylene Chloride | 53.3 U | 1220 | 115 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 1290 | 121 | 48-140 |
| Chloroform | 53.3 U | 1030 | 96 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 908 | 85 | 65-130 |
| 2-Butanone | 533 U | 11300 | 106 | 41-130 |
| Benzene | 53.3 U | 1040 | 98 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1280 | 120 | 61-130 |
| Trichloroethene | 53.3 U | 961 | 90 | 71-130 |
| Bromodichloromethane | 53.3 U | 1160 | 109 | 62-130 |
| Toluene | 53.3 U | 982 | 92 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 800 | 75 | 30-130 |
| Tetrachloroethene | 53.3 U | 814 | 76 | 56-130 |
| Dibromochloromethane | 53.3 U | 1110 | 104 | 40-130 |
| Chlorobenzene | 53.3 U | 1030 | 96 | 70-130 |
| m,p-Xylenes | 18.1 J | 1820 | 84 | 69-130 |
| Bromoform | 53.3 U | 1150 | 108 | 36-130 |
| Bromofluorobenzene (SS) | 88 % | 94 % | 94 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-92.30-VOC
Sample Date: 6/19/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 1308 | | 890 | | | |
| Trichlorofluoromethane | 61.8 U | 1070 | 82 | 628 | 71 | 14 | 25 - 130 |
| Chloromethane | 61.8 U | 964 | 74 | 642 | 72 | 3 | 32 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 61.8 U | 1210 | 92 | 759 | 85 | 8 | 35 - 130 |
| 1,1-Dichloroethene | 61.8 U | 1330 | 102 | 816 | 92 | 10 | 27 - 199 |
| Methylene Chloride | 61.8 U | 1200 | 92 | 853 | 96 | 4 | 56 - 130 |
| t-Butyl-methyl ether | 61.8 U | 1130 | 86 | 796 | 89 | 3 | 48 - 140 |
| Chloroform | 61.8 U | 1130 | 86 | 895 | 101 | 16 | 71 - 130 |
| 1,1,1-Trichloroethane | 61.8 U | 1260 | 96 | 788 | 89 | 8 | 65 - 130 |
| Benzene | 61.8 U | 1220 | 93 | 1100 | 124 | 29 | 71 - 130 |
| 1,2-Dichloroethane | 61.8 U | 1200 | 92 | 828 | 93 | 1 | 61 - 130 |
| Trichloroethene | 61.8 U | 1210 | 92 | 819 | 92 | 0 | 71 - 130 |
| Bromodichloromethane | 61.8 U | 1220 | 93 | 496 | 56 * | 50 | 62 - 130 |
| Toluene | 61.8 U | 1380 | 105 | 1400 | 157 * | 40 | 63 - 130 |
| 1,1,2-Trichloroethane | 61.8 U | 1200 | 92 | 808 | 91 | 1 | 30 - 130 |
| Tetrachloroethene | 61.8 U | 1250 | 96 | 848 | 95 | 1 | 56 - 130 |
| Dibromochloromethane | 61.8 U | 1300 | 99 | 467 | 52 | 62 * | 40 - 130 |
| Chlorobenzene | 61.8 U | 1290 | 99 | 885 | 99 | 0 | 70 - 130 |
| m,p-Xylenes | 20.4 J | 2520 | 96 | 1750 | 97 | 1 | 69 - 130 |
| Bromoform | 61.8 U | 1290 | 99 | 443 | 50 | 66 * | 36 - 130 |
| 2-Butanone | 618 U | 9110 | 70 | 6210 | 70 | 0 | 41 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-92.30-VOC
Sample Date: 6/19/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 1308 | | 890 | | | |
| Bromofluorobenzene (SS) | 87 % | 90 % | 90 % | 91 % | 91 % | 1 | 62 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-129.40-VOC
Sample Date: 6/20/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 807 | | 578 | | | |
| Trichlorofluoromethane | 85.0 | 722 | 79 | 632 | 95 | 18 | 25 - 130 |
| Chloromethane | 40.9 U | 681 | 84 | 521 | 90 | 7 | 32 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 89.9 | 804 | 88 | 719 | 109 | 21 | 35 - 130 |
| 1,1-Dichloroethene | 40.9 U | 760 | 94 | 583 | 101 | 7 | 27 - 199 |
| Methylene Chloride | 40.9 U | 769 | 95 | 600 | 104 | 9 | 56 - 130 |
| t-Butyl-methyl ether | 40.9 U | 739 | 92 | 574 | 99 | 7 | 48 - 140 |
| Chloroform | 40.9 U | 694 | 86 | 515 | 89 | 3 | 71 - 130 |
| 1,1,1-Trichloroethane | 40.9 U | 719 | 89 | 525 | 91 | 2 | 65 - 130 |
| Benzene | 40.9 U | 750 | 93 | 552 | 96 | 3 | 71 - 130 |
| 1,2-Dichloroethane | 40.9 U | 742 | 92 | 558 | 97 | 5 | 61 - 130 |
| Trichloroethene | 40.9 U | 737 | 91 | 531 | 92 | 1 | 71 - 130 |
| Bromodichloromethane | 40.9 U | 779 | 96 | 567 | 98 | 2 | 62 - 130 |
| Toluene | 40.9 U | 780 | 97 | 557 | 96 | 1 | 63 - 130 |
| 1,1,2-Trichloroethane | 40.9 U | 687 | 85 | 515 | 89 | 5 | 30 - 130 |
| Tetrachloroethene | 40.9 U | 697 | 86 | 494 | 85 | 1 | 56 - 130 |
| Dibromochloromethane | 40.9 U | 736 | 91 | 550 | 95 | 4 | 40 - 130 |
| Chlorobenzene | 40.9 U | 769 | 95 | 542 | 94 | 1 | 70 - 130 |
| m,p-Xylenes | 12.3 J | 1490 | 92 | 1030 | 88 | 4 | 69 - 130 |
| Bromoform | 40.9 U | 726 | 90 | 543 | 94 | 4 | 36 - 130 |
| 2-Butanone | 409 U | 5610 | 69 | 4230 | 73 | 6 | 41 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-129.40-VOC
Sample Date: 6/20/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 807 | | 578 | | | |
| Bromofluorobenzene (SS) | 89 % | 91 % | 91 % | 88 % | 88 % | 3 | 62 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-152.80-VOC
Sample Date: 6/21/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 776 | | 777 | | | |
| Trichlorofluoromethane | 46.1 U | 656 | 85 | 626 | 81 | 5 | 25 - 130 |
| Chloromethane | 46.1 U | 537 | 69 | 642 | 83 | 18 | 32 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 46.5 | 757 | 92 | 724 | 87 | 6 | 35 - 130 |
| 1,1-Dichloroethene | 46.1 U | 800 | 103 | 779 | 100 | 3 | 27 - 199 |
| Methylene Chloride | 46.1 U | 689 | 89 | 817 | 105 | 16 | 56 - 130 |
| t-Butyl-methyl ether | 46.1 U | 599 | 77 | 737 | 95 | 21 | 48 - 140 |
| Chloroform | 46.1 U | 616 | 79 | 678 | 87 | 10 | 71 - 130 |
| 1,1,1-Trichloroethane | 46.1 U | 719 | 93 | 709 | 91 | 2 | 65 - 130 |
| Benzene | 46.1 U | 687 | 89 | 728 | 94 | 5 | 71 - 130 |
| 1,2-Dichloroethane | 46.1 U | 629 | 81 | 726 | 93 | 14 | 61 - 130 |
| Trichloroethene | 46.1 U | 710 | 92 | 708 | 91 | 1 | 71 - 130 |
| Bromodichloromethane | 46.1 U | 654 | 84 | 726 | 93 | 10 | 62 - 130 |
| Toluene | 46.1 U | 770 | 99 | 753 | 97 | 2 | 63 - 130 |
| 1,1,2-Trichloroethane | 46.1 U | 618 | 80 | 680 | 88 | 10 | 30 - 130 |
| Tetrachloroethene | 46.1 U | 726 | 94 | 663 | 85 | 10 | 56 - 130 |
| Dibromochloromethane | 46.1 U | 675 | 87 | 726 | 93 | 7 | 40 - 130 |
| Chlorobenzene | 46.1 U | 723 | 93 | 711 | 91 | 2 | 70 - 130 |
| m,p-Xylenes | 15.2 J | 1490 | 95 | 1350 | 86 | 10 | 69 - 130 |
| Bromoform | 46.1 U | 685 | 88 | 721 | 93 | 6 | 36 - 130 |
| 2-Butanone | 461 U | 4820 | 62 | 5500 | 71 | 14 | 41 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-152.80-VOC
Sample Date: 6/21/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 776 | | 777 | | | |
| Bromofluorobenzene (SS) | 89 % | 88 % | 88 % | 85 % | 85 % | 3 | 62 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-173.70-VOC
Sample Date: 6/21/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 699 | | 712 | | | |
| Trichlorofluoromethane | 44.5 U | 587 | 84 | 612 | 86 | 2 | 25 - 130 |
| Chloromethane | 44.5 U | 575 | 82 | 527 | 74 | 10 | 32 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 44.5 U | 696 | 100 | 693 | 97 | 3 | 35 - 130 |
| 1,1-Dichloroethene | 44.5 U | 722 | 103 | 758 | 106 | 3 | 27 - 199 |
| Methylene Chloride | 44.5 U | 798 | 114 | 691 | 97 | 16 | 56 - 130 |
| t-Butyl-methyl ether | 44.5 U | 757 | 108 | 676 | 95 | 13 | 48 - 140 |
| Chloroform | 44.5 U | 655 | 94 | 618 | 87 | 8 | 71 - 130 |
| 1,1,1-Trichloroethane | 44.5 U | 651 | 93 | 689 | 97 | 4 | 65 - 130 |
| Benzene | 44.5 U | 689 | 99 | 682 | 96 | 3 | 71 - 130 |
| 1,2-Dichloroethane | 44.5 U | 720 | 103 | 639 | 90 | 13 | 61 - 130 |
| Trichloroethene | 44.5 U | 665 | 95 | 677 | 95 | 0 | 71 - 130 |
| Bromodichloromethane | 44.5 U | 713 | 102 | 656 | 92 | 10 | 62 - 130 |
| Toluene | 44.5 U | 677 | 97 | 721 | 101 | 4 | 63 - 130 |
| 1,1,2-Trichloroethane | 44.5 U | 648 | 93 | 609 | 85 | 9 | 30 - 130 |
| Tetrachloroethene | 44.5 U | 607 | 87 | 665 | 93 | 7 | 56 - 130 |
| Dibromochloromethane | 44.5 U | 689 | 99 | 650 | 91 | 8 | 40 - 130 |
| Chlorobenzene | 44.5 U | 658 | 94 | 674 | 95 | 1 | 70 - 130 |
| m,p-Xylenes | 44.5 U | 1250 | 89 | 1340 | 94 | 5 | 69 - 130 |
| Bromoform | 44.5 U | 683 | 98 | 640 | 90 | 9 | 36 - 130 |
| 2-Butanone | 445 U | 5580 | 80 | 4870 | 68 | 16 | 41 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-173.70-VOC
Sample Date: 6/21/2014
Analysis Date: 07/07/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 699 | | 712 | | | |
| Bromofluorobenzene (SS) | 89 % | 89 % | 89 % | 87 % | 87 % | 2 | 62 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

# Final Data Report for Laboratory Services - REVISION 1

**PREPARED FOR: NAVARRO RESEARCH & ENGINEERING**

**SITE ID: NAVARRO, WHITE SANDS, NM**

**Stone Project ID: 14-037**

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***DATES OF PERFORMANCE: June 24 – July 3, 2014 (SDG-2)***
***REPORT DATE: September 19, 2014***

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STONE ENVIRONMENTAL INC

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DEFENSIBLE REAL-TIME ANALYTICS

STONE ENVIRONMENTAL, INC. LABORATORY

# NARRATIVE – REVISION 1

September 19, 2014

This data package presents the analytical results for rock samples analyzed by Stone Environmental, Inc. Laboratory (Stone) at Stone's Mobilab Unit 2 located in Barre, Vermont. Samples in this sample delivery group (SDG-2) were collected at the White Sands Site (Site) in Las Cruces, New Mexico by Stone personnel on June 16 - 25, 2014. A total of 79 samples were collected during this period from boring locations 200-SB-6 and 200-SB-7, including field quality control (QC) samples. The total sample number includes 3 trip blanks, 14 methanol blanks, 6 equipment blanks, 2 field duplicate samples, and 2 matrix spike and matrix spike duplicate (MS/MSD) pairs.

Samples were overnight shipped via FedEx to the laboratory by Stone field personnel. The sample shipment containing the methanol blanks (locations MB and WB) were delayed in transit and were received two days later instead of overnight. Sample receipt temperatures ranged from 6.4 to 13.0 degrees C. The upper end of that range is just above the receipt temperature acceptance limit of 10 degrees C for methanol samples. No data were qualified. All samples in this SDG were received by laboratory personnel on June 24 and 27, 2014 and analyzed at Stone's Mobilab Unit 2 between July 1 and 3, 2014.

Samples were stored in a laboratory freezer upon receipt until extraction. After extraction, sample extracts were again stored in a freezer until analysis. Copies of the chains of custody (COC) as well as a summary of samples logged into Stone's laboratory information management system (LIMS) are included in the Sample Login Summary Section of this report. All sample results are reported in units of µg/kg. Rock samples are reported on a wet-weight basis (i.e., as received). In accordance with Stone's SOP SEI-10.17.1, rock samples were collected into 15 milliliters of methanol and then rinsed with an additional 5 milliliters of methanol during the sample preparation phase for the microwave assisted extraction (MAE) technique; therefore, the total volume of methanol for rock samples is 20 milliliters. All blank samples are also reported in units of µg/kg assuming a default mass of 15 grams and a total methanol volume of 15 milliliters.

Rock samples were extracted on July 1- 3, 2014 via the microwave assisted extraction (MAE) technique in accordance with Stone's SOP SEI-10.17.1. Samples were extracted, or prepared, in batches of up to 10 samples. A prep laboratory control sample (PLCS) and prep blank (PBLK) sample were extracted along with each batch of 10 rock samples. Note that all MS/MSD samples were spiked with the same spike as the PLCS and underwent the MAE process in the same manner as all PLCS samples and rock field samples. Stone has developed a set of MAE-specific control limits for the PLCS based on recovery data from past PLCS samples as well as those from this project. PLCS and MS/MSD sample recoveries were evaluated against Stone's MAE-specific control limits. An example of the nomenclature used for the PLCS samples is "PLCS-052214-A2", indicating that this PLCS would have been extracted on May 22, 2014 in extraction vessel "A2".

Samples were analyzed by EPA SW846 Method 8260 (gas chromatography / mass spectrometry (GC/MS)) set in selective ion monitoring (SIM) mode for 20 target volatile organic compounds (VOCs) in accordance with Stone's Standard Operating Procedure (SOP) SEI-10.15.11, "The Determination of Volatile Organic Compounds By GC/MS (SW846 USEPA Method 8260C)". All manual integrations have been checked and marked as reviewed by the secondary data reviewer.

Stone's Method 8260C (GC/MS) is provided under the National Environmental Laboratory Accreditation Program (NELAP) fields of testing. The analytical results associated with the samples presented in this report were generated under a quality system that adheres to requirements specified in the NELAP standards. Results for the quality control (QC) samples (continuing calibration verification samples (VSTD), laboratory control samples (LCS), laboratory method blanks (VBLK), matrix spike and matrix spike duplicate samples (MS/MSDs), PLCS and PBLK samples) are provided in the Quality Control Summaries section of this report. All QA/QC results associated with these data were found to be within the tolerances set forth in SOP SEI-10.15.11 and NELAP standards. Exceptions are noted below:

- PLCS Deficiencies:
    - No deficiencies noted.
- PBLK Deficiencies:
    - No deficiencies noted.
- ICAL Deficiencies:
    - No deficiencies noted.
- VSTD Deficiencies:
    - No deficiencies noted.
- LCS Deficiencies:
- No deficiencies noted.

- VBLK Deficiencies:
    - No deficiencies noted.
- MS/MSD Deficiencies:
    - The relative percent difference (RPD) between the MS and MSD recoveries of 1,1,2-trichloroethane in sample 200-SB-6-41.90-VOC was 73%, which is greater than the acceptable RPD limit of 50%. No data were qualified on this basis.
- Surrogate Standard and Internal Standard Deficiencies:
    - No deficiencies.
- PLCS Deficiencies:
    - No deficiencies noted.
- PBLK Deficiencies:
    - No deficiencies noted.

Sample 200-SB-6-53.40-VOC was very clayey and was, as a result, difficult to transfer from its sample vial to the extraction vessel. In the transfer process, some of the rock material could not be removed from the vial and was left behind. Due to this incomplete sample transfer, all analytical results for this sample have been flagged as estimated using the J qualifier.

When applicable, the final results were annotated with the following codes:

U - The analyte was analyzed for, but was not detected above the reported quantitation limit.

J - The reported result is an estimated value (e.g., matrix interference was observed or the analyte was positively identified, but the associated numerical value is between the method detection limit and reporting limit).

Q - One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

B - Indicates the analyte was found in the associated laboratory blank as well as the sample.

E - Estimated value, marginally above the calibration levels.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: _____

Morgan Greenwald, Laboratory QA Manager, Stone Environmental, Inc.

# SAMPLE LOGIN SUMMARY

Sample Login Summary

Sample Weights Summary

Chain of Custody Records

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temp Units | Lab ID Parent | Custody ID | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-102 | 200-SB-6 | 020.50 | Rock | 200-SB-6-20.50-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:11 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-103 | 200-SB-6 | 021.60 | Rock | 200-SB-6-21.60-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:13 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-104 | 200-SB-7 | 174.10 | Rock | 200-SB-7-174.10-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:26 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-105 | 200-SB-7 | 175.30 | Rock | 200-SB-7-175.30-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:27 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-106 | 200-SB-7 | 176.90 | Rock | 200-SB-7-176.90-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:29 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-107 | 200-SB-7 | 178.15 | Rock | 200-SB-7-178.15-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:53 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-108 | 200-SB-7 | 180.10 | Rock | 200-SB-7-180.10-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:55 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-109 | 200-SB-7 | 180.60 | Rock | 200-SB-7-180.60-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 11:58 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-110 | 200-SB-7 | 182.10 | Rock | 200-SB-7-182.10-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 12:36 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-111 | 200-SB-7 | 182.90 | Rock | 200-SB-7-182.90-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 12:37 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-112 | 200-SB-7 | 183.60 | Rock | 200-SB-7-183.60-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 12:39 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-113 | 200-SB-7 | 184.20 | Rock | 200-SB-7-184.20-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 12:40 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-114 | 200-SB-7 | 185.40 | Rock | 200-SB-7-185.40-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 12:41 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-115 | 200-SB-7 | 187.30 | Rock | 200-SB-7-187.30-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 1:09 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-116 | 200-SB-7 | 188.20 | Rock | 200-SB-7-188.20-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 1:11 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-117 | 200-SB-7 | 188.80 | Rock | 200-SB-7-188.80-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 1:12 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-118 | 200-SB-7 | 189.80 | Rock | 200-SB-7-189.80-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 1:14 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-119 | 200-SB-7 | 193.10 | Rock | 200-SB-7-193.10-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 2:58 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-120 | 200-SB-7 | 194.00 | Rock | 200-SB-7-194.00-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 3:00 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-121 | 200-SB-7 | 194.50 | Rock | 200-SB-7-194.50-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 3:01 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-122 | 200-SB-7 | 196.50 | Rock | 200-SB-7-196.50-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 3:21 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-123 | 200-SB-7 | 198.60 | Rock | 200-SB-7-198.60-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 3:55 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | SEI-123 | LLI_14-037_5_1406231036_N | |
| SEI-123-MS | 200-SB-7 | 198.60 | Rock | 200-SB-7-198.60-VOC-MS | Matrix Spike | 1 | CJM | 6/21/2014 | 3:56 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | SEI-123 | LLI_14-037_5_1406231036_N | |
| SEI-123-MSD | 200-SB-7 | 198.60 | Rock | 200-SB-7-198.60-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/21/2014 | 3:56 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | SEI-123 | LLI_14-037_5_1406231036_N | |
| SEI-126 | 200-SB-7 | 199.20 | Rock | 200-SB-7-199.20-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 3:57 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-127 | 200-SB-7 | 200.50 | Rock | 200-SB-7-200.50-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 3:59 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-128 | 200-SB-7 | 200.80 | Rock | 200-SB-7-200.80-VOC | Normal Sample | 1 | CJM | 6/21/2014 | 4:00 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-129 | EB | 000.01 | Rock | EB-13 | Equipment Blank | 1 | CJM | 6/23/2014 | 7:19 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-130 | EB | 000.02 | Rock | EB-14 | Equipment Blank | 1 | CJM | 6/23/2014 | 10:08 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-131 | FD | 000.01 | Rock | FD-06 | Field Duplicate | 1 | CJM | 6/21/2014 | 11:55 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 6.4 | C | | LLI_14-037_5_1406231036_N | |
| SEI-132 | TB | 000.01 | Rock | TB-05 | Trip Blank | 1 | TWM | 6/23/2014 | 10:15 AM | SEI-6.37.x | HDE | 6/30/2014 | 11:50 AM | 6.4 | C | | 5 | |
| SEI-133 | 200-SB-6 | 022.80 | Rock | 200-SB-6-22.80-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:15 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-134 | 200-SB-6 | 026.40 | Rock | 200-SB-6-26.40-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:37 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-135 | 200-SB-6 | 027.00 | Rock | 200-SB-6-27.00-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:39 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-136 | 200-SB-6 | 027.90 | Rock | 200-SB-6-27.90-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:40 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-137 | 200-SB-6 | 028.60 | Rock | 200-SB-6-28.60-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:43 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-138 | 200-SB-6 | 029.50 | Rock | 200-SB-6-29.50-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 8:44 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-139 | 200-SB-6 | 033.00 | Rock | 200-SB-6-33.00-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:01 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-140 | 200-SB-6 | 033.50 | Rock | 200-SB-6-33.50-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:02 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-141 | 200-SB-6 | 034.40 | Rock | 200-SB-6-34.40-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:04 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-142 | 200-SB-6 | 035.80 | Rock | 200-SB-6-35.80-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:05 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-143 | 200-SB-6 | 037.50 | Rock | 200-SB-6-37.50-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:27 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-144 | 200-SB-6 | 038.30 | Rock | 200-SB-6-38.30-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:28 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-145 | 200-SB-6 | 039.80 | Rock | 200-SB-6-39.80-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:29 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-146 | 200-SB-6 | 040.40 | Rock | 200-SB-6-40.40-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:31 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-147 | 200-SB-6 | 041.90 | Rock | 200-SB-6-41.90-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 9:43 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | SEI-147 | LLI_14-037_6_1406231200 | |
| SEI-147-MS | 200-SB-6 | 041.90 | Rock | 200-SB-6-41.90-VOC-MS | Matrix Spike | 1 | CJM | 6/23/2014 | 9:44 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | SEI-147 | LLI_14-037_6_1406231200 | |
| SEI-147-MSD | 200-SB-6 | 041.90 | Rock | 200-SB-6-41.90-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/23/2014 | 9:45 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | SEI-147 | LLI_14-037_6_1406231200 | |
| SEI-150 | 200-SB-6 | 042.90 | Rock | 200-SB-6-42.90-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:03 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-151 | 200-SB-6 | 043.30 | Rock | 200-SB-6-43.30-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:04 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-152 | FD | 000.02 | Rock | FD-07 | Field Duplicate | 1 | CJM | 6/23/2014 | 10:05 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-153 | 200-SB-6 | 046.50 | Rock | 200-SB-6-46.50-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:45 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-154 | 200-SB-6 | 047.10 | Rock | 200-SB-6-47.10-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:46 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-155 | 200-SB-6 | 047.65 | Rock | 200-SB-6-47.65-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:48 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-156 | 200-SB-6 | 048.65 | Rock | 200-SB-6-48.65-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:50 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-157 | 200-SB-6 | 049.70 | Rock | 200-SB-6-49.70-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 10:51 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-158 | 200-SB-6 | 051.20 | Rock | 200-SB-6-51.20-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 11:10 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-159 | 200-SB-6 | 051.60 | Rock | 200-SB-6-51.60-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 11:12 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-160 | 200-SB-6 | 053.40 | Rock | 200-SB-6-53.40-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 11:33 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-161 | EB | 000.03 | Rock | EB-10 | Equipment Blank | 1 | CJM | 6/21/2014 | 10:52 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-162 | EB | 000.04 | Rock | EB-11 | Equipment Blank | 1 | CJM | 6/21/2014 | 3:04 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-163 | EB | 000.05 | Rock | EB-12 | Equipment Blank | 1 | CJM | 6/21/2014 | 4:16 PM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-164 | EB | 000.06 | Rock | EB-15 | Equipment Blank | 1 | CJM | 6/23/2014 | 11:39 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13 | C | | LLI_14-037_6_1406231200 | |
| SEI-165 | TB | 000.06 | Rock | TB-06 | Trip Blank | 1 | CJM | 6/23/2014 | 11:43 AM | SEI-6.37.x | HDE | 6/24/2014 | 11:50 AM | 13.0 | C | | LLI_14-037_6_1406231200 | sample not on COC, but present in cooler. |
| SEI-166 | MB | 000.01 | Rock | MB-1 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:31 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-167 | MB | 000.02 | Rock | MB-2 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:24 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temp Units | Lab ID Parent | Custody ID | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-168 | MB | 000.03 | Rock | MB-3 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:31 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10.0 | C | | | Fedex sample shipment delayed by one day. |
| SEI-169 | MB | 000.04 | Rock | MB-4 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:31 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-170 | MB | 000.05 | Rock | MB-5 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:34 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-171 | MB | 000.06 | Rock | MB-6 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:50 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-172 | MB | 000.07 | Rock | MB-7 | Methanol Blank | 1 | CJM | 6/16/2014 | 4:53 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-173 | MB | 000.08 | Rock | MB-8 | Methanol Blank | 1 | CJM | 6/20/2014 | 8:26 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-174 | MB | 000.09 | Rock | MB-9 | Methanol Blank | 1 | CJM | 6/20/2014 | 8:26 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-175 | MB | 000.10 | Rock | MB-10 | Methanol Blank | 1 | CJM | 6/24/2014 | 11:39 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-176 | MB | 000.11 | Rock | MB-11 | Methanol Blank | 1 | CJM | 6/24/2014 | 11:41 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-177 | MB | 000.12 | Rock | MB-12 | Methanol Blank | 1 | CJM | 6/24/2014 | 11:52 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-178 | WB | 000.01 | Rock | WB-01 | Methanol Blank | 1 | CJM | 6/16/2014 | 6:30 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-179 | WB | 000.02 | Rock | WB-02 | Methanol Blank | 1 | CJM | 6/23/2014 | 12:00 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | Fedex sample shipment delayed by one day. |
| SEI-180 | TB | 000.11 | Rock | TB-11 | Trip Blank | 1 | CJM | 6/25/2014 | 1:20 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 10 | C | | | |

14-037: Navarro White Sands CORE
Sample Weights Summary: SDG-2

| Lab ID | Sample Name | Container ID | Initial Mass (g) | Final Vial Mass (g) | Final Sample Weight (g) |
|---|---|---|---|---|---|
| SEI-102 | 200-SB-6-20.50-VOC | VOC-0181 | 40.58 | 56.51 | 15.93 |
| SEI-103 | 200-SB-6-21.60-VOC | VOC-0182 | 40.40 | 64.27 | 23.87 |
| SEI-104 | 200-SB-7-174.10-VOC | VOC-0154 | 40.76 | 64.48 | 23.72 |
| SEI-105 | 200-SB-7-175.30-VOC | VOC-0155 | 40.39 | 61.79 | 21.40 |
| SEI-106 | 200-SB-7-176.90-VOC | VOC-0156 | 41.00 | 63.87 | 22.87 |
| SEI-107 | 200-SB-7-178.15-VOC | VOC-0157 | 41.12 | 65.43 | 24.31 |
| SEI-108 | 200-SB-7-180.10-VOC | VOC-0158 | 40.72 | 69.00 | 28.28 |
| SEI-109 | 200-SB-7-180.60-VOC | VOC-0160 | 40.76 | 59.67 | 18.91 |
| SEI-110 | 200-SB-7-182.10-VOC | VOC-0161 | 40.08 | 64.29 | 24.21 |
| SEI-111 | 200-SB-7-182.90-VOC | VOC-0162 | 39.94 | 60.86 | 20.92 |
| SEI-112 | 200-SB-7-183.60-VOC | VOC-0163 | 40.43 | 68.89 | 28.46 |
| SEI-113 | 200-SB-7-184.20-VOC | VOC-0164 | 40.45 | 60.02 | 19.57 |
| SEI-114 | 200-SB-7-185.40-VOC | VOC-0165 | 40.25 | 60.76 | 20.51 |
| SEI-115 | 200-SB-7-187.30-VOC | VOC-0166 | 40.48 | 65.67 | 25.19 |
| SEI-116 | 200-SB-7-188.20-VOC | VOC-0167 | 40.27 | 68.12 | 27.85 |
| SEI-117 | 200-SB-7-188.80-VOC | VOC-0168 | 40.33 | 68.92 | 28.59 |
| SEI-118 | 200-SB-7-189.80-VOC | VOC-0169 | 40.17 | 68.40 | 28.23 |
| SEI-119 | 200-SB-7-193.10-VOC | VOC-0171 | 40.45 | 58.37 | 17.92 |
| SEI-120 | 200-SB-7-194.00-VOC | VOC-0172 | 40.27 | 63.47 | 23.20 |
| SEI-121 | 200-SB-7-194.50-VOC | VOC-0173 | 40.26 | 64.90 | 24.64 |
| SEI-122 | 200-SB-7-196.50-VOC | VOC-0174 | 40.31 | 66.30 | 25.99 |
| SEI-123 | 200-SB-7-198.60-VOC | VOC-0175 | 40.07 | 72.39 | 32.32 |
| SEI-123-MS | 200-SB-7-198.60-VOC-MS | VOC-0176 | 40.26 | 64.62 | 24.36 |
| SEI-123-MSD | 200-SB-7-198.60-VOC-MSD | VOC-0177 | 39.95 | 60.97 | 21.02 |
| SEI-126 | 200-SB-7-199.20-VOC | VOC-0178 | 39.96 | 60.53 | 20.57 |
| SEI-127 | 200-SB-7-200.50-VOC | VOC-0179 | 40.16 | 69.02 | 28.86 |
| SEI-128 | 200-SB-7-200.80-VOC | VOC-0180 | 40.38 | 62.39 | 22.01 |
| SEI-129 | EB-13 | VOC-0114 | 41.11 | | 15.00 |
| SEI-130 | EB-14 | VOC-0115 | 41.13 | | 15.00 |
| SEI-131 | FD-06 | VOC-0159 | 41.25 | 65.90 | 24.65 |
| SEI-132 | TB-05 | | | | 15.00 |
| SEI-133 | 200-SB-6-22.80-VOC | VOC-0183 | 40.93 | 62.33 | 21.40 |
| SEI-134 | 200-SB-6-26.40-VOC | VOC-0184 | 40.54 | 64.39 | 23.85 |
| SEI-135 | 200-SB-6-27.00-VOC | VOC-0185 | 40.54 | 64.09 | 23.55 |
| SEI-136 | 200-SB-6-27.90-VOC | VOC-0186 | 40.56 | 67.24 | 26.68 |
| SEI-137 | 200-SB-6-28.60-VOC | VOC-0187 | 40.66 | 65.34 | 24.68 |
| SEI-138 | 200-SB-6-29.50-VOC | VOC-0188 | 40.57 | 64.72 | 24.15 |
| SEI-139 | 200-SB-6-33.00-VOC | VOC-0189 | 40.87 | 63.57 | 22.70 |
| SEI-140 | 200-SB-6-33.50-VOC | VOC-0190 | 40.73 | 73.10 | 32.37 |
| SEI-141 | 200-SB-6-34.40-VOC | VOC-0191 | 40.43 | 68.17 | 27.74 |
| SEI-142 | 200-SB-6-35.80-VOC | VOC-0192 | 40.57 | 64.80 | 24.23 |
| SEI-143 | 200-SB-6-37.50-VOC | VOC-0193 | 40.69 | 60.25 | 19.56 |
| SEI-144 | 200-SB-6-38.30-VOC | VOC-0194 | 40.72 | 62.18 | 21.46 |
| SEI-145 | 200-SB-6-39.80-VOC | VOC-0195 | 40.24 | 71.60 | 31.36 |
| SEI-146 | 200-SB-6-40.40-VOC | VOC-0198 | 40.08 | 57.10 | 17.02 |

14-037: Navarro White Sands CORE
Sample Weights Summary: SDG-2

| Lab ID | Sample Name | Container ID | Initial Mass (g) | Final Vial Mass (g) | Final Sample Weight (g) |
|---|---|---|---|---|---|
| SEI-147 | 200-SB-6-41.90-VOC | VOC-0199 | 40.58 | 73.85 | 33.27 |
| SEI-147-MS | 200-SB-6-41.90-VOC-MS | VOC-0200 | 40.23 | 59.72 | 19.49 |
| SEI-147-MSD | 200-SB-6-41.90-VOC-MSD | VOC-0201 | 40.62 | 67.15 | 26.53 |
| SEI-150 | 200-SB-6-42.90-VOC | VOC-0202 | 40.74 | 67.17 | 26.43 |
| SEI-151 | 200-SB-6-43.30-VOC | VOC-0203 | 40.63 | 65.40 | 24.77 |
| SEI-152 | FD-07 | VOC-0204 | 40.69 | 70.70 | 30.01 |
| SEI-153 | 200-SB-6-46.50-VOC | VOC-0206 | 40.33 | 64.93 | 24.60 |
| SEI-154 | 200-SB-6-47.10-VOC | VOC-0207 | 40.64 | 66.31 | 25.67 |
| SEI-155 | 200-SB-6-47.65-VOC | VOC-0208 | 40.92 | 63.94 | 23.02 |
| SEI-156 | 200-SB-6-48.65-VOC | VOC-0209 | 40.08 | 62.02 | 21.94 |
| SEI-157 | 200-SB-6-49.70-VOC | VOC-0210 | 40.25 | 66.28 | 26.03 |
| SEI-158 | 200-SB-6-51.20-VOC | VOC-0211 | 40.56 | 60.35 | 19.79 |
| SEI-159 | 200-SB-6-51.60-VOC | VOC-0212 | 40.53 | 69.55 | 29.02 |
| SEI-160 | 200-SB-6-53.40-VOC | VOC-0213 | 40.52 | 66.54 | 26.02 |
| SEI-161 | EB-10 | VOC-0111 | 41.05 | | 15.00 |
| SEI-162 | EB-11 | VOC-0112 | 41.20 | | 15.00 |
| SEI-163 | EB-12 | VOC-0113 | 41.18 | | 15.00 |
| SEI-164 | EB-15 | VOC-0116 | 41.44 | | 15.00 |
| SEI-165 | TB-06 | | | | 15.00 |
| SEI-166 | MB-1 | | | | 15.00 |
| SEI-167 | MB-2 | | | | 15.00 |
| SEI-168 | MB-3 | | | | 15.00 |
| SEI-169 | MB-4 | | | | 15.00 |
| SEI-170 | MB-5 | | | | 15.00 |
| SEI-171 | MB-6 | | | | 15.00 |
| SEI-172 | MB-7 | | | | 15.00 |
| SEI-173 | MB-8 | | | | 15.00 |
| SEI-174 | MB-9 | | | | 15.00 |
| SEI-175 | MB-10 | | | | 15.00 |
| SEI-176 | MB-11 | | | | 15.00 |
| SEI-177 | MB-12 | | | | 15.00 |
| SEI-178 | WB-01 | | | | 15.00 |
| SEI-179 | WB-02 | | | | 15.00 |
| SEI-180 | TB-11 | | | | 15.00 |

# Chain of Custody Record

Chain of Custody Record SDG--2

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | sample mass (g) | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction SEI # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-~~5~~6-20.50-VOC HE, 9/18/14 | | Rock VOC | VOC-0181 | 40mL VOA | 1 | 6/23/2014 | 08:11 | MeOH | MAE 102 | VOCs Rock |
| 200-SB-~~5~~6-21.60-VOC HE, 9/18/14 | | Rock VOC | VOC-0182 | 40mL VOA | 1 | 6/23/2014 | 08:13 | MeOH | MAE 103 | VOCs Rock |
| 200-SB-7-173.70-VOC-MS | 63.53 | Rock VOC | VOC-0152 | 40mL VOA | 1 | 6/21/2014 | 11:24 | MeOH | MAE ~~62~~ 100-MS | VOCs Rock |
| 200-SB-7-173.70-VOC-MSD | 63.39 | Rock VOC | VOC-0153 | 40mL VOA | 1 | 6/21/2014 | 11:25 | MeOH | MAE ~~62~~ 100-MSD | VOCs Rock |
| 200-SB-7-174.10-VOC | | Rock VOC | VOC-0154 | 40mL VOA | 1 | 6/21/2014 | 11:26 | MeOH | MAE 104 | VOCs Rock |
| 200-SB-7-175.30-VOC | | Rock VOC | VOC-0155 | 40mL VOA | 1 | 6/21/2014 | 11:27 | MeOH | MAE 105 | VOCs Rock |
| 200-SB-7-176.90-VOC | | Rock VOC | VOC-0156 | 40mL VOA | 1 | 6/21/2014 | 11:29 | MeOH | MAE 106 | VOCs Rock |
| 200-SB-7-178.15-VOC | | Rock VOC | VOC-0157 | 40mL VOA | 1 | 6/21/2014 | 11:53 | MeOH | MAE 107 | VOCs Rock |
| 200-SB-7-180.10-VOC | | Rock VOC | VOC-0158 | 40mL VOA | 1 | 6/21/2014 | 11:55 | MeOH | MAE 108 | VOCs Rock |
| FD-06 | | Rock VOC | VOC-0159 | 40mL VOA | 1 | 6/21/2014 | 11:55 | MeOH | MAE 131 | VOCs Rock |
| 200-SB-7-180.60-VOC | | Rock VOC | VOC-0160 | 40mL VOA | 1 | 6/21/2014 | 11:58 | MeOH | MAE 109 | VOCs Rock |
| 200-SB-7-182.10-VOC | | Rock VOC | VOC-0161 | 40mL VOA | 1 | 6/21/2014 | 12:36 | MeOH | MAE 110 | VOCs Rock |
| 200-SB-7-182.90-VOC | | Rock VOC | VOC-0162 | 40mL VOA | 1 | 6/21/2014 | 12:37 | MeOH | MAE 111 | VOCs Rock |
| 200-SB-7-183.60-VOC | | Rock VOC | VOC-0163 | 40mL VOA | 1 | 6/21/2014 | 12:39 | MeOH | MAE 112 | VOCs Rock |
| 200-SB-7-184.20-VOC | | Rock VOC | VOC-0164 | 40mL VOA | 1 | 6/21/2014 | 12:40 | MeOH | MAE 113 | VOCs Rock |

Monday, June 23, 2014

+ Logged in to SDG-1 1 MS w/ Parent

Cooler ID 5

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SET # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-185.40-VOC | Rock VOC | VOC-0165 | 40mL VOA | 1 | 6/21/2014 | 12:41 | MeOH | MAE | 114 | VOCs Rock |
| 200-SB-7-187.30-VOC | Rock VOC | VOC-0166 | 40mL VOA | 1 | 6/21/2014 | 13:09 | MeOH | MAE | 115 | VOCs Rock |
| 200-SB-7-188.20-VOC | Rock VOC | VOC-0167 | 40mL VOA | 1 | 6/21/2014 | 13:11 | MeOH | MAE | 116 | VOCs Rock |
| 200-SB-7-188.80-VOC | Rock VOC | VOC-0168 | 40mL VOA | 1 | 6/21/2014 | 13:12 | MeOH | MAE | 117 | VOCs Rock |
| 200-SB-7-189.80-VOC | Rock VOC | VOC-0169 | 40mL VOA | 1 | ~~12/30/1899~~ 6/21/14 | 13:14 | MeOH | MAE | 118 | VOCs Rock |
| 200-SB-7-193.10-VOC | Rock VOC | VOC-0171 | 40mL VOA | 1 | 6/21/2014 | 14:58 | MeOH | MAE | 119 | VOCs Rock |
| 200-SB-7-194.00-VOC | Rock VOC | VOC-0172 | 40mL VOA | 1 | 6/21/2014 | 15:00 | MeOH | MAE | 120 | VOCs Rock |
| 200-SB-7-194.50-VOC | Rock VOC | VOC-0173 | 40mL VOA | 1 | 6/21/2014 | 15:01 | MeOH | MAE | 121 | VOCs Rock |
| 200-SB-7-196.50-VOC | Rock VOC | VOC-0174 | 40mL VOA | 1 | 6/21/2014 | 15:21 | MeOH | MAE | 122 | VOCs Rock |
| 200-SB-7-198.60-VOC | Rock VOC | VOC-0175 | 40mL VOA | 1 | 6/21/2014 | 15:55 | MeOH | MAE | 123 | VOCs Rock |
| 200-SB-7-198.60-VOC-MS | Rock VOC | VOC-0176 | 40mL VOA | 1 | 6/21/2014 | 15:56 | MeOH | MAE | 123-MS | VOCs Rock |
| 200-SB-7-198.60-VOC-MSD | Rock VOC | VOC-0177 | 40mL VOA | 1 | 6/21/2014 | 15:56 | MeOH | MAE | 123-MSD | VOCs Rock |
| 200-SB-7-199.20-VOC | Rock VOC | VOC-0178 | 40mL VOA | 1 | 6/21/2014 | 15:57 | MeOH | MAE | 126 | VOCs Rock |
| 200-SB-7-200.50-VOC | Rock VOC | VOC-0179 | 40mL VOA | 1 | 6/21/2014 | 15:59 | MeOH | MAE | 127 | VOCs Rock |
| 200-SB-7-200.80-VOC | Rock VOC | VOC-0180 | 40mL VOA | 1 | 6/21/2014 | 16:00 | MeOH | MAE | 128 | VOCs Rock |
| EB-13 | Equip Blank | VOC-0114 | 40mL VOA | 1 | 6/23/2014 | 07:19 | MeOH | None | 129 | VOCs Rock |
| EB-14 | Equip Blank | VOC-0115 | 40mL VOA | 1 | 6/23/2014 | 10:08 | MeOH | None | 130 | VOCs Rock |

| | | |
|---|---|---|
| Relinquished By: | Date/Time: 6/23/14 | Sample Integrity: |
| Received By: | Date/Time: 6/24/14 1150 | Temperature: 6.4°C |
| Relinquished By: | Date/Time: | In Tact: X |
| Received By: | Date/Time: | On Ice: X Ice Packs: X |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *TB-05 | TB | VOC-205 | " | " | 6/23/14 | 1015 | " | " | " | " |

Monday, June 23, 2014

Cooler ID 5

SET 1-132



* Sample in cooler but not on COC

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SET-# | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-~~5~~-22.80-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0183 | 40mL VOA | 1 | 6/23/2014 | 08:15 | MeOH | MAE | 133 | VOCs Rock |
| 200-SB-~~5~~-27.00-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0185 | 40mL VOA | 1 | 6/23/2014 | 08:39 | MeOH | MAE | 135 | VOCs Rock |
| 200-SB-~~5~~-28.60-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0187 | 40mL VOA | 1 | 6/23/2014 | 08:43 | MeOH | MAE | 137 | VOCs Rock |
| 200-SB-~~5~~-29.50-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0188 | 40mL VOA | 1 | 6/23/2014 | 08:44 | MeOH | MAE | 138 | VOCs Rock |
| EB-15 | Equip Blank | VOC-0116 | 40mL VOA | 1 | 6/23/2014 | 11:39 | MeOH | None | 164 | VOCs Rock |
| 200-SB-~~5~~-34.40-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0191 | 40mL VOA | 1 | 6/23/2014 | 09:04 | MeOH | MAE | 141 | VOCs Rock |
| 200-SB-~~5~~-33.50-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0190 | 40mL VOA | 1 | 6/23/2014 | 09:02 | MeOH | MAE | 140 | VOCs Rock |
| 200-SB-~~5~~-35.80-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0192 | 40mL VOA | 1 | 6/23/2014 | 09:05 | MeOH | MAE | 142 | VOCs Rock |
| 200-SB-~~5~~-27.90-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0186 | 40mL VOA | 1 | 6/23/2014 | 08:40 | MeOH | MAE | 136 | VOCs Rock |
| 200-SB-~~5~~-38.30-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0194 | 40mL VOA | 1 | 6/23/2014 | 09:28 | MeOH | MAE | 144 | VOCs Rock |
| 200-SB-~~5~~-26.40-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0184 | 40mL VOA | 1 | 6/23/2014 | 08:37 | MeOH | MAE | 134 | VOCs Rock |
| 200-SB-~~5~~-41.90-VOC-MSD (6 HE, 9/18/14) | Rock VOC | VOC-0201 | 40mL VOA | 1 | 6/23/2014 | 09:45 | MeOH | MAE | 147-MSD | VOCs Rock |
| EB-10 | Equip Blank | VOC-0111 | 40mL VOA | 1 | 6/21/2014 | 10:52 | MeOH | None | 161 | VOCs Rock |
| 200-SB-~~5~~-40.40-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0198 | 40mL VOA | 1 | 6/23/2014 | 09:31 | MeOH | MAE | 146 | VOCs Rock |
| 200-SB-~~5~~-33.00-VOC (6 HE, 9/18/14) | Rock VOC | VOC-0189 | 40mL VOA | 1 | 6/23/2014 | 09:01 | MeOH | MAE | 139 | VOCs Rock |

Monday, June 23, 2014

Cooler ID 6

| Sample ID | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction SET-II | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|
| EB-11 | Equip Blank | VOC-0112 | 40mL VOA | 1 | 6/21/2014 | 15:04 | MeOH | None 162 | VOCs Rock |
| 200-SB-~~5~~-37.50-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0193 | 40mL VOA | 1 | 6/23/2014 | 09:27 | MeOH | MAE 143 | VOCs Rock |
| EB-12 | Equip Blank | VOC-0113 | 40mL VOA | 1 | 6/21/2014 | 16:16 | MeOH | None 163 | VOCs Rock |
| 200-SB-~~5~~-41.90-VOC-MS (6 HE; 9/18/14) | Rock VOC | VOC-0200 | 40mL VOA | 1 | 6/23/2014 | 09:44 | MeOH | MAE 147-MS | VOCs Rock |
| 200-SB-~~5~~-51.60-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0212 | 40mL VOA | 1 | 6/23/2014 | 11:12 | MeOH | MAE 159 | VOCs Rock |
| 200-SB-~~5~~-39.80-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0195 | 40mL VOA | 1 | 6/23/2014 | 09:29 | MeOH | MAE 145 | VOCs Rock |
| 200-SB-~~5~~-49.70-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0210 | 40mL VOA | 1 | 6/23/2014 | 10:51 | MeOH | MAE 157 | VOCs Rock |
| 200-SB-~~5~~-41.90-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0199 | 40mL VOA | 1 | 6/23/2014 | 09:43 | MeOH | MAE 147 | VOCs Rock |
| 200-SB-~~5~~-48.65-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0209 | 40mL VOA | 1 | 6/23/2014 | 10:50 | MeOH | MAE 156 | VOCs Rock |
| FD-07 | Rock VOC | VOC-0204 | 40mL VOA | 1 | 6/23/2014 | 10:05 | MeOH | MAE 152 | VOCs Rock |
| 200-SB-~~5~~-47.65-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0208 | 40mL VOA | 1 | 6/23/2014 | 10:48 | MeOH | MAE 155 | VOCs Rock |
| 200-SB-~~5~~-46.50-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0206 | 40mL VOA | 1 | 6/23/2014 | 10:45 | MeOH | MAE 153 | VOCs Rock |
| 200-SB-~~5~~-43.30-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0203 | 40mL VOA | 1 | 6/23/2014 | 10:04 | MeOH | MAE 151 | VOCs Rock |
| 200-SB-~~5~~-42.90-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0202 | 40mL VOA | 1 | 6/23/2014 | 10:03 | MeOH | MAE 150 | VOCs Rock |
| 200-SB-~~5~~-47.10-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0207 | 40mL VOA | 1 | 6/23/2014 | 10:46 | MeOH | MAE 154 | VOCs Rock |
| 200-SB-~~5~~-51.20-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0211 | 40mL VOA | 1 | 6/23/2014 | 11:10 | MeOH | MAE 158 | VOCs Rock |
| 200-SB-~~5~~-53.40-VOC (6 HE; 9/18/14) | Rock VOC | VOC-0213 | 40mL VOA | 1 | 6/23/2014 | 11:33 | MeOH | MAE 160 | VOCs Rock |

| | | | |
|---|---|---|---|
| Relinquished By: [signature] | Date/Time: 6/23/14 1300 | Sample Integrity: | |
| Received By: [signature] | Date/Time: 6/24/14 1150 | Temperature: 13.0 °C | |
| Relinquished By: | Date/Time: | In Tact: | |
| Received By: | Date/Time: | On Ice: ____ Ice Packs: ✓ | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| KTB-06 | Rock VOC | VOC-214 | " | " | 6/23/14 | 1143 | " | " 165 | " |

Monday, June 23, 2014 Cooler ID 6 15 of 54

Page 2 of 2

* sample not on COC but present in cooler

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.4417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| | SET-# | | | | | | | Mass (g) |
|---|---|---|---|---|---|---|---|---|
| WB-01 | 178 | Wash Meoh Blank | VOC-2 ~~341~~ 341 HE 7/11/14 | 6/16/14 | 1830 | MeOH | | 44.74 |
| WB-02 | 179 | Wash Meoh Blank | VOC-321 | 6/23/14 | 1200 | | | 42.29 |

| Sample ID | SET-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Mass (g) | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|---|
| _MB-1 | 166 | MeOH Blank | VOC-0001 | 40mL VOA | 1 | 6/16/2014 | 16:31 | MeOH | None | 41.17 | VOCs Rock |
| _MB-10 | 175 | MeOH Blank | VOC-0332 | 40mL VOA | 1 | 6/24/2014 | 11:39 | MeOH | None | 44.22 | VOCs Rock |
| _MB-11 | 176 | MeOH Blank | VOC-0333 | 40mL VOA | 1 | 6/24/2014 | 11:41 | MeOH | None | 39.06 | VOCs Rock |
| _MB-12 | 177 | MeOH Blank | VOC-0398 | 40mL VOA | 1 | 6/24/2014 | 11:52 | MeOH | None | 45.20 | VOCs Rock |
| _MB-2 | 167 | MeOH Blank | VOC-0064 | 40mL VOA | 1 | 6/16/2014 | 16:24 | MeOH | None | 40.25 | VOCs Rock |
| _MB-3 | 168 | MeOH Blank | VOC-0065 | 40mL VOA | 1 | 6/16/2014 | 16:31 | MeOH | None | 46.39 | VOCs Rock |
| _MB-4 | 169 | MeOH Blank | VOC-0128 | 40mL VOA | 1 | 6/16/2014 | 16:31 | MeOH | None | 38.86 | VOCs Rock |
| _MB-5 | 170 | MeOH Blank | VOC-0129 | 40mL VOA | 1 | 6/16/2014 | 16:34 | MeOH | None | 44.32 | VOCs Rock |
| _MB-6 | 171 | MeOH Blank | VOC-0196 | 40mL VOA | 1 | 6/16/2014 | 16:50 | MeOH | None | 35.03 | VOCs Rock |
| _MB-7 | 172 | MeOH Blank | VOC-0197 | 40mL VOA | 1 | 6/16/2014 | 16:53 | MeOH | None | 40.54 | VOCs Rock |
| _MB-8 | 173 | MeOH Blank | VOC-0265 | 40mL VOA | 1 | 6/20/2014 | 20:26 | MeOH | None | 43.21 | VOCs Rock |
| _MB-9 | 174 | MeOH Blank | VOC-0266 | 40mL VOA | 1 | 6/20/2014 | 20:26 | MeOH | None | 37.59 | VOCs Rock |

| | | | |
|---|---|---|---|
| Relinquished By: | | Date/Time: 6/25/14 | Sample Integrity: |
| Received By: | | Date/Time: 6/27/14 : 1400 | Temperature: 10°C |
| Relinquished By: | | Date/Time: | In Tact: |
| Received By: | | Date/Time: | On Ice: _____ Ice Packs: X |

| | SET-# | | | | | | |
|---|---|---|---|---|---|---|---|
| TB-11 | Trip Blank | 180 | VOC-355 | 6/25/14 | 1320 | MEOH | 41.58 |

# LABORATORY ANALYTICAL RESULTS

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 9/18/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/23/2014 - 06/23/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/02/2014 - 07/03/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 020.50 | | 021.60 | | 022.80 | | 026.40 | | 027.00 | | 027.90 | | 028.60 | | 029.50 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-20.50-VOC | | 200-SB-6-21.60-VOC | | 200-SB-6-22.80-VOC | | 200-SB-6-26.40-VOC | | 200-SB-6-27.00-VOC | | 200-SB-6-27.90-VOC | | 200-SB-6-28.60-VOC | | 200-SB-6-29.50-VOC | |
| **Analysis Date** | | 07/02/14 17:41 | N | 07/02/14 17:59 | N | 07/03/14 11:27 | N | 07/03/14 11:46 | N | 07/03/14 12:04 | N | 07/03/14 12:23 | N | 07/03/14 12:42 | N | 07/03/14 13:00 | N |
| Chloromethane | 74-87-3 | 251 | U | 168 | U | 187 | U | 168 | U | 170 | U | 150 | U | 162 | U | 166 | U |
| Trichlorofluoromethane | 75694 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| 1,1-Dichloroethene | 75-35-4 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Methylene Chloride | 75-09-2 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| t-Butyl-methyl ether | 1634-04-4 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Chloroform | 67-66-3 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| 2-Butanone | 78-93-3 | 1000 | U | 670 | U | 748 | U | 671 | U | 679 | U | 600 | U | 648 | U | 663 | U |
| Benzene | 71-43-2 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| 1,2-Dichloroethane | 107-06-2 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Trichloroethene | 79-01-6 | 59.8 | J | 93.8 | | 83.0 | | 120 | | 147 | | 120 | | 101 | | 117 | |
| Bromodichloromethane | 75-27-4 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Toluene | 108-88-3 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Tetrachloroethene | 127-18-4 | 100 | U | 67.0 | U | 74.8 | U | 36.2 | J | 46.2 | J | 54.0 | J | 64.8 | U | 40.7 | J |
| Dibromochloromethane | 124-48-1 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Chlorobenzene | 108-90-7 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| m,p-Xylenes | 136777612 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Bromoform | 75-25-2 | 100 | U | 67.0 | U | 74.8 | U | 67.1 | U | 67.9 | U | 60.0 | U | 64.8 | U | 66.3 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 91 | % | 86 | % | 89 | % | 93 | % | 92 | % | 92 | % | 93 | % | 89 | % |

| **Depth** | | 033.00 | | 033.50 | | 034.40 | | 035.80 | | 037.50 | | 038.30 | | 039.80 | | 040.40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-6-33.00-VOC | | 200-SB-6-33.50-VOC | | 200-SB-6-34.40-VOC | | 200-SB-6-35.80-VOC | | 200-SB-6-37.50-VOC | | 200-SB-6-38.30-VOC | | 200-SB-6-39.80-VOC | | 200-SB-6-40.40-VOC | |
| **Analysis Date** | | 07/03/14 13:19 | N | 07/03/14 13:38 | N | 07/03/14 13:56 | N | 07/03/14 14:15 | N | 07/03/14 14:34 | N | 07/03/14 14:52 | N | 07/03/14 15:11 | N | 07/03/14 15:29 | N |
| Chloromethane | 74-87-3 | 176 | U | 124 | U | 144 | U | 165 | U | 204 | U | 186 | U | 128 | U | 235 | U |
| Trichlorofluoromethane | 75694 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 70.5 | U | 31.1 | J | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Methylene Chloride | 75-09-2 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Chloroform | 67-66-3 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| 2-Butanone | 78-93-3 | 705 | U | 494 | U | 577 | U | 660 | U | 818 | U | 746 | U | 510 | U | 940 | U |
| Benzene | 71-43-2 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Trichloroethene | 79-01-6 | 227 | | 54.9 | | 116 | | 465 | | 320 | | 121 | | 293 | | 203 | |
| Bromodichloromethane | 75-27-4 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Toluene | 108-88-3 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Tetrachloroethene | 127-18-4 | 62.0 | J | 49.4 | U | 57.7 | U | 121 | | 69.5 | J | 74.6 | U | 57.9 | | 94.0 | U |
| Dibromochloromethane | 124-48-1 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Chlorobenzene | 108-90-7 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| m,p-Xylenes | 136777612 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Bromoform | 75-25-2 | 70.5 | U | 49.4 | U | 57.7 | U | 66.0 | U | 81.8 | U | 74.6 | U | 51.0 | U | 94.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 88 | % | 93 | % | 88 | % | 84 | % | 88 | % | 90 | % | 91 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 9/18/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/23/2014 - 06/23/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/02/2014 - 07/03/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 041.90 | | 042.90 | | 043.30 | | 046.50 | | 047.10 | | 047.65 | | 048.65 | | 049.70 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-6-41.90-VOC | | 200-SB-6-42.90-VOC | | 200-SB-6-43.30-VOC | | 200-SB-6-46.50-VOC | | 200-SB-6-47.10-VOC | | 200-SB-6-47.65-VOC | | 200-SB-6-48.65-VOC | | 200-SB-6-49.70-VOC | |
| **Analysis Date** | | 07/03/14 15:48 | N | 07/03/14 16:43 | N | 07/03/14 17:02 | N | 07/03/14 17:39 | N | 07/03/14 17:57 | N | 07/03/14 18:15 | N | 07/03/14 18:33 | N | 07/03/14 18:52 | N |
| Chloromethane | 74-87-3 | 120 | U | 151 | U | 161 | U | 163 | U | 156 | U | 174 | U | 182 | U | 154 | U |
| Trichlorofluoromethane | 75694 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| 1,1-Dichloroethene | 75-35-4 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Methylene Chloride | 75-09-2 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| t-Butyl-methyl ether | 1634-04-4 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Chloroform | 67-66-3 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| 2-Butanone | 78-93-3 | 481 | U | 605 | U | 646 | U | 650 | U | 623 | U | 695 | U | 729 | U | 615 | U |
| Benzene | 71-43-2 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| 1,2-Dichloroethane | 107-06-2 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Trichloroethene | 79-01-6 | 153 | | 180 | | 188 | | 118 | | 167 | | 137 | | 68.9 | J | 48.9 | J |
| Bromodichloromethane | 75-27-4 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Toluene | 108-88-3 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Tetrachloroethene | 127-18-4 | 34.4 | J | 40.9 | J | 42.3 | J | 65.0 | U | 37.1 | J | 36.8 | J | 72.9 | U | 61.5 | U |
| Dibromochloromethane | 124-48-1 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Chlorobenzene | 108-90-7 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| m,p-Xylenes | 136777612 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Bromoform | 75-25-2 | 48.1 | U | 60.5 | U | 64.6 | U | 65.0 | U | 62.3 | U | 69.5 | U | 72.9 | U | 61.5 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 87 | % | 85 | % | 87 | % | 88 | % | 87 | % | 85 | % | 85 | % | 87 | % |

| **Depth** | | 051.20 | | 051.60 | | 053.40 | |
|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-6-51.20-VOC | | 200-SB-6-51.60-VOC | | 200-SB-6-53.40-VOC | |
| **Analysis Date** | | 07/03/14 19:10 | N | 07/03/14 19:27 | N | 07/03/14 19:45 | N |
| Chloromethane | 74-87-3 | 202 | U | 138 | U | 154 | UJ |
| Trichlorofluoromethane | 75694 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| 1,1-Dichloroethene | 75-35-4 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Methylene Chloride | 75-09-2 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| t-Butyl-methyl ether | 1634-04-4 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Chloroform | 67-66-3 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| 1,1,1-Trichloroethane | 71-55-6 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| 2-Butanone | 78-93-3 | 808 | U | 551 | U | 615 | UJ |
| Benzene | 71-43-2 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| 1,2-Dichloroethane | 107-06-2 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Trichloroethene | 79-01-6 | 110 | | 39.1 | J | 129 | J |
| Bromodichloromethane | 75-27-4 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Toluene | 108-88-3 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| 1,1,2-Trichloroethane | 79-00-5 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Tetrachloroethene | 127-18-4 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Dibromochloromethane | 124-48-1 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Chlorobenzene | 108-90-7 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| m,p-Xylenes | 136777612 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Bromoform | 75-25-2 | 80.8 | U | 55.1 | U | 61.5 | UJ |
| Bromofluorobenzene (SS) | 460-00-4 | 85 | % | 84 | % | 88 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/28/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/21/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/02/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 174.10 | | 175.30 | | 176.90 | | 178.15 | | 180.10 | | 180.60 | | 182.10 | | 182.90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-7-174.10-VOC | | 200-SB-7-175.30-VOC | | 200-SB-7-176.90-VOC | | 200-SB-7-178.15-VOC | | 200-SB-7-180.10-VOC | | 200-SB-7-180.60-VOC | | 200-SB-7-182.10-VOC | | 200-SB-7-182.90-VOC | |
| **Analysis Date** | | 07/01/14 15:50 | N | 07/01/14 16:09 | N | 07/01/14 16:27 | N | 07/01/14 16:46 | N | 07/01/14 17:05 | N | 07/01/14 17:42 | N | 07/01/14 18:00 | N | 07/01/14 18:55 | N |
| Chloromethane | 74-87-3 | 169 | U | 187 | U | 175 | U | 165 | U | 141 | U | 212 | U | 165 | U | 191 | U |
| Trichlorofluoromethane | 75694 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| 1,1-Dichloroethene | 75-35-4 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Methylene Chloride | 75-09-2 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| t-Butyl-methyl ether | 1634-04-4 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Chloroform | 67-66-3 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| 2-Butanone | 78-93-3 | 675 | U | 748 | U | 700 | U | 658 | U | 566 | U | 846 | U | 661 | U | 765 | U |
| Benzene | 71-43-2 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| 1,2-Dichloroethane | 107-06-2 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Trichloroethene | 79-01-6 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Bromodichloromethane | 75-27-4 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Toluene | 108-88-3 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Tetrachloroethene | 127-18-4 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Dibromochloromethane | 124-48-1 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Chlorobenzene | 108-90-7 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| m,p-Xylenes | 136777612 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Bromoform | 75-25-2 | 67.5 | U | 74.8 | U | 70.0 | U | 65.8 | U | 56.6 | U | 84.6 | U | 66.1 | U | 76.5 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 89 | % | 92 | % | 89 | % | 91 | % | 87 | % | 89 | % | 87 | % | 89 | % |

| **Depth** | | 183.60 | | 184.20 | | 185.40 | | 187.30 | | 188.20 | | 188.80 | | 189.80 | | 193.10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-7-183.60-VOC | | 200-SB-7-184.20-VOC | | 200-SB-7-185.40-VOC | | 200-SB-7-187.30-VOC | | 200-SB-7-188.20-VOC | | 200-SB-7-188.80-VOC | | 200-SB-7-189.80-VOC | | 200-SB-7-193.10-VOC | |
| **Analysis Date** | | 07/01/14 19:14 | N | 07/01/14 19:32 | N | 07/01/14 19:50 | N | 07/02/14 11:26 | N | 07/02/14 11:46 | N | 07/02/14 13:24 | N | 07/02/14 13:43 | N | 07/02/14 14:01 | N |
| Chloromethane | 74-87-3 | 141 | U | 204 | U | 195 | U | 159 | U | 144 | U | 140 | U | 142 | U | 223 | U |
| Trichlorofluoromethane | 75694 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| 1,1-Dichloroethene | 75-35-4 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Methylene Chloride | 75-09-2 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| t-Butyl-methyl ether | 1634-04-4 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Chloroform | 67-66-3 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| 2-Butanone | 78-93-3 | 562 | U | 818 | U | 780 | U | 635 | U | 575 | U | 560 | U | 567 | U | 893 | U |
| Benzene | 71-43-2 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| 1,2-Dichloroethane | 107-06-2 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Trichloroethene | 79-01-6 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Bromodichloromethane | 75-27-4 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Toluene | 108-88-3 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Tetrachloroethene | 127-18-4 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Dibromochloromethane | 124-48-1 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Chlorobenzene | 108-90-7 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| m,p-Xylenes | 136777612 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Bromoform | 75-25-2 | 56.2 | U | 81.8 | U | 78.0 | U | 63.5 | U | 57.5 | U | 56.0 | U | 56.7 | U | 89.3 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 88 | % | 92 | % | 90 | % | 92 | % | 93 | % | 91 | % | 90 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/28/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/21/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/02/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 194.00 | | 194.50 | | 196.50 | | 198.60 | | 199.20 | | 200.50 | | 200.80 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-7-194.00-VOC | | 200-SB-7-194.50-VOC | | 200-SB-7-196.50-VOC | | 200-SB-7-198.60-VOC | | 200-SB-7-199.20-VOC | | 200-SB-7-200.50-VOC | | 200-SB-7-200.80-VOC | |
| **Analysis Date** | | 07/02/14 14:20 | N | 07/02/14 15:15 | N | 07/02/14 15:34 | N | 07/02/14 15:52 | N | 07/02/14 16:47 | N | 07/02/14 17:05 | N | 07/02/14 17:23 | N |
| Chloromethane | 74-87-3 | 172 | U | 162 | U | 154 | U | 124 | U | 194 | U | 139 | U | 182 | U |
| Trichlorofluoromethane | 75694 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| 1,1-Dichloroethene | 75-35-4 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Methylene Chloride | 75-09-2 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| t-Butyl-methyl ether | 1634-04-4 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Chloroform | 67-66-3 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| 2-Butanone | 78-93-3 | 690 | U | 649 | U | 616 | U | 495 | U | 778 | U | 554 | U | 727 | U |
| Benzene | 71-43-2 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| 1,2-Dichloroethane | 107-06-2 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Trichloroethene | 79-01-6 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Bromodichloromethane | 75-27-4 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Toluene | 108-88-3 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Tetrachloroethene | 127-18-4 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Dibromochloromethane | 124-48-1 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Chlorobenzene | 108-90-7 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| m,p-Xylenes | 136777612 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Bromoform | 75-25-2 | 69.0 | U | 64.9 | U | 61.6 | U | 49.5 | U | 77.8 | U | 55.4 | U | 72.7 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 89 | % | 92 | % | 88 | % | 86 | % | 89 | % | 85 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/28/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/21/2014 - 06/21/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/01/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | FD | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | FD-06 | | FD-07 | |
|---|---|---|---|---|---|
| **Analysis Date** | | 07/01/14 17:23 | FD | 07/03/14 17:20 | FD |
| Chloromethane | 74-87-3 | 162 | U | 133 | U |
| Trichlorofluoromethane | 75694 | 64.9 | U | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 64.9 | U | 53.3 | U |
| 1,1-Dichloroethene | 75-35-4 | 64.9 | U | 53.3 | U |
| Methylene Chloride | 75-09-2 | 64.9 | U | 53.3 | U |
| t-Butyl-methyl ether | 1634-04-4 | 64.9 | U | 53.3 | U |
| Chloroform | 67-66-3 | 64.9 | U | 53.3 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 64.9 | U | 53.3 | U |
| 2-Butanone | 78-93-3 | 649 | U | 533 | U |
| Benzene | 71-43-2 | 64.9 | U | 53.3 | U |
| 1,2-Dichloroethane | 107-06-2 | 64.9 | U | 53.3 | U |
| Trichloroethene | 79-01-6 | 64.9 | U | 170 | |
| Bromodichloromethane | 75-27-4 | 64.9 | U | 53.3 | U |
| Toluene | 108-88-3 | 64.9 | U | 53.3 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 64.9 | U | 53.3 | U |
| Tetrachloroethene | 127-18-4 | 64.9 | U | 34.9 | J |
| Dibromochloromethane | 124-48-1 | 64.9 | U | 53.3 | U |
| Chlorobenzene | 108-90-7 | 64.9 | U | 53.3 | U |
| m,p-Xylenes | 136777612 | 64.9 | U | 53.3 | U |
| Bromoform | 75-25-2 | 64.9 | U | 53.3 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 89 | % | 87 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/31/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/21/2014 - 06/23/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/02/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | EB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Sample Name | CAS # | EB-13 | | EB-14 | | EB-10 | | EB-11 | | EB-12 | | EB-15 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Analysis Date | | 07/01/14 14:34 | EB | 07/01/14 14:53 | EB | 07/02/14 10:10 | EB | 07/02/14 10:29 | EB | 07/02/14 10:48 | EB | 07/02/14 11:07 | EB |
| Chloromethane | 74-87-3 | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U |
| Trichlorofluoromethane | 75694 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Methylene Chloride | 75-09-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Chloroform | 67-66-3 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 2-Butanone | 78-93-3 | 800 | U | 800 | U | 800 | U | 800 | U | 800 | U | 800 | U |
| Benzene | 71-43-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Trichloroethene | 79-01-6 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromodichloromethane | 75-27-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Toluene | 108-88-3 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Tetrachloroethene | 127-18-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Dibromochloromethane | 124-48-1 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Chlorobenzene | 108-90-7 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| m,p-Xylenes | 136777612 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromoform | 75-25-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 91 | % | 92 | % | 90 | % | 91 | % | 91 | % | 90 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/31/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/16/2014 - 06/24/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/01/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | MB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | MB-1 | | MB-2 | | MB-3 | | MB-4 | | MB-5 | | MB-6 | | MB-7 | | MB-8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | | 07/01/14 09:33 | MB | 07/01/14 09:51 | MB | 07/01/14 10:09 | MB | 07/01/14 10:28 | MB | 07/01/14 10:47 | MB | 07/01/14 11:05 | MB | 07/01/14 11:24 | MB | 07/01/14 11:43 | MB |
| Chloromethane | 74-87-3 | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U |
| Trichlorofluoromethane | 75694 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Methylene Chloride | 75-09-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Chloroform | 67-66-3 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 2-Butanone | 78-93-3 | 800 | U | 800 | U | 800 | U | 800 | U | 800 | U | 800 | U | 800 | U | 800 | U |
| Benzene | 71-43-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Trichloroethene | 79-01-6 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromodichloromethane | 75-27-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Toluene | 108-88-3 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Tetrachloroethene | 127-18-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Dibromochloromethane | 124-48-1 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Chlorobenzene | 108-90-7 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| m,p-Xylenes | 136777612 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromoform | 75-25-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 92 | % | 90 | % | 91 | % | 90 | % | 92 | % | 90 | % | 90 | % |

| **Sample Name** | CAS # | MB-9 | | MB-10 | | MB-11 | | MB-12 | |
|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | | 07/01/14 12:02 | MB | 07/01/14 12:21 | MB | 07/01/14 12:40 | MB | 07/01/14 12:59 | MB |
| Chloromethane | 74-87-3 | 200 | U | 200 | U | 200 | U | 200 | U |
| Trichlorofluoromethane | 75694 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Methylene Chloride | 75-09-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Chloroform | 67-66-3 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 2-Butanone | 78-93-3 | 800 | U | 800 | U | 800 | U | 800 | U |
| Benzene | 71-43-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Trichloroethene | 79-01-6 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromodichloromethane | 75-27-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Toluene | 108-88-3 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Tetrachloroethene | 127-18-4 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Dibromochloromethane | 124-48-1 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Chlorobenzene | 108-90-7 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| m,p-Xylenes | 136777612 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromoform | 75-25-2 | 80.0 | U | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 90 | % | 90 | % | 90 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/31/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/23/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/02/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | TB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | TB-05 | | TB-06 | | TB-11 | |
|---|---|---|---|---|---|---|---|
| **Analysis Date** | | 07/01/14 14:15 | TB | 07/02/14 09:52 | TB | 07/01/14 13:56 | TB |
| Chloromethane | 74-87-3 | 200 | U | 200 | U | 200 | U |
| Trichlorofluoromethane | 75694 | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 80.0 | U | 80.0 | U | 80.0 | U |
| Methylene Chloride | 75-09-2 | 80.0 | U | 80.0 | U | 80.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 80.0 | U | 80.0 | U | 80.0 | U |
| Chloroform | 67-66-3 | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 80.0 | U | 80.0 | U | 80.0 | U |
| 2-Butanone | 78-93-3 | 800 | U | 800 | U | 800 | U |
| Benzene | 71-43-2 | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 80.0 | U | 80.0 | U | 80.0 | U |
| Trichloroethene | 79-01-6 | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromodichloromethane | 75-27-4 | 80.0 | U | 80.0 | U | 80.0 | U |
| Toluene | 108-88-3 | 80.0 | U | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 80.0 | U | 80.0 | U | 80.0 | U |
| Tetrachloroethene | 127-18-4 | 80.0 | U | 80.0 | U | 80.0 | U |
| Dibromochloromethane | 124-48-1 | 80.0 | U | 80.0 | U | 80.0 | U |
| Chlorobenzene | 108-90-7 | 80.0 | U | 80.0 | U | 80.0 | U |
| m,p-Xylenes | 136777612 | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromoform | 75-25-2 | 80.0 | U | 80.0 | U | 80.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 90 | % | 90 | % | 91 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML2 | **SDG:** | 2 |
| **Client:** | Navarro | **Report Date:** | 7/31/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/16/2014 - 06/23/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/01/2014 - 07/01/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | WB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Sample Name | CAS # | WB-01 | | WB-02 | |
|---|---|---|---|---|---|
| Analysis Date | | 07/01/14 13:18 | MB | 07/01/14 13:37 | MB |
| Chloromethane | 74-87-3 | 200 | U | 200 | U |
| Trichlorofluoromethane | 75694 | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 80.0 | U | 80.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 80.0 | U | 80.0 | U |
| Methylene Chloride | 75-09-2 | 80.0 | U | 80.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 80.0 | U | 80.0 | U |
| Chloroform | 67-66-3 | 80.0 | U | 80.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 80.0 | U | 80.0 | U |
| 2-Butanone | 78-93-3 | 5120 | | 4460 | |
| Benzene | 71-43-2 | 80.0 | U | 80.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 80.0 | U | 80.0 | U |
| Trichloroethene | 79-01-6 | 80.0 | U | 80.0 | U |
| Bromodichloromethane | 75-27-4 | 80.0 | U | 80.0 | U |
| Toluene | 108-88-3 | 80.0 | U | 80.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 80.0 | U | 80.0 | U |
| Tetrachloroethene | 127-18-4 | 80.0 | U | 80.0 | U |
| Dibromochloromethane | 124-48-1 | 80.0 | U | 80.0 | U |
| Chlorobenzene | 108-90-7 | 80.0 | U | 80.0 | U |
| m,p-Xylenes | 136777612 | 80.0 | U | 80.0 | U |
| Bromoform | 75-25-2 | 80.0 | U | 80.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 92 | % | 92 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

# QUALITY CONTROL SUMMARIES

Continuing Calibration Verification Summaries (VSTD)

Laboratory Method Blank Summaries (VBLK)

Laboratory Control Sample Summaries (LCS)

Prep Blank Summaries (PBLK)

Prep Control Sample Summaries (PLCS)

Matrix Spike / Matrix Spike Duplicate Sample Summaries (MS/MSD)

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: QH
Analysis Date: 07/01/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 19.53 | 2.3 |
| Chloromethane | 20.03 | -.2 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 19 | 5.0 |
| 1,1-Dichloroethene | 17.73 | 11.4 |
| Methylene Chloride | 18.81 | 6.0 |
| t-Butyl-methyl ether | 19.42 | 2.9 |
| Chloroform | 18.08 | 9.6 |
| 1,1,1-Trichloroethane | 19.76 | 1.2 |
| 2-Butanone | 196.61 | 1.7 |
| Benzene | 19.9 | .5 |
| 1,2-Dichloroethane | 19.86 | .7 |
| Trichloroethene | 19.05 | 4.8 |
| Bromodichloromethane | 20.1 | -.5 |
| Toluene | 19.39 | 3.1 |
| 1,1,2-Trichloroethane | 19.12 | 4.4 |
| Tetrachloroethene | 18.46 | 7.7 |
| Dibromochloromethane | 18.97 | 5.2 |
| Chlorobenzene | 19.41 | 3.0 |
| m,p-Xylenes | 39.44 | 1.4 |
| Bromoform | 19.01 | 4.9 |
| Bromofluorobenzene (SS) | 101.2 % | 101.2 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: QI
Analysis Date: 07/02/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 20.39 | -2.0 |
| Chloromethane | 19.84 | .8 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 19.53 | 2.3 |
| 1,1-Dichloroethene | 19.02 | 4.9 |
| Methylene Chloride | 18.44 | 7.8 |
| t-Butyl-methyl ether | 17.24 | 13.8 |
| Chloroform | 19.96 | .2 |
| 1,1,1-Trichloroethane | 21.05 | -5.3 |
| 2-Butanone | 170.72 | 14.6 |
| Benzene | 20.35 | -1.8 |
| 1,2-Dichloroethane | 17.84 | 10.8 |
| Trichloroethene | 19.78 | 1.1 |
| Bromodichloromethane | 19.17 | 4.1 |
| Toluene | 20.5 | -2.5 |
| 1,1,2-Trichloroethane | 18.93 | 5.4 |
| Tetrachloroethene | 21.21 | -6.1 |
| Dibromochloromethane | 18.28 | 8.6 |
| Chlorobenzene | 19.77 | 1.2 |
| m,p-Xylenes | 41.58 | -4.0 |
| Bromoform | 17.91 | 10.5 |
| Bromofluorobenzene (SS) | 100.4 % | 100.4 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: QJ
Analysis Date: 07/03/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 20.93 | -4.7 |
| Chloromethane | 21.2 | -6.0 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 22.16 | -10.8 |
| 1,1-Dichloroethene | 18.98 | 5.1 |
| Methylene Chloride | 20.74 | -3.7 |
| t-Butyl-methyl ether | 21.33 | -6.6 |
| Chloroform | 20.83 | -4.1 |
| 1,1,1-Trichloroethane | 21.55 | -7.8 |
| 2-Butanone | 216.95 | -8.5 |
| Benzene | 21.86 | -9.3 |
| 1,2-Dichloroethane | 22.39 | -12.0 |
| Trichloroethene | 20.44 | -2.2 |
| Bromodichloromethane | 21.21 | -6.1 |
| Toluene | 19.98 | .1 |
| 1,1,2-Trichloroethane | 19.27 | 3.7 |
| Tetrachloroethene | 20.04 | -.2 |
| Dibromochloromethane | 19.95 | .3 |
| Chlorobenzene | 20.3 | -1.5 |
| m,p-Xylenes | 41.84 | -4.6 |
| Bromoform | 19.99 | .1 |
| Bromofluorobenzene (SS) | 103.9 % | 103.9 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK QG |
| Date Analyzed | 6/30/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 2.00 | U |
| Chloromethane | 5.00 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 2.00 | U |
| 1,1-Dichloroethene | 2.00 | U |
| Methylene Chloride | 2.00 | U |
| t-Butyl-methyl ether | 2.00 | U |
| Chloroform | 2.00 | U |
| 1,1,1-Trichloroethane | 2.00 | U |
| 2-Butanone | 20.0 | U |
| Benzene | 2.00 | U |
| 1,2-Dichloroethane | 2.00 | U |
| Trichloroethene | 2.00 | U |
| Bromodichloromethane | 2.00 | U |
| Toluene | 2.00 | U |
| 1,1,2-Trichloroethane | 2.00 | U |
| Tetrachloroethene | 2.00 | U |
| Dibromochloromethane | 2.00 | U |
| Chlorobenzene | 2.00 | U |
| m,p-Xylenes | 2.00 | U |
| Bromoform | 2.00 | U |
| Bromofluorobenzene (SS) | 84 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK QH |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 107 | U |
| Chloromethane | 267 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK QI |
| Date Analyzed | 7/2/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 107 | U |
| Chloromethane | 267 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 89 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK QJ |
| Date Analyzed | 7/3/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 107 | U |
| Chloromethane | 267 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 94 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification (ICV) Sample Summary*

QC Batch: QG

Analysis Date: 06/30/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | ICV Conc.(ug/L) | ICV % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 2.00 U | 25.4 | 127 | 70-130 |
| Chloromethane | 5.00 U | 49.1 | 98 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 2.00 U | 23.6 | 118 | 70-130 |
| 1,1-Dichloroethene | 2.00 U | 25.1 | 125 | 70-130 |
| Methylene Chloride | 2.00 U | 23.6 | 118 | 60-140 |
| t-Butyl-methyl ether | 2.00 U | 23.3 | 116 | 60-140 |
| Chloroform | 2.00 U | 21.6 | 108 | 70-130 |
| 1,1,1-Trichloroethane | 2.00 U | 23.2 | 116 | 70-130 |
| 2-Butanone | 20.0 U | 220 | 110 | 60-140 |
| Benzene | 2.00 U | 22.2 | 111 | 70-130 |
| 1,2-Dichloroethane | 2.00 U | 24.6 | 123 | 70-130 |
| Trichloroethene | 2.00 U | 23.8 | 119 | 70-130 |
| Bromodichloromethane | 2.00 U | 23.4 | 117 | 70-130 |
| Toluene | 2.00 U | 20.5 | 103 | 70-130 |
| 1,1,2-Trichloroethane | 2.00 U | 21.9 | 110 | 70-130 |
| Tetrachloroethene | 2.00 U | 21.4 | 107 | 70-130 |
| Dibromochloromethane | 2.00 U | 21.5 | 108 | 70-130 |
| Chlorobenzene | 2.00 U | 22.6 | 113 | 70-130 |
| m,p-Xylenes | 2.00 U | 41.2 | 103 | 70-130 |
| Bromoform | 2.00 U | 21.4 | 107 | 70-130 |
| Bromofluorobenzene (SS) | 84 % | 108 % | 108 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: QH
Analysis Date: 07/01/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 107 U | 1370 | 129 | 70-130 |
| Chloromethane | 267 U | 2760 | 104 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 1170 | 109 | 70-130 |
| 1,1-Dichloroethene | 107 U | 1360 | 127 | 70-130 |
| Methylene Chloride | 107 U | 1160 | 109 | 60-140 |
| t-Butyl-methyl ether | 107 U | 932 | 87 | 60-140 |
| Chloroform | 107 U | 1130 | 106 | 70-130 |
| 1,1,1-Trichloroethane | 107 U | 1310 | 123 | 70-130 |
| 2-Butanone | 1070 U | 8330 | 78 | 60-140 |
| Benzene | 107 U | 1210 | 113 | 70-130 |
| 1,2-Dichloroethane | 107 U | 1120 | 105 | 70-130 |
| Trichloroethene | 107 U | 1330 | 124 | 70-130 |
| Bromodichloromethane | 107 U | 1180 | 111 | 70-130 |
| Toluene | 107 U | 1150 | 108 | 70-130 |
| 1,1,2-Trichloroethane | 107 U | 1040 | 97 | 70-130 |
| Tetrachloroethene | 107 U | 1240 | 116 | 70-130 |
| Dibromochloromethane | 107 U | 1010 | 95 | 70-130 |
| Chlorobenzene | 107 U | 1200 | 112 | 70-130 |
| m,p-Xylenes | 107 U | 2300 | 108 | 70-130 |
| Bromoform | 107 U | 948 | 89 | 70-130 |
| Bromofluorobenzene (SS) | 88 % | 108 % | 108 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Control Sample Summary*

QC Batch: QI

Analysis Date: 07/02/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 107 U | 1340 | 125 | 70-130 |
| Chloromethane | 267 U | 2730 | 102 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 1040 | 98 | 70-130 |
| 1,1-Dichloroethene | 107 U | 1320 | 123 | 70-130 |
| Methylene Chloride | 107 U | 1170 | 110 | 60-140 |
| t-Butyl-methyl ether | 107 U | 959 | 90 | 60-140 |
| Chloroform | 107 U | 1110 | 104 | 70-130 |
| 1,1,1-Trichloroethane | 107 U | 1280 | 120 | 70-130 |
| 2-Butanone | 1070 U | 8430 | 79 | 60-140 |
| Benzene | 107 U | 1190 | 111 | 70-130 |
| 1,2-Dichloroethane | 107 U | 1160 | 109 | 70-130 |
| Trichloroethene | 107 U | 1280 | 120 | 70-130 |
| Bromodichloromethane | 107 U | 1150 | 108 | 70-130 |
| Toluene | 107 U | 1150 | 108 | 70-130 |
| 1,1,2-Trichloroethane | 107 U | 1120 | 105 | 70-130 |
| Tetrachloroethene | 107 U | 1240 | 116 | 70-130 |
| Dibromochloromethane | 107 U | 1090 | 102 | 70-130 |
| Chlorobenzene | 107 U | 1210 | 114 | 70-130 |
| m,p-Xylenes | 107 U | 2290 | 107 | 70-130 |
| Bromoform | 107 U | 1020 | 96 | 70-130 |
| Bromofluorobenzene (SS) | 89 % | 107 % | 107 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Control Sample Summary*

QC Batch: QJ

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 107 U | 1370 | 129 | 70-130 |
| Chloromethane | 267 U | 2530 | 95 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 1310 | 122 | 70-130 |
| 1,1-Dichloroethene | 107 U | 1310 | 122 | 70-130 |
| Methylene Chloride | 107 U | 1060 | 100 | 60-140 |
| t-Butyl-methyl ether | 107 U | 944 | 89 | 60-140 |
| Chloroform | 107 U | 1080 | 101 | 70-130 |
| 1,1,1-Trichloroethane | 107 U | 1220 | 114 | 70-130 |
| 2-Butanone | 1070 U | 8890 | 83 | 60-140 |
| Benzene | 107 U | 1140 | 107 | 70-130 |
| 1,2-Dichloroethane | 107 U | 1180 | 111 | 70-130 |
| Trichloroethene | 107 U | 1260 | 118 | 70-130 |
| Bromodichloromethane | 107 U | 1090 | 102 | 70-130 |
| Toluene | 107 U | 1070 | 101 | 70-130 |
| 1,1,2-Trichloroethane | 107 U | 1000 | 94 | 70-130 |
| Tetrachloroethene | 107 U | 1160 | 109 | 70-130 |
| Dibromochloromethane | 107 U | 1010 | 95 | 70-130 |
| Chlorobenzene | 107 U | 1150 | 108 | 70-130 |
| m,p-Xylenes | 107 U | 2170 | 102 | 70-130 |
| Bromoform | 107 U | 971 | 91 | 70-130 |
| Bromofluorobenzene (SS) | 94 % | 101 % | 101 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## Prep *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070114-A1 |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 267 | U |
| Trichlorofluoromethane | 107 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 83 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## Prep *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070114-B1 |
| Date Analyzed | 7/1/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 267 | U |
| Trichlorofluoromethane | 107 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## Prep *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070114-C1 |
| Date Analyzed | 7/2/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 267 | U |
| Trichlorofluoromethane | 107 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070214-A1 |
| Date Analyzed | 7/3/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 267 | U |
| Trichlorofluoromethane | 107 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 89 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## Prep *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070214-B1 |
| Date Analyzed | 7/3/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 267 | U |
| Trichlorofluoromethane | 107 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 92 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070314-C1 |
| Date Analyzed | 7/3/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 267 | U |
| Trichlorofluoromethane | 107 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 107 | U |
| 1,1-Dichloroethene | 107 | U |
| Methylene Chloride | 107 | U |
| t-Butyl-methyl ether | 107 | U |
| Chloroform | 107 | U |
| 1,1,1-Trichloroethane | 107 | U |
| 2-Butanone | 1070 | U |
| Benzene | 107 | U |
| 1,2-Dichloroethane | 107 | U |
| Trichloroethene | 107 | U |
| Bromodichloromethane | 107 | U |
| Toluene | 107 | U |
| 1,1,2-Trichloroethane | 107 | U |
| Tetrachloroethene | 107 | U |
| Dibromochloromethane | 107 | U |
| Chlorobenzene | 107 | U |
| m,p-Xylenes | 107 | U |
| Bromoform | 107 | U |
| Bromofluorobenzene (SS) | 85 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070114-A2

Analysis Date: 07/01/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 267 U | 984 | 92 | 32-130 |
| Trichlorofluoromethane | 107 U | 909 | 85 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 738 | 69 | 35-130 |
| 1,1-Dichloroethene | 107 U | 1300 | 122 | 27-199 |
| Methylene Chloride | 107 U | 938 | 88 | 56-130 |
| t-Butyl-methyl ether | 107 U | 821 | 77 | 48-130 |
| Chloroform | 107 U | 1000 | 94 | 71-130 |
| 1,1,1-Trichloroethane | 107 U | 1100 | 103 | 65-130 |
| 2-Butanone | 1070 U | 6760 | 63 | 41-130 |
| Benzene | 107 U | 1310 | 123 | 71-130 |
| 1,2-Dichloroethane | 107 U | 857 | 80 | 61-130 |
| Trichloroethene | 107 U | 1090 | 102 | 71-130 |
| Bromodichloromethane | 107 U | 937 | 88 | 62-130 |
| Toluene | 107 U | 961 | 90 | 63-130 |
| 1,1,2-Trichloroethane | 107 U | 477 | 45 | 30-130 |
| Tetrachloroethene | 107 U | 1030 | 97 | 56-130 |
| Dibromochloromethane | 107 U | 720 | 68 | 40-130 |
| Chlorobenzene | 107 U | 940 | 88 | 70-130 |
| m,p-Xylenes | 107 U | 2010 | 94 | 69-130 |
| Bromoform | 107 U | 682 | 64 | 36-130 |
| Bromofluorobenzene (SS) | 83 % | 87 % | 87 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070114-B2

Analysis Date: 07/01/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 267 U | 657 | 62 | 32-130 |
| Trichlorofluoromethane | 107 U | 775 | 73 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 757 | 71 | 35-130 |
| 1,1-Dichloroethene | 107 U | 1170 | 109 | 27-199 |
| Methylene Chloride | 107 U | 830 | 78 | 56-130 |
| t-Butyl-methyl ether | 107 U | 730 | 68 | 48-130 |
| Chloroform | 107 U | 959 | 90 | 71-130 |
| 1,1,1-Trichloroethane | 107 U | 1080 | 101 | 65-130 |
| 2-Butanone | 1070 U | 6890 | 65 | 41-130 |
| Benzene | 107 U | 1030 | 96 | 71-130 |
| 1,2-Dichloroethane | 107 U | 939 | 88 | 61-130 |
| Trichloroethene | 107 U | 1080 | 101 | 71-130 |
| Bromodichloromethane | 107 U | 892 | 84 | 62-130 |
| Toluene | 107 U | 1030 | 96 | 63-130 |
| 1,1,2-Trichloroethane | 107 U | 531 | 50 | 30-130 |
| Tetrachloroethene | 107 U | 1090 | 102 | 56-130 |
| Dibromochloromethane | 107 U | 773 | 72 | 40-130 |
| Chlorobenzene | 107 U | 1040 | 98 | 70-130 |
| m,p-Xylenes | 107 U | 2220 | 104 | 69-130 |
| Bromoform | 107 U | 749 | 70 | 36-130 |
| Bromofluorobenzene (SS) | 87 % | 87 % | 87% | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070114-C2

Analysis Date: 07/02/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 267 U | 568 | 53 | 32-130 |
| Trichlorofluoromethane | 107 U | 694 | 65 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 731 | 69 | 35-130 |
| 1,1-Dichloroethene | 107 U | 1230 | 115 | 27-199 |
| Methylene Chloride | 107 U | 771 | 72 | 56-130 |
| t-Butyl-methyl ether | 107 U | 689 | 65 | 48-130 |
| Chloroform | 107 U | 846 | 79 | 71-130 |
| 1,1,1-Trichloroethane | 107 U | 1010 | 95 | 65-130 |
| 2-Butanone | 1070 U | 5860 | 55 | 41-130 |
| Benzene | 107 U | 943 | 88 | 71-130 |
| 1,2-Dichloroethane | 107 U | 820 | 77 | 61-130 |
| Trichloroethene | 107 U | 986 | 92 | 71-130 |
| Bromodichloromethane | 107 U | 787 | 74 | 62-130 |
| Toluene | 107 U | 892 | 84 | 63-130 |
| 1,1,2-Trichloroethane | 107 U | 407 | 38 | 30-130 |
| Tetrachloroethene | 107 U | 987 | 93 | 56-130 |
| Dibromochloromethane | 107 U | 670 | 63 | 40-130 |
| Chlorobenzene | 107 U | 905 | 85 | 70-130 |
| m,p-Xylenes | 107 U | 1910 | 90 | 69-130 |
| Bromoform | 107 U | 645 | 60 | 36-130 |
| Bromofluorobenzene (SS) | 88 % | 88 % | 88 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070214-A2

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 267 U | 828 | 78 | 32-130 |
| Trichlorofluoromethane | 107 U | 699 | 66 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 845 | 79 | 35-130 |
| 1,1-Dichloroethene | 107 U | 1200 | 113 | 27-199 |
| Methylene Chloride | 107 U | 979 | 92 | 56-130 |
| t-Butyl-methyl ether | 107 U | 843 | 79 | 48-130 |
| Chloroform | 107 U | 937 | 88 | 71-130 |
| 1,1,1-Trichloroethane | 107 U | 1000 | 94 | 65-130 |
| 2-Butanone | 1070 U | 9200 | 86 | 41-130 |
| Benzene | 107 U | 1030 | 97 | 71-130 |
| 1,2-Dichloroethane | 107 U | 1070 | 101 | 61-130 |
| Trichloroethene | 107 U | 991 | 93 | 71-130 |
| Bromodichloromethane | 107 U | 979 | 92 | 62-130 |
| Toluene | 107 U | 946 | 89 | 63-130 |
| 1,1,2-Trichloroethane | 107 U | 521 | 49 | 30-130 |
| Tetrachloroethene | 107 U | 982 | 92 | 56-130 |
| Dibromochloromethane | 107 U | 811 | 76 | 40-130 |
| Chlorobenzene | 107 U | 972 | 91 | 70-130 |
| m,p-Xylenes | 107 U | 2010 | 94 | 69-130 |
| Bromoform | 107 U | 797 | 75 | 36-130 |
| Bromofluorobenzene (SS) | 89 % | 94 % | 94 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070214-B2

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 267 U | 799 | 75 | 32-130 |
| Trichlorofluoromethane | 107 U | 549 | 52 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 730 | 68 | 35-130 |
| 1,1-Dichloroethene | 107 U | 1090 | 102 | 27-199 |
| Methylene Chloride | 107 U | 829 | 78 | 56-130 |
| t-Butyl-methyl ether | 107 U | 784 | 74 | 48-130 |
| Chloroform | 107 U | 918 | 86 | 71-130 |
| 1,1,1-Trichloroethane | 107 U | 980 | 92 | 65-130 |
| 2-Butanone | 1070 U | 8860 | 83 | 41-130 |
| Benzene | 107 U | 1010 | 95 | 71-130 |
| 1,2-Dichloroethane | 107 U | 994 | 93 | 61-130 |
| Trichloroethene | 107 U | 982 | 92 | 71-130 |
| Bromodichloromethane | 107 U | 935 | 88 | 62-130 |
| Toluene | 107 U | 930 | 87 | 63-130 |
| 1,1,2-Trichloroethane | 107 U | 502 | 47 | 30-130 |
| Tetrachloroethene | 107 U | 986 | 92 | 56-130 |
| Dibromochloromethane | 107 U | 774 | 73 | 40-130 |
| Chlorobenzene | 107 U | 961 | 90 | 70-130 |
| m,p-Xylenes | 107 U | 2000 | 94 | 69-130 |
| Bromoform | 107 U | 758 | 71 | 36-130 |
| Bromofluorobenzene (SS) | 92 % | 91 % | 91 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070314-C2

Analysis Date: 07/03/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 267 U | 962 | 90 | 32-130 |
| Trichlorofluoromethane | 107 U | 1030 | 96 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 107 U | 1130 | 106 | 35-130 |
| 1,1-Dichloroethene | 107 U | 1550 | 146 | 27-199 |
| Methylene Chloride | 107 U | 844 | 79 | 56-130 |
| t-Butyl-methyl ether | 107 U | 701 | 66 | 48-130 |
| Chloroform | 107 U | 954 | 89 | 71-130 |
| 1,1,1-Trichloroethane | 107 U | 1260 | 118 | 65-130 |
| 2-Butanone | 1070 U | 6140 | 58 | 41-130 |
| Benzene | 107 U | 1050 | 99 | 71-130 |
| 1,2-Dichloroethane | 107 U | 863 | 81 | 61-130 |
| Trichloroethene | 107 U | 1060 | 100 | 71-130 |
| Bromodichloromethane | 107 U | 762 | 71 | 62-130 |
| Toluene | 107 U | 1030 | 96 | 63-130 |
| 1,1,2-Trichloroethane | 107 U | 461 | 43 | 30-130 |
| Tetrachloroethene | 107 U | 1200 | 112 | 56-130 |
| Dibromochloromethane | 107 U | 697 | 65 | 40-130 |
| Chlorobenzene | 107 U | 946 | 89 | 70-130 |
| m,p-Xylenes | 107 U | 2210 | 103 | 69-130 |
| Bromoform | 107 U | 659 | 62 | 36-130 |
| Bromofluorobenzene (SS) | 85 % | 86 % | 86 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-41.90-VOC
Sample Date: 6/23/2014
Analysis Date: 07/03/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 821 | | 603 | | | |
| Trichlorofluoromethane | 48.1 U | 550 | 67 | 577 | 96 | 36 | 25 - 130 |
| Chloromethane | 120 U | 643 | 78 | 480 | 80 | 3 | 32 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 48.1 U | 594 | 72 | 589 | 98 | 31 | 35 - 130 |
| 1,1-Dichloroethene | 48.1 U | 1130 | 138 | 778 | 129 | 7 | 27 - 199 |
| Methylene Chloride | 48.1 U | 665 | 81 | 575 | 95 | 16 | 56 - 130 |
| t-Butyl-methyl ether | 48.1 U | 611 | 74 | 476 | 79 | 7 | 48 - 130 |
| Chloroform | 48.1 U | 731 | 89 | 570 | 95 | 7 | 71 - 130 |
| 1,1,1-Trichloroethane | 48.1 U | 871 | 106 | 718 | 119 | 12 | 65 - 130 |
| Benzene | 48.1 U | 821 | 100 | 664 | 110 | 10 | 71 - 130 |
| 1,2-Dichloroethane | 48.1 U | 754 | 92 | 553 | 92 | 0 | 61 - 130 |
| Trichloroethene | 153 | 937 | 96 | 790 | 106 | 10 | 71 - 130 |
| Bromodichloromethane | 48.1 U | 706 | 86 | 564 | 94 | 9 | 62 - 130 |
| Toluene | 48.1 U | 772 | 94 | 631 | 105 | 11 | 63 - 130 |
| 1,1,2-Trichloroethane | 48.1 U | 266 | 32 | 417 | 69 | 73 * | 30 - 130 |
| Tetrachloroethene | 34.4 J | 875 | 102 | 755 | 119 | 15 | 56 - 130 |
| Dibromochloromethane | 48.1 U | 574 | 70 | 476 | 79 | 12 | 40 - 130 |
| Chlorobenzene | 48.1 U | 817 | 100 | 631 | 105 | 5 | 70 - 130 |
| m,p-Xylenes | 48.1 U | 1710 | 104 | 1360 | 113 | 8 | 69 - 130 |
| Bromoform | 48.1 U | 577 | 70 | 448 | 74 | 6 | 36 - 130 |
| 2-Butanone | 481 U | 5700 | 69 | 3690 | 61 | 12 | 41 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-41.90-VOC
Sample Date: 6/23/2014
Analysis Date: 07/03/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 821 | | 603 | | | |
| Bromofluorobenzene (SS) | 87 % | 102 % | 102 % | 98 % | 98 % | 4 | 62 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-198.60-VOC
Sample Date: 6/21/2014
Analysis Date: 07/02/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 657 | | 761 | | | |
| Trichlorofluoromethane | 49.5 U | 503 | 77 | 751 | 99 | 25 | 25 - 130 |
| Chloromethane | 124 U | 393 | 60 | 481 | 63 | 5 | 32 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 49.5 U | 490 | 75 | 762 | 100 | 29 | 35 - 130 |
| 1,1-Dichloroethene | 49.5 U | 700 | 107 | 1040 | 137 | 25 | 27 - 199 |
| Methylene Chloride | 49.5 U | 501 | 76 | 551 | 72 | 5 | 56 - 130 |
| t-Butyl-methyl ether | 49.5 U | 431 | 66 | 462 | 61 | 8 | 48 - 130 |
| Chloroform | 49.5 U | 549 | 84 | 669 | 88 | 5 | 71 - 130 |
| 1,1,1-Trichloroethane | 49.5 U | 717 | 109 | 941 | 124 | 13 | 65 - 130 |
| Benzene | 49.5 U | 637 | 97 | 751 | 99 | 2 | 71 - 130 |
| 1,2-Dichloroethane | 49.5 U | 520 | 79 | 563 | 74 | 7 | 61 - 130 |
| Trichloroethene | 49.5 U | 693 | 106 | 827 | 109 | 3 | 71 - 130 |
| Bromodichloromethane | 49.5 U | 557 | 85 | 585 | 77 | 10 | 62 - 130 |
| Toluene | 49.5 U | 650 | 99 | 789 | 104 | 5 | 63 - 130 |
| 1,1,2-Trichloroethane | 49.5 U | 409 | 62 | 371 | 49 | 23 | 30 - 130 |
| Tetrachloroethene | 49.5 U | 701 | 107 | 947 | 124 | 15 | 56 - 130 |
| Dibromochloromethane | 49.5 U | 489 | 74 | 502 | 66 | 11 | 40 - 130 |
| Chlorobenzene | 49.5 U | 648 | 99 | 733 | 96 | 3 | 70 - 130 |
| m,p-Xylenes | 49.5 U | 1430 | 109 | 1700 | 112 | 3 | 69 - 130 |
| Bromoform | 49.5 U | 458 | 70 | 467 | 61 | 14 | 36 - 130 |
| 2-Butanone | 495 U | 4130 | 63 | 3900 | 51 | 21 | 41 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-198.60-VOC
Sample Date: 6/21/2014
Analysis Date: 07/02/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 657 | | 761 | | | |
| Bromofluorobenzene (SS) | 88 % | 92 % | 92 % | 86 % | 86 % | 7 | 62 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

# Final Data Report for Laboratory Services - REVISION 1

**PREPARED FOR: NAVARRO RESEARCH & ENGINEERING**

**SITE ID: NAVARRO, WHITE SANDS, NM**

**Stone Project ID: 14-037**

MobiLab™
DEFENSIBLE REAL-TIME ANALYTICS

***DATES OF PERFORMANCE: June 26 – July 15, 2014 (SDG-3)***
***REPORT DATE: September 21, 2014***

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STONE ENVIRONMENTAL INC

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DEFENSIBLE REAL-TIME ANALYTICS

STONE ENVIRONMENTAL, INC. LABORATORY

# NARRATIVE – REVISION 1

September 21, 2014

This data package presents the analytical results for rock samples analyzed by Stone Environmental, Inc. Laboratory (Stone) at Stone's Mobilab Unit 1 located in Barre, Vermont. Samples in this sample delivery group (SDG-3) were collected at the White Sands Site (Site) in Las Cruces, New Mexico by Stone personnel on June 17 – 24, 2014. A total of 66 samples are reported in this SDG. These samples were collected from boring locations 200-SB-6 and 200-SB-7, including field quality control (QC) samples. The total sample number includes 2 trip blanks, 6 equipment blanks, 2 field duplicate samples, and 2 matrix spike and matrix spike duplicate (MS/MSD) pairs.

Samples were overnight shipped via FedEx to the laboratory by Stone field personnel and received by laboratory personnel on June 26, 2014. All sample shipments in this SDG were delayed in transit by one day and were received two days later instead of overnight. Sample receipt temperatures ranged from 21.9 to 22.3 degrees C. These temperatures are above the receipt temperature acceptance limit of 10 degrees C for methanol samples. However, no data were qualified on this basis. The data may be qualified by the client at their discretion. The samples in this SDG were analyzed at Stone's Mobilab Unit 1 between July 7 and 15, 2014.

Samples were stored in a laboratory freezer upon receipt until extraction. After extraction, sample extracts were again stored in a freezer until analysis. Copies of the chains of custody (COC) as well as a summary of samples logged into Stone's laboratory information management system (LIMS) are included in the Sample Login Summary Section of this report. All sample results are reported in units of µg/kg. Rock samples are reported on a wet-weight basis (i.e., as received). In accordance with Stone's SOP SEI-10.17.1, rock samples were collected into 15 milliliters of methanol and then rinsed with an additional 5 milliliters of methanol during the sample preparation phase for the microwave assisted extraction (MAE) technique; therefore, the total volume of methanol for rock samples is 20 milliliters. All methanol blank samples (TBs, MBs and EBs) are also reported in units of µg/kg, assuming a default mass of 15 grams and a total methanol volume of 15 milliliters.

Rock samples were extracted on July 3 – 7, 2014 via the microwave assisted extraction (MAE) technique in accordance with Stone's SOP SEI-10.17.1. Samples were extracted, or prepared, in batches of up to 10 samples. A prep laboratory control sample (PLCS) and prep blank (PBLK) sample were extracted along with each batch of 10 rock samples. Note that all MS/MSD samples were spiked with the same spike as the PLCS and underwent the MAE process in the same manner as all PLCS samples and rock field samples. Stone has developed a set of MAE-specific control limits for the PLCS based on recovery data from past PLCS samples as well as those from this project. PLCS and MS/MSD sample recoveries were evaluated against Stone's MAE-specific control limits. An example of the nomenclature used for the PLCS samples is "PLCS-052214-A2", indicating that this PLCS would have been extracted on May 22, 2014 in extraction vessel "A2".

Samples were analyzed by EPA SW846 Method 8260 (gas chromatography / mass spectrometry (GC/MS)) set in selective ion monitoring (SIM) mode for 20 target volatile organic compounds (VOCs) in accordance with Stone's Standard Operating Procedure (SOP) SEI-10.15.11, "The Determination of Volatile Organic Compounds By GC/MS (SW846 USEPA Method 8260C)". All manual integrations have been checked and marked as reviewed by the secondary data reviewer.

Stone's Method 8260C (GC/MS) is provided under the National Environmental Laboratory Accreditation Program (NELAP) fields of testing. The analytical results associated with the samples presented in this report were generated under a quality system that adheres to requirements specified in the NELAP standards. Results for the quality control (QC) samples (continuing calibration verification samples (VSTD), laboratory control samples (LCS), laboratory method blanks (VBLK), matrix spike and matrix spike duplicate samples (MS/MSDs), PLCS and PBLK samples) are provided in the Quality Control Summaries section of this report. All QA/QC results associated with these data were found to be within the tolerances set forth in SOP SEI-10.15.11 and NELAP standards. Exceptions are noted below:

- PLCS Deficiencies:
    - No deficiencies noted.
- PBLK Deficiencies:
    - m+p-xylenes were detected above the method detection limit (MDL) in all of the prep blanks in this SDG. Therefore, any positive detections (>MDL) of m+p-xylenes in the rock samples in this SDG were flagged with the B qualifier.
    - 2-Butanone was detected above the method detection limit (MDL) in PBLK-070314-A1 and PBLK-070314-C1. Any positive detections (>MDL) of 2-Butanone in the samples extracted in these prep batches were flagged with the B qualifier.
    - Trichloroethene (TCE) and Tetrachloroethene (PCE) were detected above the method detection limit (MDL) in PBLK-070714-A1. Any positive detections (>MDL) of these compounds in the samples extracted in this prep batch were flagged with the B qualifier.

- Chloromethane was detected above the method detection limit (MDL) in PBLK-070714-C3. Any positive detections (>MDL) of this compound in the samples extracted in this prep batch were flagged with the B qualifier.

- ICAL Deficiencies:
  - For the initial calibration verification (ICV) sample analyzed following calibration QA40624 on June 24, 2014, trichlorofluoromethane recovery was low, failing acceptance criteria. This was determined to be due to a compromised independent stock standard for this compound. The corrective action was to order a replacement standard. The ICV sample was then remade and reanalyzed on June 30, 2014 and all compound recoveries were within acceptance criteria. No samples were analyzed between the date of calibration and the date of re-analysis of the ICV and no data were qualified on this basis.
- VSTD Deficiencies:
  - The percent difference value for trichlorofluoromethane in VSTD CL analyzed on July 9, 2014 was outside acceptance criteria (i.e., >20%). As a result, the trichlorofluoromethane results in samples analyzed in this analytical batch may be biased low. Therefore, all trichlorofluoromethane results (detections and non-detections) for samples in the affected batch were flagged with the Q qualifier.
- LCS Deficiencies:
  - The peaks for chloromethane and its associated internal standard, dichlorodifluoromethane, exhibited poor peak shape with some peak splitting for LCS CL analyzed on July 9, 2014. While the internal standard area count was within acceptance limits, it was relatively low due to the poor chromatography. All compound recoveries were within acceptance limits. Similar poor chromatography occurred with these two compounds intermittently throughout this analytical window. Therefore, all chloromethane results (detections and non-detections) in this analytical window were flagged as estimated with the Q qualifier.
- VBLK Deficiencies:
  - m+p-xylenes were detected above the method detection limit (MDL) in the VBLKs in analytical batches CK and CL on July 9, 2014. Therefore, any positive detections (>MDL) of m+p-xylenes in the samples analyzed in the affected batches were flagged with the B qualifier.
  - Chloromethane was detected above the method detection limit (MDL) in the VBLKs in the following analytical batches: Batch CM on July 11, Batch CP on July 14, and Batch CQ on July 15, 2014. Therefore, any positive detections (>MDL) of chloromethane in the samples analyzed in the affected batches were flagged with the B qualifier.

- MS/MSD Deficiencies:
    - 1,1,2-trichloroethane recovery was low (<30%) for the MSD associated with parent sample 200-SB-7-69.70-VOC. No data were qualified on this basis.
- Surrogate Standard and Internal Standard Deficiencies:
    - The area count for internal standard (IS) dichlorodifluoromethane was low (i.e., <50% of the daily VSTD IS area count) for sample 200-SB-6-55.70, analyzed on July 9, 2014. This sample was not reanalyzed. Therefore the only affected compound, chloromethane, was flagged with the Q qualifier.
    - The area count for internal standard (IS) dichlorodifluoromethane was low (i.e., <50% of the daily VSTD IS area count) for PBLK sample PBLK-070714-C3, analyzed on July 9, 2014. This sample was not reanalyzed. Therefore the only affected compound, chloromethane, was flagged with the Q qualifier.
- Sample Extraction and Analytical Deficiencies:
    - Some of the methanol from sample 200-SB-6-78.80-VOC was inadvertently spilled during the transfer from sample vial to extraction vessel. While most of the sample volume remained, all analytical results for this sample have been flagged as estimated using the J qualifier.

When applicable, the final results were annotated with the following codes:

U - The analyte was analyzed for, but was not detected above the reported quantitation limit.

J - The reported result is an estimated value (e.g., matrix interference was observed or the analyte was positively identified, but the associated numerical value is between the method detection limit and reporting limit).

Q - One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

B - Indicates the analyte was found in the associated laboratory blank as well as the sample.

E - Estimated value, marginally above the calibration levels.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: _____

Morgan Greenwald, Laboratory QA Manager, Stone Environmental, Inc.

# SAMPLE LOGIN SUMMARY

Sample Login Summary

Sample Weights Summary

Chain of Custody Records

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temp Units | Preservative | Lab ID Parent | Custody ID | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-214 | 200-SB-6 | 055.70 | Rock | 200-SB-6-55.70-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 5:13 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-215 | 200-SB-6 | 056.10 | Rock | 200-SB-6-56.10-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 5:14 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-216 | 200-SB-6 | 057.60 | Rock | 200-SB-6-57.60-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 5:16 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-217 | 200-SB-6 | 058.60 | Rock | 200-SB-6-58.60-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 5:42 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-218 | 200-SB-6 | 060.00 | Rock | 200-SB-6-60.00-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 5:43 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-219 | 200-SB-6 | 061.25 | Rock | 200-SB-6-61.25-VOC | Normal Sample | 1 | CJM | 6/23/2014 | 5:45 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-220 | 200-SB-6 | 063.20 | Rock | 200-SB-6-63.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:21 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-221 | 200-SB-6 | 064.40 | Rock | 200-SB-6-64.40-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:23 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-222 | 200-SB-6 | 064.80 | Rock | 200-SB-6-64.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:25 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-223 | 200-SB-6 | 065.20 | Rock | 200-SB-6-65.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:27 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | SEI-223 | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-223-MS | 200-SB-6 | 065.20 | Rock | 200-SB-6-65.20-VOC-MS | Matrix Spike | 1 | CJM | 6/24/2014 | 7:29 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | SEI-223 | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-223-MSD | 200-SB-6 | 065.20 | Rock | 200-SB-6-65.20-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/24/2014 | 7:29 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | SEI-223 | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-226 | 200-SB-6 | 065.60 | Rock | 200-SB-6-65.60-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:30 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-227 | 200-SB-6 | 068.50 | Rock | 200-SB-6-68.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:55 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-228 | 200-SB-6 | 069.50 | Rock | 200-SB-6-69.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:57 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-230 | 200-SB-6 | 070.70 | Rock | 200-SB-6-70.70-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 7:59 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-231 | 200-SB-6 | 071.50 | Rock | 200-SB-6-71.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 8:01 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-232 | 200-SB-6 | 072.60 | Rock | 200-SB-6-72.60-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 8:20 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-233 | 200-SB-6 | 073.10 | Rock | 200-SB-6-73.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 8:21 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-234 | 200-SB-6 | 073.80 | Rock | 200-SB-6-73.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 8:23 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-235 | 200-SB-6 | 076.10 | Rock | 200-SB-6-76.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 8:42 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-236 | 200-SB-6 | 077.20 | Rock | 200-SB-6-77.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 8:44 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-237 | 200-SB-6 | 078.40 | Rock | 200-SB-6-78.40-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 9:14 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-238 | 200-SB-6 | 078.80 | Rock | 200-SB-6-78.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 9:15 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-239 | 200-SB-6 | 079.00 | Rock | 200-SB-6-79.00-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 9:16 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-240 | 200-SB-6 | 083.80 | Rock | 200-SB-6-83.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 9:43 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-241 | 200-SB-6 | 084.20 | Rock | 200-SB-6-84.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 9:45 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-242 | 200-SB-6 | 086.60 | Rock | 200-SB-6-86.60-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:13 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-181 | 200-SB-7 | 057.40 | Rock | 200-SB-7-57.40-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 9:52 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-182 | 200-SB-7 | 058.50 | Rock | 200-SB-7-58.50-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 9:55 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-183 | 200-SB-7 | 058.75 | Rock | 200-SB-7-58.75-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 9:57 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-184 | 200-SB-7 | 059.70 | Rock | 200-SB-7-59.70-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 9:59 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-185 | 200-SB-7 | 061.40 | Rock | 200-SB-7-61.40-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 10:33 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-186 | 200-SB-7 | 062.00 | Rock | 200-SB-7-62.00-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 10:36 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-187 | 200-SB-7 | 062.40 | Rock | 200-SB-7-62.40-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 10:38 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-188 | 200-SB-7 | 064.00 | Rock | 200-SB-7-64.00-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 10:40 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-189 | 200-SB-7 | 064.50 | Rock | 200-SB-7-64.50-VOC | Normal Sample | 1 | TWM | 6/17/2014 | 10:42 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-190 | 200-SB-7 | 065.90 | Rock | 200-SB-7-65.90-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 8:12 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-191 | 200-SB-7 | 066.50 | Rock | 200-SB-7-66.50-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 8:14 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-192 | 200-SB-7 | 067.60 | Rock | 200-SB-7-67.60-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 8:16 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-194 | 200-SB-7 | 069.70 | Rock | 200-SB-7-69.70-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 12:45 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | SEI-194 | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-194-MS | 200-SB-7 | 069.70 | Rock | 200-SB-7-69.70-VOC-MS | Matrix Spike | 1 | TWM | 6/19/2014 | 12:46 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | SEI-194 | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-194-MSD | 200-SB-7 | 069.70 | Rock | 200-SB-7-69.70-VOC-MSD | Matrix Spike Duplicate | 1 | TWM | 6/19/2014 | 12:48 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | SEI-194 | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-197 | 200-SB-7 | 070.60 | Rock | 200-SB-7-70.60-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 1:12 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-198 | 200-SB-7 | 070.80 | Rock | 200-SB-7-70.80-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 1:14 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-199 | 200-SB-7 | 071.30 | Rock | 200-SB-7-71.30-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 1:25 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-200 | 200-SB-7 | 072.90 | Rock | 200-SB-7-72.90-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 1:48 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-201 | 200-SB-7 | 073.20 | Rock | 200-SB-7-73.20-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 1:50 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-202 | 200-SB-7 | 074.70 | Rock | 200-SB-7-74.70-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 1:51 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-203 | 200-SB-7 | 075.50 | Rock | 200-SB-7-75.30-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 2:15 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-204 | 200-SB-7 | 077.80 | Rock | 200-SB-7-77.80-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 2:32 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-205 | 200-SB-7 | 080.70 | Rock | 200-SB-7-80.70-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:26 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-206 | 200-SB-7 | 080.90 | Rock | 200-SB-7-80.90-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:27 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-207 | 200-SB-7 | 081.30 | Rock | 200-SB-7-81.30-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:29 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-208 | 200-SB-7 | 082.00 | Rock | 200-SB-7-82.00-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:31 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-209 | 200-SB-7 | 083.10 | Rock | 200-SB-7-83.10-VOC | Normal Sample | 1 | TWM | 6/19/2014 | 4:32 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-210 | EB | 000.01 | Rock | EB-01 | Equipment Blank | 1 | TWM | 6/19/2014 | 8:45 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-211 | EB | 000.02 | Rock | EB-02 | Equipment Blank | 1 | TWM | 6/19/2014 | 8:02 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-212 | EB | 000.03 | Rock | EB-03 | Equipment Blank | 1 | TWM | 6/19/2014 | 2:03 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-243 | EB | 000.04 | Rock | EB-16 | Equipment Blank | 1 | CJM | 6/23/2014 | 5:49 PM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-244 | EB | 000.05 | Rock | EB-17 | Equipment Blank | 1 | CJM | 6/24/2014 | 6:17 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-245 | EB | 000.06 | Rock | EB-18 | Equipment Blank | 1 | CJM | 6/24/2014 | 9:47 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-193 | 200-SB-7 | 000.01 | Rock | FD-01 | Field Duplicate | 1 | TWM | 6/19/2014 | 8:17 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-229 | 200-SB-6 | 000.02 | Rock | FD-08 | Field Duplicate | 1 | CJM | 6/24/2014 | 7:58 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |
| SEI-213 | TB | 000.01 | Rock | TB-01 | Trip Blank | 1 | TWM | 6/19/2014 | 8:49 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 22.3 | C | MeOH | | LLI_14-037_1_1406201923 | Sample shipment delayed by 1 day |
| SEI-246 | TB | 000.02 | Rock | TB-07 | Trip Blank | 1 | CJM | 6/24/2014 | 10:25 AM | SEI-6.37.x | HDE | 6/26/2014 | 1:22 PM | 21.9 | C | MeOH | | LLI_14-037_7_1406241049 | Sample shipment delayed by 1 day |

14-037: Navarro White Sands CORE
Sample Weight Summary: SDG-3

| Lab ID | Sample Name | Container ID | Initial Mass (g) | Final Vial Mass (g) | Final Sample Weight (g) |
|---|---|---|---|---|---|
| SEI-214 | 200-SB-6-55.70-VOC | VOC-0215 | 40.77 | 61.4 | 20.63 |
| SEI-215 | 200-SB-6-56.10-VOC | VOC-0216 | 40.69 | 68.46 | 27.77 |
| SEI-216 | 200-SB-6-57.60-VOC | VOC-0217 | 40.11 | 62.42 | 22.31 |
| SEI-217 | 200-SB-6-58.60-VOC | VOC-0218 | 40.58 | 60.02 | 19.44 |
| SEI-218 | 200-SB-6-60.00-VOC | VOC-0219 | 40.71 | 65.2 | 24.49 |
| SEI-219 | 200-SB-6-61.25-VOC | VOC-0220 | 40.49 | 68.95 | 28.46 |
| SEI-220 | 200-SB-6-63.20-VOC | VOC-0221 | 40.47 | 62.33 | 21.86 |
| SEI-221 | 200-SB-6-64.40-VOC | VOC-0222 | 40.62 | 64.57 | 23.95 |
| SEI-222 | 200-SB-6-64.80-VOC | VOC-0223 | 40.51 | 67.36 | 26.85 |
| SEI-223 | 200-SB-6-65.20-VOC | VOC-0224 | 40.82 | 62.91 | 22.09 |
| SEI-223-MS | 200-SB-6-65.20-VOC-MS | VOC-0225 | 40.39 | 62.3 | 21.91 |
| SEI-223-MSD | 200-SB-6-65.20-VOC-MSD | VOC-0226 | 40.79 | 67.46 | 26.67 |
| SEI-226 | 200-SB-6-65.60-VOC | VOC-0227 | 40.51 | 55.94 | 15.43 |
| SEI-227 | 200-SB-6-68.50-VOC | VOC-0228 | 40.39 | 72.52 | 32.13 |
| SEI-228 | 200-SB-6-69.50-VOC | VOC-0229 | 40.51 | 64.46 | 23.95 |
| SEI-230 | 200-SB-6-70.70-VOC | VOC-0231 | 40.52 | 71.66 | 31.14 |
| SEI-231 | 200-SB-6-71.50-VOC | VOC-0232 | 40.51 | 68.26 | 27.75 |
| SEI-232 | 200-SB-6-72.60-VOC | VOC-0233 | 40.49 | 68.19 | 27.7 |
| SEI-233 | 200-SB-6-73.10-VOC | VOC-0234 | 40.42 | 67.47 | 27.05 |
| SEI-234 | 200-SB-6-73.80-VOC | VOC-0235 | 40.86 | 65.17 | 24.31 |
| SEI-235 | 200-SB-6-76.10-VOC | VOC-0236 | 40.78 | 63.46 | 22.68 |
| SEI-236 | 200-SB-6-77.20-VOC | VOC-0237 | 40.52 | 70.43 | 29.91 |
| SEI-237 | 200-SB-6-78.40-VOC | VOC-0238 | 40.45 | 63.46 | 23.01 |
| SEI-238 | 200-SB-6-78.80-VOC | VOC-0239 | 40.72 | 63.11 | 22.39 |
| SEI-239 | 200-SB-6-79.00-VOC | VOC-0240 | 40.12 | 60.33 | 20.21 |
| SEI-240 | 200-SB-6-83.80-VOC | VOC-0242 | 40.57 | 72.07 | 31.5 |
| SEI-241 | 200-SB-6-84.20-VOC | VOC-0243 | 40.58 | 64.49 | 23.91 |
| SEI-242 | 200-SB-6-86.60-VOC | VOC-0244 | 40.67 | 64.86 | 24.19 |
| SEI-181 | 200-SB-7-57.40-VOC | VOC-0010 | 40.9 | 73.33 | 32.43 |
| SEI-182 | 200-SB-7-58.50-VOC | VOC-0011 | 40.96 | 67.06 | 26.1 |
| SEI-183 | 200-SB-7-58.75-VOC | VOC-0012 | 40.59 | 75.19 | 34.6 |
| SEI-184 | 200-SB-7-59.70-VOC | VOC-0013 | 41.03 | 68.45 | 27.42 |
| SEI-185 | 200-SB-7-61.40-VOC | VOC-0014 | 41.03 | 63.4 | 22.37 |
| SEI-186 | 200-SB-7-62.00-VOC | VOC-0015 | 41.15 | 66.54 | 25.39 |
| SEI-187 | 200-SB-7-62.40-VOC | VOC-0016 | 41.31 | 70.4 | 29.09 |
| SEI-188 | 200-SB-7-64.00-VOC | VOC-0017 | 41.06 | 69.66 | 28.6 |
| SEI-189 | 200-SB-7-64.50-VOC | VOC-0018 | 40.96 | 67.05 | 26.09 |
| SEI-190 | 200-SB-7-65.90-VOC | VOC-0019 | 41.11 | 62.62 | 21.51 |
| SEI-191 | 200-SB-7-66.50-VOC | VOC-0020 | 40.86 | 71.98 | 31.12 |
| SEI-192 | 200-SB-7-67.60-VOC | VOC-0021 | 41.01 | 60.92 | 19.91 |
| SEI-194 | 200-SB-7-69.70-VOC | VOC-0024 | 40.92 | 73.64 | 32.72 |
| SEI-194-MS | 200-SB-7-69.70-VOC-MS | VOC-0025 | 40.8 | 50.9 | 10.1 |
| SEI-194-MSD | 200-SB-7-69.70-VOC-MSD | VOC-0026 | 41.1 | 50.2 | 9.1 |
| SEI-197 | 200-SB-7-70.60-VOC | VOC-0027 | 41.19 | 63.88 | 22.69 |
| SEI-198 | 200-SB-7-70.80-VOC | VOC-0028 | 40.49 | 64.45 | 23.96 |

14-037: Navarro White Sands CORE
Sample Weight Summary: SDG-3

| Lab ID | Sample Name | Container ID | Initial Mass (g) | Final Vial Mass (g) | Final Sample Weight (g) |
|---|---|---|---|---|---|
| SEI-199 | 200-SB-7-71.30-VOC | VOC-0029 | 41.33 | 64.64 | 23.31 |
| SEI-200 | 200-SB-7-72.90-VOC | VOC-0030 | 40.91 | 62.43 | 21.52 |
| SEI-201 | 200-SB-7-73.20-VOC | VOC-0031 | 41.08 | 66.66 | 25.58 |
| SEI-202 | 200-SB-7-74.70-VOC | VOC-0032 | 40.51 | 69.14 | 28.63 |
| SEI-203 | 200-SB-7-75.30-VOC | VOC-0033 | 40.82 | 61.56 | 20.74 |
| SEI-204 | 200-SB-7-77.80-VOC | VOC-0034 | 40.92 | 70.56 | 29.64 |
| SEI-205 | 200-SB-7-80.70-VOC | VOC-0035 | 41.23 | 66.54 | 25.31 |
| SEI-206 | 200-SB-7-80.90-VOC | VOC-0036 | 40.77 | 65.2 | 24.43 |
| SEI-207 | 200-SB-7-81.30-VOC | VOC-0037 | 40.59 | 61.89 | 21.3 |
| SEI-208 | 200-SB-7-82.00-VOC | VOC-0038 | 41.06 | 65.76 | 24.7 |
| SEI-209 | 200-SB-7-83.10-VOC | VOC-0039 | 40.98 | 70.71 | 29.73 |
| SEI-210 | EB-01 | VOC-0002 | 41.28 | | 15 |
| SEI-211 | EB-02 | VOC-0003 | 40.88 | | 15 |
| SEI-212 | EB-03 | VOC-0004 | 40.88 | | 15 |
| SEI-243 | EB-16 | VOC-0117 | 41.65 | | 15 |
| SEI-244 | EB-17 | VOC-0118 | 41.11 | | 15 |
| SEI-245 | EB-18 | VOC-0119 | 41.09 | | 15 |
| SEI-193 | FD-01 | VOC-0022 | 41.04 | 57.52 | 16.48 |
| SEI-229 | FD-08 | VOC-0230 | 40.4 | 72.46 | 32.06 |
| SEI-213 | TB-01 | VOC-0023 | 41.15 | | 15 |
| SEI-246 | TB-07 | | | | 15 |

# Chain of Custody Record

SDG-3

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | SEQ-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-57.40-VOC | 181 | Rock VOC | VOC-0010 | 40mL VOA | 1 | 6/17/2014 | 09:52 | MeOH | MAE | VOCs Rock |
| 200-SB-7-58.50-VOC | 182 | Rock VOC | VOC-0011 | 40mL VOA | 1 | 6/17/2014 | 09:55 | MeOH | MAE | VOCs Rock |
| 200-SB-7-58.75-VOC | 183 | Rock VOC | VOC-0012 | 40mL VOA | 1 | 6/17/2014 | 09:57 | MeOH | MAE | VOCs Rock |
| 200-SB-7-59.70-VOC | 184 | Rock VOC | VOC-0013 | 40mL VOA | 1 | 6/17/2014 | 09:59 | MeOH | MAE | VOCs Rock |
| 200-SB-7-61.40-VOC | 185 | Rock VOC | VOC-0014 | 40mL VOA | 1 | 6/17/2014 | 10:33 | MeOH | MAE | VOCs Rock |
| 200-SB-7-62.00-VOC | 186 | Rock VOC | VOC-0015 | 40mL VOA | 1 | 6/17/2014 | 10:36 | MeOH | MAE | VOCs Rock |
| 200-SB-7-62.40-VOC | 187 | Rock VOC | VOC-0016 | 40mL VOA | 1 | 6/17/2014 | 10:38 | MeOH | MAE | VOCs Rock |
| 200-SB-7-64.00-VOC | 188 | Rock VOC | VOC-0017 | 40mL VOA | 1 | 6/17/2014 | 10:40 | MeOH | MAE | VOCs Rock |
| 200-SB-7-64.50-VOC | 189 | Rock VOC | VOC-0018 | 40mL VOA | 1 | 6/17/2014 | 10:42 | MeOH | MAE | VOCs Rock |
| 200-SB-7-65.90-VOC | 190 | Rock VOC | VOC-0019 | 40mL VOA | 1 | 6/19/2014 | 08:12 | MeOH | MAE | VOCs Rock |
| 200-SB-7-66.50-VOC | 191 | Rock VOC | VOC-0020 | 40mL VOA | 1 | 6/19/2014 | 08:14 | MeOH | MAE | VOCs Rock |
| 200-SB-7-67.60-VOC | 192 | Rock VOC | VOC-0021 | 40mL VOA | 1 | 6/19/2014 | 08:16 | MeOH | MAE | VOCs Rock |
| FD-01 | 193 | Rock VOC | VOC-0022 | 40mL VOA | 1 | 6/19/2014 | 08:17 | MeOH | MAE | VOCs Rock |
| 200-SB-7-69.70-VOC | 194 | Rock VOC | VOC-0024 | 40mL VOA | 1 | 6/19/2014 | 12:45 | MeOH | MAE | VOCs Rock |
| 200-SB-7-69.70-VOC-MS | 194-MS | Rock VOC | VOC-0025 | 40mL VOA | 1 | 6/19/2014 | 12:46 | MeOH | MAE | VOCs Rock |

| Sample ID | SET-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-7-69.70-VOC-MSD | 194-MSD | Rock VOC | VOC-0026 | 40mL VOA | 1 | 6/19/2014 | 12:48 | MeOH | MAE | VOCs Rock |
| 200-SB-7-70.60-VOC | 197 | Rock VOC | VOC-0027 | 40mL VOA | 1 | 6/19/2014 | 13:12 | MeOH | MAE | VOCs Rock |
| 200-SB-7-70.80-VOC | 198 | Rock VOC | VOC-0028 | 40mL VOA | 1 | 6/19/2014 | 13:14 | MeOH | MAE | VOCs Rock |
| 200-SB-7-71.30-VOC | 199 | Rock VOC | VOC-0029 | 40mL VOA | 1 | 6/19/2014 | 13:25 | MeOH | MAE | VOCs Rock |
| 200-SB-7-72.90-VOC | 200 | Rock VOC | VOC-0030 | 40mL VOA | 1 | 6/19/2014 | 13:48 | MeOH | MAE | VOCs Rock |
| 200-SB-7-73.20-VOC | 201 | Rock VOC | VOC-0031 | 40mL VOA | 1 | 6/19/2014 | 13:50 | MeOH | MAE | VOCs Rock |
| 200-SB-7-74.70-VOC | 202 | Rock VOC | VOC-0032 | 40mL VOA | 1 | 6/19/2014 | 13:51 | MeOH | MAE | VOCs Rock |
| 200-SB-7-75.30-VOC | 203 | Rock VOC | VOC-0033 | 40mL VOA | 1 | 6/19/2014 | 14:15 | MeOH | MAE | VOCs Rock |
| 200-SB-7-77.80-VOC | 204 | Rock VOC | VOC-0034 | 40mL VOA | 1 | 6/19/2014 | 14:32 | MeOH | MAE | VOCs Rock |
| 200-SB-7-80.70-VOC | 205 | Rock VOC | VOC-0035 | 40mL VOA | 1 | 6/19/2014 | 16:26 | MeOH | MAE | VOCs Rock |
| 200-SB-7-80.90-VOC | 206 | Rock VOC | VOC-0036 | 40mL VOA | 1 | 6/19/2014 | 16:27 | MeOH | MAE | VOCs Rock |
| 200-SB-7-81.30-VOC | 207 | Rock VOC | VOC-0037 | 40mL VOA | 1 | 6/19/2014 | 16:29 | MeOH | MAE | VOCs Rock |
| 200-SB-7-82.00-VOC | 208 | Rock VOC | VOC-0038 | 40mL VOA | 1 | 6/19/2014 | 16:31 | MeOH | MAE | VOCs Rock |
| 200-SB-7-83.10-VOC | 209 | Rock VOC | VOC-0039 | 40mL VOA | 1 | 6/19/2014 | 16:32 | MeOH | MAE | VOCs Rock |
| EB-01 | 210 | Equip Blank | VOC-0002 | 40mL VOA | 1 | ~~12/30/1899~~ 6/19/2014 CSM | 08:45 | MeOH | None | VOCs Rock |
| EB-02 | 211 | Equip Blank | VOC-0003 | 40mL VOA | 1 | 6/19/2014 | 08:02 | MeOH | None | VOCs Rock |
| EB-03 | 212 | Equip Blank | VOC-0004 | 40mL VOA | 1 | 6/19/2014 | 14:03 | MeOH | None | VOCs Rock |
| TB-01 | 213 | Trip Blank | VOC-0023 | 40mL VOA | 1 | 6/19/2014 | 08:49 | MeOH | None | VOCs Rock |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | [signature] | Date/Time: | 6/24/14 13:00 | Sample Integrity: | |
| Received By: | [signature] | Date/Time: | 6/26/14 13:22 | Temperature: | 22.3°C |
| Relinquished By: | | Date/Time: | | In Tact: | ✓ |
| Received By: | | Date/Time: | | On Ice: | Ice Packs: ✓ |

NOTE: samples stuck in Memphis, TN and delayed by one shipping day

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | SET # | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ EB-18 | 245 | Equip Blank | VOC-0119 | 40mL VOA | 1 | 6/24/2014 | 09:47 | MeOH | None | VOCs Rock |
| ✓ 200-SB-~~5~~-83.80-VOC (6 HE: 9/15/14) | 240 | Rock VOC | VOC-0242 | 40mL VOA | 1 | 6/24/2014 | 09:43 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-84.20-VOC (6 HE: 9/15/14) | 241 | Rock VOC | VOC-0243 | 40mL VOA | 1 | 6/24/2014 | 09:45 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-79.00-VOC (6 HE: 9/15/14) | 239 | Rock VOC | VOC-0240 | 40mL VOA | 1 | 6/24/2014 | 09:16 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-86.60-VOC (6 HE: 9/15/14) | 242 | Rock VOC | VOC-0244 | 40mL VOA | 1 | 6/24/2014 | 10:13 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-78.40-VOC (6 HE: 9/15/14) | 237 | Rock VOC | VOC-0238 | 40mL VOA | 1 | 6/24/2014 | 09:14 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-69.50-VOC (6 HE: 9/15/14) | 228 | Rock VOC | VOC-0229 | 40mL VOA | 1 | 6/24/2014 | 07:57 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-70.70-VOC (6 HE: 9/15/14) | 230 | Rock VOC | VOC-0231 | 40mL VOA | 1 | 6/24/2014 | 07:59 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-73.10-VOC (6 HE: 9/15/14) | 233 | Rock VOC | VOC-0234 | 40mL VOA | 1 | 6/24/2014 | 08:21 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-76.10-VOC (6 HE: 9/15/14) | 235 | Rock VOC | VOC-0236 | 40mL VOA | 1 | 6/24/2014 | 08:42 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-72.60-VOC (6 HE: 9/15/14) | 232 | Rock VOC | VOC-0233 | 40mL VOA | 1 | 6/24/2014 | 08:20 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-78.80-VOC (6 HE: 9/15/14) | 238 | Rock VOC | VOC-0239 | 40mL VOA | 1 | 6/24/2014 | 09:15 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-77.20-VOC (6 HE: 9/15/14) | 236 | Rock VOC | VOC-0237 | 40mL VOA | 1 | 6/24/2014 | 08:44 | MeOH | MAE | VOCs Rock |
| ✓ FD-08 (6 HE: 9/15/14) | 229 | Rock VOC | VOC-0230 | 40mL VOA | 1 | 6/24/2014 | 07:58 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-71.50-VOC (6 HE: 9/15/14) | 231 | Rock VOC | VOC-0232 | 40mL VOA | 1 | 6/24/2014 | 08:01 | MeOH | MAE | VOCs Rock |

| Sample ID | SEI-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ 200-SB-~~5~~-64.40-VOC (6 HE; 9/18/14) | 221 | Rock VOC | VOC-0222 | 40mL VOA | 1 | 6/24/2014 | 07:23 | MeOH | MAE | VOCs Rock |
| ✓ EB-17 (9/18/14) | 244 | Equip Blank | VOC-0118 | 40mL VOA | 1 | 6/24/2014 | 06:17 | MeOH | None | VOCs Rock |
| ✓ 200-SB-~~5~~-65.20-VOC-MS (6 HE; 9/18/14) | 223-MS | Rock VOC | VOC-0225 | 40mL VOA | 1 | 6/24/2014 | 07:29 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-73.80-VOC (6 HE; 9/18/14) | 234 | Rock VOC | VOC-0235 | 40mL VOA | 1 | 6/24/2014 | 08:23 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-63.20-VOC (6 HE; 9/18/14) | 220 | Rock VOC | VOC-0221 | 40mL VOA | 1 | 6/24/2014 | 07:21 | MeOH | MAE | VOCs Rock |
| ✓ EB-16 (9/18/14) | 243 | Equip Blank | VOC-0117 | 40mL VOA | 1 | 6/23/2014 | 17:49 | MeOH | None | VOCs Rock |
| ✓ 200-SB-~~5~~-68.50-VOC (6 HE; 9/18/14) | 227 | Rock VOC | VOC-0228 | 40mL VOA | 1 | 6/24/2014 | 07:55 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-56.10-VOC (6 HE; 9/18/14) | 215 | Rock VOC | VOC-0216 | 40mL VOA | 1 | 6/23/2014 | 17:14 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-64.80-VOC (6 HE; 9/18/14) | 222 | Rock VOC | VOC-0223 | 40mL VOA | 1 | 6/24/2014 | 07:25 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-58.60-VOC (6 HE; 9/18/14) | 217 | Rock VOC | VOC-0218 | 40mL VOA | 1 | 6/23/2014 | 17:42 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-65.20-VOC (6 HE; 9/18/14) | 223 | Rock VOC | VOC-0224 | 40mL VOA | 1 | 6/24/2014 | 07:27 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-55.70-VOC (6 HE; 9/18/14) | 214 | Rock VOC | VOC-0215 | 40mL VOA | 1 | 6/23/2014 | 17:13 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-65.20-VOC-MSD (6 HE; 9/18/14) | 223-MSD | Rock VOC | VOC-0226 | 40mL VOA | 1 | 6/24/2014 | 07:29 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-61.25-VOC (6 HE; 9/18/14) | 219 | Rock VOC | VOC-0220 | 40mL VOA | 1 | 6/23/2014 | 17:45 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-60.00-VOC (6 HE; 9/18/14) | 218 | Rock VOC | VOC-0219 | 40mL VOA | 1 | 6/23/2014 | 17:43 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-57.60-VOC (6 HE; 9/18/14) | 216 | Rock VOC | VOC-0217 | 40mL VOA | 1 | 6/23/2014 | 17:16 | MeOH | MAE | VOCs Rock |
| ✓ 200-SB-~~5~~-65.60-VOC (6 HE; 9/18/14) | 226 | Rock VOC | VOC-0227 | 40mL VOA | 1 | 6/24/2014 | 07:30 | MeOH | MAE | VOCs Rock |

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | [signature] | Date/Time: | 6/24/14 1300 | Sample Integrity: | |
| Received By: | [signature] | Date/Time: | 6/26/14 1322 | Temperature: | 21.9°C |
| Relinquished By: | | Date/Time: | | In Tact: | ✓ |
| Received By: | | Date/Time: | | On Ice: ____ Ice Packs: | ✓ |

* TB-07 246 TB

6/24/14 NOTE: 10-25 Samples stuck in Memphis, TX overnight.

Tuesday, June 24, 2014 Cooler ID 7 15 of 65 Page 2 of 2

* TB included in shipment but not included on COC.

# LABORATORY ANALYTICAL RESULTS

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/23/2014 - 06/24/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/09/2014 - 07/11/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Depth | | 055.70 | | 056.10 | | 057.60 | | 058.60 | | 060.00 | | 061.25 | | 063.20 | | 064.40 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-6-55.70-VOC | | 200-SB-6-56.10-VOC | | 200-SB-6-57.60-VOC | | 200-SB-6-58.60-VOC | | 200-SB-6-60.00-VOC | | 200-SB-6-61.25-VOC | | 200-SB-6-63.20-VOC | | 200-SB-6-64.40-VOC | |
| Analysis Date | | 07/10/14 02:45 | N | 07/10/14 03:06 | N | 07/10/14 03:27 | N | 07/09/14 11:55 | N | 07/09/14 12:16 | N | 07/09/14 12:38 | N | 07/09/14 12:59 | N | 07/09/14 13:21 | N |
| Chloromethane | 74-87-3 | 38.8 | UQ | 28.8 | UQ | 35.9 | UQ | 42.4 | | 32.7 | U | 28.1 | U | 49.8 | | 41.4 | |
| Trichlorofluoromethane | 75694 | 38.8 | UQ | 28.8 | UQ | 35.9 | UQ | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 219 | | 328 | | 231 | | 554 | | 1100 | | 862 | | 1080 | | 446 | |
| 1,1-Dichloroethene | 75-35-4 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Methylene Chloride | 75-09-2 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| t-Butyl-methyl ether | 1634-04-4 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Chloroform | 67-66-3 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| 2-Butanone | 78-93-3 | 237 | J | 176 | J | 359 | U | 412 | U | 327 | U | 281 | U | 366 | U | 334 | U |
| Benzene | 71-43-2 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| 1,2-Dichloroethane | 107-06-2 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Trichloroethene | 79-01-6 | 921 | | 638 | | 223 | | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 52.4 | B |
| Bromodichloromethane | 75-27-4 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Toluene | 108-88-3 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Tetrachloroethene | 127-18-4 | 91.5 | | 76.3 | | 29.8 | J | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Dibromochloromethane | 124-48-1 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Chlorobenzene | 108-90-7 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| m,p-Xylenes | 136777612 | 9.31 | JB | 6.91 | JB | 8.61 | JB | 11.1 | JB | 9.15 | JB | 7.03 | JB | 8.42 | JB | 8.02 | JB |
| Bromoform | 75-25-2 | 38.8 | U | 28.8 | U | 35.9 | U | 41.2 | U | 32.7 | U | 28.1 | U | 36.6 | U | 33.4 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 93 | % | 90 | % | 88 | % | 91 | % | 90 | % | 92 | % | 91 | % | 89 | % |

| Depth | | 064.80 | | 065.20 | | 065.60 | | 068.50 | | 069.50 | | 070.70 | | 071.50 | | 072.60 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | CAS # | 200-SB-6-64.80-VOC | | 200-SB-6-65.20-VOC | | 200-SB-6-65.60-VOC | | 200-SB-6-68.50-VOC | | 200-SB-6-69.50-VOC | | 200-SB-6-70.70-VOC | | 200-SB-6-71.50-VOC | | 200-SB-6-72.60-VOC | |
| Analysis Date | | 07/09/14 13:43 | N | 07/09/14 14:05 | N | 07/09/14 15:12 | N | 07/09/14 20:08 | N | 07/09/14 20:29 | N | 07/09/14 21:12 | N | 07/09/14 21:33 | N | 07/09/14 21:54 | N |
| Chloromethane | 74-87-3 | 29.8 | U | 46.4 | | 51.8 | U | 24.9 | UQ | 33.4 | UQ | 25.7 | UQ | 28.8 | UQ | 28.9 | UQ |
| Trichlorofluoromethane | 75694 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | UQ | 33.4 | UQ | 25.7 | UQ | 28.8 | UQ | 28.9 | UQ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 508 | | 467 | | 575 | | 282 | | 184 | | 96.1 | | 39.2 | | 391 | |
| 1,1-Dichloroethene | 75-35-4 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Methylene Chloride | 75-09-2 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| t-Butyl-methyl ether | 1634-04-4 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Chloroform | 67-66-3 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| 2-Butanone | 78-93-3 | 298 | U | 362 | U | 518 | U | 249 | U | 216 | J | 257 | U | 288 | U | 289 | U |
| Benzene | 71-43-2 | 29.8 | U | 5.79 | J | 8.81 | J | 11.5 | J | 8.02 | J | 3.85 | J | 4.61 | J | 7.80 | J |
| 1,2-Dichloroethane | 107-06-2 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Trichloroethene | 79-01-6 | 40.5 | B | 53.2 | B | 64.8 | B | 191 | | 95.2 | | 62.4 | | 33.7 | | 331 | |
| Bromodichloromethane | 75-27-4 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Toluene | 108-88-3 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Tetrachloroethene | 127-18-4 | 29.8 | U | 36.2 | U | 51.8 | U | 14.2 | J | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Dibromochloromethane | 124-48-1 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Chlorobenzene | 108-90-7 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| m,p-Xylenes | 136777612 | 7.45 | JB | 9.42 | JB | 14.5 | JB | 6.97 | JB | 8.02 | JB | 6.42 | JB | 5.77 | JB | 7.80 | JB |
| Bromoform | 75-25-2 | 29.8 | U | 36.2 | U | 51.8 | U | 24.9 | U | 33.4 | U | 25.7 | U | 28.8 | U | 28.9 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 89 | % | 90 | % | 86 | % | 88 | % | 90 | % | 87 | % | 90 | % | 92 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/23/2014 - 06/24/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/09/2014 - 07/11/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 073.10 | | 073.80 | | 076.10 | | 077.20 | | 078.40 | | 078.80 | | 079.00 | | 083.80 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-6-73.10-VOC | | 200-SB-6-73.80-VOC | | 200-SB-6-76.10-VOC | | 200-SB-6-77.20-VOC | | 200-SB-6-78.40-VOC | | 200-SB-6-78.80-VOC | | 200-SB-6-79.00-VOC | | 200-SB-6-83.80-VOC | |
| **Analysis Date** | | 07/09/14 22:15 | N | 07/09/14 22:35 | N | 07/09/14 22:56 | N | 07/09/14 23:17 | N | 07/09/14 02:24 | N | 07/09/14 02:45 | N | 07/09/14 01:43 | N | 07/09/14 03:27 | N |
| Chloromethane | 74-87-3 | 29.6 | UQ | 32.9 | UQ | 35.3 | UQ | 29.7 | Q | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Trichlorofluoromethane | 75694 | 29.6 | UQ | 32.9 | UQ | 35.3 | UQ | 26.7 | UQ | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 450 | | 390 | | 151 | | 40.9 | | 34.8 | U | 35.7 | UJ | 39.6 | U | 95.5 | |
| 1,1-Dichloroethene | 75-35-4 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Methylene Chloride | 75-09-2 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| t-Butyl-methyl ether | 1634-04-4 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Chloroform | 67-66-3 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| 2-Butanone | 78-93-3 | 155 | J | 426 | | 554 | | 145 | J | 348 | U | 357 | UJ | 396 | U | 254 | U |
| Benzene | 71-43-2 | 29.6 | U | 6.25 | J | 11.6 | J | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| 1,2-Dichloroethane | 107-06-2 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Trichloroethene | 79-01-6 | 63.6 | | 45.4 | | 103 | | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 34.3 | |
| Bromodichloromethane | 75-27-4 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Toluene | 108-88-3 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Tetrachloroethene | 127-18-4 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Dibromochloromethane | 124-48-1 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Chlorobenzene | 108-90-7 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| m,p-Xylenes | 136777612 | 6.51 | JB | 6.91 | JB | 9.17 | JB | 6.42 | JB | 7.65 | JB | 7.86 | JB | 9.50 | JB | 5.33 | JB |
| Bromoform | 75-25-2 | 29.6 | U | 32.9 | U | 35.3 | U | 26.7 | U | 34.8 | U | 35.7 | UJ | 39.6 | U | 25.4 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 89 | % | 89 | % | 88 | % | 90 | % | 88 | % | 87 | % | 87 | % | 85 | % |

| **Depth** | | 084.20 | | 086.60 | |
|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-6-84.20-VOC | | 200-SB-6-86.60-VOC | |
| **Analysis Date** | | 07/11/14 17:12 | N | 07/11/14 17:34 | N |
| Chloromethane | 74-87-3 | 23.8 | JB | 26.8 | JB |
| Trichlorofluoromethane | 75694 | 33.5 | U | 33.1 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 120 | | 33.1 | U |
| 1,1-Dichloroethene | 75-35-4 | 33.5 | U | 33.1 | U |
| Methylene Chloride | 75-09-2 | 33.5 | U | 33.1 | U |
| t-Butyl-methyl ether | 1634-04-4 | 33.5 | U | 33.1 | U |
| Chloroform | 67-66-3 | 33.5 | U | 33.1 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 33.5 | U | 33.1 | U |
| 2-Butanone | 78-93-3 | 335 | U | 331 | U |
| Benzene | 71-43-2 | 33.5 | U | 33.1 | U |
| 1,2-Dichloroethane | 107-06-2 | 33.5 | U | 33.1 | U |
| Trichloroethene | 79-01-6 | 29.1 | J | 33.1 | U |
| Bromodichloromethane | 75-27-4 | 33.5 | U | 33.1 | U |
| Toluene | 108-88-3 | 33.5 | U | 33.1 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 33.5 | U | 33.1 | U |
| Tetrachloroethene | 127-18-4 | 33.5 | U | 33.1 | U |
| Dibromochloromethane | 124-48-1 | 33.5 | U | 33.1 | U |
| Chlorobenzene | 108-90-7 | 33.5 | U | 33.1 | U |
| m,p-Xylenes | 136777612 | 7.36 | JB | 7.94 | JB |
| Bromoform | 75-25-2 | 33.5 | U | 33.1 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 93 | % | 94 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 8/2/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/17/2014 - 06/19/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/07/2014 - 07/10/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 057.40 | | 058.50 | | 058.75 | | 059.70 | | 061.40 | | 062.00 | | 062.40 | | 064.00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-7-57.40-VOC | | 200-SB-7-58.50-VOC | | 200-SB-7-58.75-VOC | | 200-SB-7-59.70-VOC | | 200-SB-7-61.40-VOC | | 200-SB-7-62.00-VOC | | 200-SB-7-62.40-VOC | | 200-SB-7-64.00-VOC | |
| **Analysis Date** | | 07/07/14 19:51 | N | 07/07/14 19:30 | N | 07/08/14 19:03 | N | 07/08/14 18:42 | N | 07/08/14 18:20 | N | 07/07/14 22:58 | N | 07/07/14 22:38 | N | 07/07/14 22:17 | N |
| Chloromethane | 74-87-3 | 13.6 | J | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 18.6 | J | 27.5 | U | 28.0 | U |
| Trichlorofluoromethane | 75694 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Methylene Chloride | 75-09-2 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Chloroform | 67-66-3 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| 2-Butanone | 78-93-3 | 247 | U | 307 | U | 231 | U | 292 | U | 191 | JB | 315 | U | 275 | U | 280 | U |
| Benzene | 71-43-2 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Trichloroethene | 79-01-6 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 17.2 | J | 31.5 | U | 27.5 | U | 28.0 | U |
| Bromodichloromethane | 75-27-4 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Toluene | 108-88-3 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Tetrachloroethene | 127-18-4 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Dibromochloromethane | 124-48-1 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Chlorobenzene | 108-90-7 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| m,p-Xylenes | 136777612 | 5.67 | JB | 8.28 | JB | 4.86 | JB | 6.71 | JB | 9.30 | JB | 6.62 | JB | 5.50 | JB | 6.15 | JB |
| Bromoform | 75-25-2 | 24.7 | U | 30.7 | U | 23.1 | U | 29.2 | U | 35.8 | U | 31.5 | U | 27.5 | U | 28.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 86 | % | 86 | % | 89 | % | 86 | % | 87 | % | 86 | % | 87 | % | 86 | % |

| **Depth** | | 064.50 | | 065.90 | | 066.50 | | 067.60 | | 069.70 | | 070.60 | | 070.80 | | 071.30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-7-64.50-VOC | | 200-SB-7-65.90-VOC | | 200-SB-7-66.50-VOC | | 200-SB-7-67.60-VOC | | 200-SB-7-69.70-VOC | | 200-SB-7-70.60-VOC | | 200-SB-7-70.80-VOC | | 200-SB-7-71.30-VOC | |
| **Analysis Date** | | 07/07/14 21:56 | N | 07/07/14 21:35 | N | 07/07/14 21:14 | N | 07/07/14 20:53 | N | 07/08/14 14:59 | N | 07/08/14 16:06 | N | 07/08/14 16:28 | N | 07/08/14 16:50 | N |
| Chloromethane | 74-87-3 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Trichlorofluoromethane | 75694 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| 1,1-Dichloroethene | 75-35-4 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Methylene Chloride | 75-09-2 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| t-Butyl-methyl ether | 1634-04-4 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Chloroform | 67-66-3 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| 2-Butanone | 78-93-3 | 307 | U | 372 | U | 176 | JB | 475 | B | 244 | U | 353 | U | 334 | U | 343 | U |
| Benzene | 71-43-2 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| 1,2-Dichloroethane | 107-06-2 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Trichloroethene | 79-01-6 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Bromodichloromethane | 75-27-4 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Toluene | 108-88-3 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Tetrachloroethene | 127-18-4 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Dibromochloromethane | 124-48-1 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Chlorobenzene | 108-90-7 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| m,p-Xylenes | 136777612 | 7.05 | JB | 8.55 | JB | 6.17 | JB | 9.64 | JB | 7.82 | JB | 11.6 | JB | 10.7 | JB | 11.3 | JB |
| Bromoform | 75-25-2 | 30.7 | U | 37.2 | U | 25.7 | U | 40.2 | U | 24.4 | U | 35.3 | U | 33.4 | U | 34.3 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 83 | % | 85 | % | 86 | % | 86 | % | 87 | % | 88 | % | 87 | % | 86 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 8/2/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/17/2014 - 06/19/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/07/2014 - 07/10/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-7 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 072.90 | | 073.20 | | 074.70 | | 075.50 | | 077.80 | | 080.70 | | 080.90 | | 081.30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-7-72.90-VOC | | 200-SB-7-73.20-VOC | | 200-SB-7-74.70-VOC | | 200-SB-7-75.30-VOC | | 200-SB-7-77.80-VOC | | 200-SB-7-80.70-VOC | | 200-SB-7-80.90-VOC | | 200-SB-7-81.30-VOC | |
| **Analysis Date** | | 07/08/14 17:12 | N | 07/08/14 17:35 | N | 07/08/14 17:57 | N | 07/10/14 00:20 | N | 07/10/14 00:40 | N | 07/10/14 01:01 | N | 07/10/14 01:22 | N | 07/10/14 01:43 | N |
| Chloromethane | 74-87-3 | 26.8 | J | 23.1 | J | 27.9 | U | 56.7 | QB | 27.0 | UQ | 31.6 | UQ | 32.7 | UQ | 37.6 | UQ |
| Trichlorofluoromethane | 75694 | 37.2 | U | 31.3 | U | 78.5 | | 72.5 | Q | 27.0 | UQ | 31.6 | UQ | 32.7 | UQ | 37.6 | UQ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 37.2 | U | 31.3 | U | 19.8 | J | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| 1,1-Dichloroethene | 75-35-4 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Methylene Chloride | 75-09-2 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| t-Butyl-methyl ether | 1634-04-4 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Chloroform | 67-66-3 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| 2-Butanone | 78-93-3 | 372 | U | 313 | U | 279 | U | 386 | U | 270 | U | 316 | U | 327 | U | 376 | U |
| Benzene | 71-43-2 | 37.2 | U | 31.6 | | 27.9 | U | 38.6 | U | 27.0 | U | 6.32 | J | 32.7 | U | 37.6 | U |
| 1,2-Dichloroethane | 107-06-2 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Trichloroethene | 79-01-6 | 37.2 | U | 31.3 | U | 31.9 | | 35.1 | J | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Bromodichloromethane | 75-27-4 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Toluene | 108-88-3 | 37.2 | U | 31.3 | | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Tetrachloroethene | 127-18-4 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Dibromochloromethane | 124-48-1 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Chlorobenzene | 108-90-7 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| m,p-Xylenes | 136777612 | 11.2 | JB | 15.0 | JB | 8.38 | JB | 10.0 | JB | 7.56 | JB | 9.80 | JB | 8.19 | JB | 9.01 | JB |
| Bromoform | 75-25-2 | 37.2 | U | 31.3 | U | 27.9 | U | 38.6 | U | 27.0 | U | 31.6 | U | 32.7 | U | 37.6 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 87 | % | 87 | % | 89 | % | 88 | % | 88 | % | 88 | % | 89 | % | 87 | % |

| **Depth** | | 082.00 | | 083.10 | |
|---|---|---|---|---|---|
| **Sample Name** | CAS # | 200-SB-7-82.00-VOC | | 200-SB-7-83.10-VOC | |
| **Analysis Date** | | 07/10/14 02:04 | N | 07/10/14 02:25 | N |
| Chloromethane | 74-87-3 | 32.4 | UQ | 26.9 | UQ |
| Trichlorofluoromethane | 75694 | 32.4 | UQ | 26.9 | UQ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 32.4 | U | 26.9 | U |
| 1,1-Dichloroethene | 75-35-4 | 32.4 | U | 26.9 | U |
| Methylene Chloride | 75-09-2 | 32.4 | U | 26.9 | U |
| t-Butyl-methyl ether | 1634-04-4 | 32.4 | U | 26.9 | U |
| Chloroform | 67-66-3 | 32.4 | U | 26.9 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 32.4 | U | 26.9 | U |
| 2-Butanone | 78-93-3 | 324 | U | 269 | U |
| Benzene | 71-43-2 | 32.4 | U | 26.9 | U |
| 1,2-Dichloroethane | 107-06-2 | 32.4 | U | 26.9 | U |
| Trichloroethene | 79-01-6 | 32.4 | U | 26.9 | U |
| Bromodichloromethane | 75-27-4 | 32.4 | U | 26.9 | U |
| Toluene | 108-88-3 | 32.4 | U | 26.9 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 32.4 | U | 26.9 | U |
| Tetrachloroethene | 127-18-4 | 32.4 | U | 26.9 | U |
| Dibromochloromethane | 124-48-1 | 32.4 | U | 26.9 | U |
| Chlorobenzene | 108-90-7 | 32.4 | U | 26.9 | U |
| m,p-Xylenes | 136777612 | 8.42 | JB | 7.27 | JB |
| Bromoform | 75-25-2 | 32.4 | U | 26.9 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 85 | % | 89 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 8/2/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/24/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/15/2014 - 07/15/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | EB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | EB-01 | | EB-02 | | EB-03 | | EB-16 | | EB-17 | | EB-18 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | | 07/15/14 09:10 | EB | 07/15/14 08:49 | EB | 07/15/14 08:28 | EB | 07/15/14 09:31 | EB | 07/15/14 09:52 | EB | 07/15/14 10:13 | EB |
| Chloromethane | 74-87-3 | 24.4 | JB | 29.2 | JB | 44.4 | B | 31.6 | JB | 30.0 | JB | 45.6 | B |
| Trichlorofluoromethane | 75694 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Methylene Chloride | 75-09-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloroform | 67-66-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 2-Butanone | 78-93-3 | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U |
| Benzene | 71-43-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Trichloroethene | 79-01-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromodichloromethane | 75-27-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Toluene | 108-88-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Tetrachloroethene | 127-18-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Dibromochloromethane | 124-48-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chlorobenzene | 108-90-7 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| m,p-Xylenes | 136777612 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromoform | 75-25-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 95 | % | 97 | % | 98 | % | 97 | % | 96 | % | 101 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 8/2/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/24/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/09/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | FD | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | FD-01 | | FD-08 | |
|---|---|---|---|---|---|
| **Analysis Date** | | 07/08/14 14:36 | FD | 07/09/14 20:50 | FD |
| Chloromethane | 74-87-3 | 57.8 | | 25.0 | UQ |
| Trichlorofluoromethane | 75694 | 48.5 | U | 25.0 | UQ |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 48.5 | U | 179 | |
| 1,1-Dichloroethene | 75-35-4 | 48.5 | U | 25.0 | U |
| Methylene Chloride | 75-09-2 | 48.5 | U | 25.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 48.5 | U | 25.0 | U |
| Chloroform | 67-66-3 | 48.5 | U | 25.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 48.5 | U | 25.0 | U |
| 2-Butanone | 78-93-3 | 485 | U | 209 | J |
| Benzene | 71-43-2 | 48.5 | U | 8.48 | J |
| 1,2-Dichloroethane | 107-06-2 | 48.5 | U | 25.0 | U |
| Trichloroethene | 79-01-6 | 48.5 | U | 102 | |
| Bromodichloromethane | 75-27-4 | 48.5 | U | 25.0 | U |
| Toluene | 108-88-3 | 48.5 | U | 25.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 48.5 | U | 25.0 | U |
| Tetrachloroethene | 127-18-4 | 48.5 | U | 25.0 | U |
| Dibromochloromethane | 124-48-1 | 48.5 | U | 25.0 | U |
| Chlorobenzene | 108-90-7 | 48.5 | U | 25.0 | U |
| m,p-Xylenes | 136777612 | 15.5 | JB | 5.49 | JB |
| Bromoform | 75-25-2 | 48.5 | U | 25.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 88 | % | 90 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **SDG:** | 3 |
| **Client:** | Navarro | **Report Date:** | 8/2/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/19/2014 - 06/19/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/15/2014 - 07/15/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | TB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | **CAS #** | TB-01 | | TB-07 | |
|---|---|---|---|---|---|
| **Analysis Date** | | 07/15/14 10:55 | TB | 07/15/14 14:08 | TB |
| Chloromethane | 74-87-3 | 39.2 | JB | 40.0 | U |
| Trichlorofluoromethane | 75694 | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 40.0 | U | 40.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 40.0 | U | 40.0 | U |
| Methylene Chloride | 75-09-2 | 40.0 | U | 40.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 40.0 | U | 40.0 | U |
| Chloroform | 67-66-3 | 40.0 | U | 40.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 40.0 | U | 40.0 | U |
| 2-Butanone | 78-93-3 | 400 | U | 400 | U |
| Benzene | 71-43-2 | 40.0 | U | 40.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 40.0 | U | 40.0 | U |
| Trichloroethene | 79-01-6 | 40.0 | U | 40.0 | U |
| Bromodichloromethane | 75-27-4 | 40.0 | U | 40.0 | U |
| Toluene | 108-88-3 | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 40.0 | U | 40.0 | U |
| Tetrachloroethene | 127-18-4 | 40.0 | U | 40.0 | U |
| Dibromochloromethane | 124-48-1 | 40.0 | U | 40.0 | U |
| Chlorobenzene | 108-90-7 | 40.0 | U | 40.0 | U |
| m,p-Xylenes | 136777612 | 40.0 | U | 40.0 | U |
| Bromoform | 75-25-2 | 40.0 | U | 40.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 100 | % | 99 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

# QUALITY CONTROL SUMMARIES

Continuing Calibration Verification Summaries (VSTD)

Laboratory Method Blank Summaries (VBLK)

Laboratory Control Sample Summaries (LCS)

Prep Blank Summaries (PBLK)

Prep Control Sample Summaries (PLCS)

Matrix Spike / Matrix Spike Duplicate Sample Summaries (MS/MSD)

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CH
Analysis Date: 07/07/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Chloromethane | 19.94 | .3 |
| Trichlorofluoromethane | 16.53 | 17.4 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.85 | 10.8 |
| 1,1-Dichloroethene | 17.26 | 13.7 |
| Methylene Chloride | 19.41 | 3.0 |
| t-Butyl-methyl ether | 23.02 | -15.1 |
| Chloroform | 22.03 | -10.2 |
| 1,1,1-Trichloroethane | 18.81 | 6.0 |
| 2-Butanone | 228.66 | -14.3 |
| Benzene | 19.23 | 3.9 |
| 1,2-Dichloroethane | 19.88 | .6 |
| Trichloroethene | 19.53 | 2.3 |
| Bromodichloromethane | 21.88 | -9.4 |
| Toluene | 19.84 | .8 |
| 1,1,2-Trichloroethane | 19.85 | .7 |
| Tetrachloroethene | 17.26 | 13.7 |
| Dibromochloromethane | 21.37 | -6.9 |
| Chlorobenzene | 20.53 | -2.7 |
| m,p-Xylenes | 38.28 | 4.3 |
| Bromoform | 21.48 | -7.4 |
| Bromofluorobenzene (SS) | 100.95 % | 100.95 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CI
Analysis Date: 07/08/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Chloromethane | 22.05 | -10.3 |
| Trichlorofluoromethane | 15.44 | 22.8 * |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 18.98 | 5.1 |
| 1,1-Dichloroethene | 17.98 | 10.1 |
| Methylene Chloride | 18.56 | 7.2 |
| t-Butyl-methyl ether | 19.39 | 3.1 |
| Chloroform | 20.06 | -.3 |
| 1,1,1-Trichloroethane | 19.29 | 3.6 |
| 2-Butanone | 193.73 | 3.1 |
| Benzene | 18.66 | 6.7 |
| 1,2-Dichloroethane | 18.66 | 6.7 |
| Trichloroethene | 19.75 | 1.3 |
| Bromodichloromethane | 21.5 | -7.5 |
| Toluene | 17.15 | 14.3 |
| 1,1,2-Trichloroethane | 18.86 | 5.7 |
| Tetrachloroethene | 18.65 | 6.8 |
| Dibromochloromethane | 21.64 | -8.2 |
| Chlorobenzene | 20.42 | -2.1 |
| m,p-Xylenes | 40.68 | -1.7 |
| Bromoform | 21.62 | -8.1 |
| Bromofluorobenzene (SS) | 101.3 % | 101.3 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CJ
Analysis Date: 07/08/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 18.38 | 8.1 |
| Chloromethane | 17.55 | 12.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 23.18 | -15.9 |
| 1,1-Dichloroethene | 20.93 | -4.7 |
| Methylene Chloride | 17.64 | 11.8 |
| t-Butyl-methyl ether | 18.53 | 7.3 |
| Chloroform | 19.36 | 3.2 |
| 1,1,1-Trichloroethane | 21.73 | -8.7 |
| 2-Butanone | 165.96 | 17.0 |
| Benzene | 18.89 | 5.6 |
| 1,2-Dichloroethane | 17.33 | 13.4 |
| Trichloroethene | 20.93 | -4.7 |
| Bromodichloromethane | 19.7 | 1.5 |
| Toluene | 18.39 | 8.1 |
| 1,1,2-Trichloroethane | 18.71 | 6.5 |
| Tetrachloroethene | 21.63 | -8.2 |
| Dibromochloromethane | 21.1 | -5.5 |
| Chlorobenzene | 20.86 | -4.3 |
| m,p-Xylenes | 43.56 | -8.9 |
| Bromoform | 21.61 | -8.1 |
| Bromofluorobenzene (SS) | 98.9 % | 98.9 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CK
Analysis Date: 07/09/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Chloromethane | 20.13 | -.6 |
| Trichlorofluoromethane | 16.28 | 18.6 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 18.23 | 8.9 |
| 1,1-Dichloroethene | 17.09 | 14.6 |
| Methylene Chloride | 21.14 | -5.7 |
| t-Butyl-methyl ether | 23.28 | -16.4 |
| Chloroform | 21.28 | -6.4 |
| 1,1,1-Trichloroethane | 18.16 | 9.2 |
| 2-Butanone | 215.46 | -7.7 |
| Benzene | 18.82 | 5.9 |
| 1,2-Dichloroethane | 21.34 | -6.7 |
| Trichloroethene | 18.98 | 5.1 |
| Bromodichloromethane | 22.72 | -13.6 |
| Toluene | 16.06 | 19.7 |
| 1,1,2-Trichloroethane | 21.52 | -7.6 |
| Tetrachloroethene | 16.6 | 17.0 |
| Dibromochloromethane | 23.07 | -15.4 |
| Chlorobenzene | 20.29 | -1.5 |
| m,p-Xylenes | 36.92 | 7.7 |
| Bromoform | 23.96 | -19.8 |
| Bromofluorobenzene (SS) | 99.65 % | 99.65 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CL
Analysis Date: 07/09/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) | |
|---|---|---|---|
| Chloromethane | 22.79 | -14.0 | |
| Trichlorofluoromethane | 15.69 | 21.6 | * |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 19.4 | 3.0 | |
| 1,1-Dichloroethene | 18.55 | 7.3 | |
| Methylene Chloride | 20.47 | -2.3 | |
| t-Butyl-methyl ether | 22.89 | -14.5 | |
| Chloroform | 21.46 | -7.3 | |
| 1,1,1-Trichloroethane | 19.96 | .2 | |
| 2-Butanone | 199.3 | .3 | |
| Benzene | 19.47 | 2.7 | |
| 1,2-Dichloroethane | 20.53 | -2.7 | |
| Trichloroethene | 20.29 | -1.5 | |
| Bromodichloromethane | 22.52 | -12.6 | |
| Toluene | 17.34 | 13.3 | |
| 1,1,2-Trichloroethane | 21.29 | -6.5 | |
| Tetrachloroethene | 18.57 | 7.2 | |
| Dibromochloromethane | 23.21 | -16.1 | |
| Chlorobenzene | 21.19 | -6.0 | |
| m,p-Xylenes | 40.5 | -1.3 | |
| Bromoform | 23.87 | -19.4 | |
| Bromofluorobenzene (SS) | 102.3 % | 102.3 % | |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CP

Analysis Date: 07/14/2014

Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 20.58 | -2.9 |
| Chloromethane | 22.24 | -11.2 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 19.62 | 1.9 |
| 1,1-Dichloroethene | 20.79 | -4.0 |
| Methylene Chloride | 22.73 | -13.7 |
| t-Butyl-methyl ether | 22.32 | -11.6 |
| Chloroform | 22.71 | -13.6 |
| 1,1,1-Trichloroethane | 21.82 | -9.1 |
| 2-Butanone | 236.41 | -18.2 |
| Benzene | 20.79 | -4.0 |
| 1,2-Dichloroethane | 23.79 | -19.0 |
| Trichloroethene | 20.96 | -4.8 |
| Bromodichloromethane | 22.79 | -14.0 |
| Toluene | 18.76 | 6.2 |
| 1,1,2-Trichloroethane | 23.68 | -18.4 |
| Tetrachloroethene | 18.7 | 6.5 |
| Dibromochloromethane | 22.6 | -13.0 |
| Chlorobenzene | 20.7 | -3.5 |
| m,p-Xylenes | 37.31 | 6.7 |
| Bromoform | 23.35 | -16.8 |
| Bromofluorobenzene (SS) | 104.05 % | 104.05 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CQ
Analysis Date: 07/15/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 19.24 | 3.8 |
| Chloromethane | 22.49 | -12.5 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 16 | 20.0 |
| 1,1-Dichloroethene | 18.15 | 9.3 |
| Methylene Chloride | 21 | -5.0 |
| t-Butyl-methyl ether | 23.71 | -18.6 |
| Chloroform | 21.78 | -8.9 |
| 1,1,1-Trichloroethane | 19.42 | 2.9 |
| 2-Butanone | 230.57 | -15.3 |
| Benzene | 20.12 | -.6 |
| 1,2-Dichloroethane | 22.36 | -11.8 |
| Trichloroethene | 20.22 | -1.1 |
| Bromodichloromethane | 22.21 | -11.1 |
| Toluene | 17.16 | 14.2 |
| 1,1,2-Trichloroethane | 22.19 | -11.0 |
| Tetrachloroethene | 16.98 | 15.1 |
| Dibromochloromethane | 20.9 | -4.5 |
| Chlorobenzene | 20.3 | -1.5 |
| m,p-Xylenes | 36.19 | 9.5 |
| Bromoform | 21 | -5.0 |
| Bromofluorobenzene (SS) | 104.5 % | 104.5 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CA |
| Date Analyzed | 6/30/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 1.00 | U |
| Chloromethane | 1.00 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 1.00 | U |
| 1,1-Dichloroethene | 1.00 | U |
| Methylene Chloride | 1.00 | U |
| t-Butyl-methyl ether | 1.00 | U |
| Chloroform | 1.00 | U |
| 1,1,1-Trichloroethane | 1.00 | U |
| 2-Butanone | 10.0 | U |
| Benzene | 1.00 | U |
| 1,2-Dichloroethane | 1.00 | U |
| Trichloroethene | 1.00 | U |
| Bromodichloromethane | 1.00 | U |
| Toluene | 1.00 | U |
| 1,1,2-Trichloroethane | 1.00 | U |
| Tetrachloroethene | 1.00 | U |
| Dibromochloromethane | 1.00 | U |
| Chlorobenzene | 1.00 | U |
| m,p-Xylenes | 1.00 | U |
| Bromoform | 1.00 | U |
| Bromofluorobenzene (SS) | 90 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CH |
| Date Analyzed | 7/7/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CI |
| Date Analyzed | 7/8/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CJ |
| Date Analyzed | 7/8/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 11.7 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 83 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CK |
| Date Analyzed | 7/9/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 16.5 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 89 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CL |
| Date Analyzed | 7/9/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 14.9 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 86 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CM |
| Date Analyzed | 7/11/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 1.00 | U |
| Chloromethane | 3.42 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 1.00 | U |
| 1,1-Dichloroethene | 1.00 | U |
| Methylene Chloride | 1.00 | U |
| t-Butyl-methyl ether | 1.00 | U |
| Chloroform | 1.00 | U |
| 1,1,1-Trichloroethane | 1.00 | U |
| 2-Butanone | 10.0 | U |
| Benzene | 1.00 | U |
| 1,2-Dichloroethane | 1.00 | U |
| Trichloroethene | 1.00 | U |
| Bromodichloromethane | 1.00 | U |
| Toluene | 1.00 | U |
| 1,1,2-Trichloroethane | 1.00 | U |
| Tetrachloroethene | 1.00 | U |
| Dibromochloromethane | 1.00 | U |
| Chlorobenzene | 1.00 | U |
| m,p-Xylenes | 1.00 | U |
| Bromoform | 1.00 | U |
| Bromofluorobenzene (SS) | 101 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CP |
| Date Analyzed | 7/15/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 42.7 | J |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 12.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 95 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CQ |
| Date Analyzed | 7/15/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 58.1 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 96 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification (ICV) Sample Summary*

QC Batch: CA

Analysis Date: 06/30/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | ICV Conc.(ug/L) | ICV % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 1.00 U | 22.8 | 114 | 70-130 |
| Chloromethane | 1.00 U | 49.6 | 99 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 1.00 U | 19.8 | 99 | 70-130 |
| 1,1-Dichloroethene | 1.00 U | 23.7 | 119 | 70-130 |
| Methylene Chloride | 1.00 U | 22.0 | 110 | 60-140 |
| t-Butyl-methyl ether | 1.00 U | 22.8 | 114 | 60-140 |
| Chloroform | 1.00 U | 20.6 | 103 | 70-130 |
| 1,1,1-Trichloroethane | 1.00 U | 20.6 | 103 | 70-130 |
| 2-Butanone | 10.0 U | 234 | 117 | 60-140 |
| Benzene | 1.00 U | 20.2 | 101 | 70-130 |
| 1,2-Dichloroethane | 1.00 U | 22.5 | 113 | 70-130 |
| Trichloroethene | 1.00 U | 21.4 | 107 | 70-130 |
| Bromodichloromethane | 1.00 U | 22.4 | 112 | 70-130 |
| Toluene | 1.00 U | 20.4 | 102 | 70-130 |
| 1,1,2-Trichloroethane | 1.00 U | 20.9 | 104 | 70-130 |
| Tetrachloroethene | 1.00 U | 19.0 | 95 | 70-130 |
| Dibromochloromethane | 1.00 U | 21.6 | 108 | 70-130 |
| Chlorobenzene | 1.00 U | 21.2 | 106 | 70-130 |
| m,p-Xylenes | 1.00 U | 38.2 | 95 | 70-130 |
| Bromoform | 1.00 U | 22.0 | 110 | 70-130 |
| Bromofluorobenzene (SS) | 90 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CH
Analysis Date: 07/07/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 3020 | 113 | 70-130 |
| Trichlorofluoromethane | 53.3 U | 1320 | 124 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1100 | 103 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1360 | 128 | 70-130 |
| Methylene Chloride | 53.3 U | 1210 | 114 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1050 | 99 | 60-140 |
| Chloroform | 53.3 U | 1140 | 107 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1210 | 114 | 70-130 |
| 2-Butanone | 533 U | 9910 | 93 | 60-140 |
| Benzene | 53.3 U | 1120 | 105 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1150 | 108 | 70-130 |
| Trichloroethene | 53.3 U | 1230 | 115 | 70-130 |
| Bromodichloromethane | 53.3 U | 1190 | 112 | 70-130 |
| Toluene | 53.3 U | 1190 | 112 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1160 | 109 | 70-130 |
| Tetrachloroethene | 53.3 U | 1170 | 110 | 70-130 |
| Dibromochloromethane | 53.3 U | 1190 | 111 | 70-130 |
| Chlorobenzene | 53.3 U | 1180 | 111 | 70-130 |
| m,p-Xylenes | 53.3 U | 2180 | 102 | 70-130 |
| Bromoform | 53.3 U | 1190 | 112 | 70-130 |
| Bromofluorobenzene (SS) | 88 % | 103 % | 103 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Control Sample Summary*

QC Batch: CI

Analysis Date: 07/08/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 3400 | 127 | 70-130 |
| Trichlorofluoromethane | 53.3 U | 1210 | 114 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1070 | 100 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1280 | 120 | 70-130 |
| Methylene Chloride | 53.3 U | 1270 | 119 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1110 | 104 | 60-140 |
| Chloroform | 53.3 U | 1190 | 112 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1110 | 105 | 70-130 |
| 2-Butanone | 533 U | 10200 | 96 | 60-140 |
| Benzene | 53.3 U | 1080 | 101 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1230 | 115 | 70-130 |
| Trichloroethene | 53.3 U | 1210 | 113 | 70-130 |
| Bromodichloromethane | 53.3 U | 1250 | 118 | 70-130 |
| Toluene | 53.3 U | 925 | 87 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1190 | 111 | 70-130 |
| Tetrachloroethene | 53.3 U | 1060 | 99 | 70-130 |
| Dibromochloromethane | 53.3 U | 1230 | 116 | 70-130 |
| Chlorobenzene | 53.3 U | 1150 | 108 | 70-130 |
| m,p-Xylenes | 53.3 U | 2070 | 97 | 70-130 |
| Bromoform | 53.3 U | 1260 | 118 | 70-130 |
| Bromofluorobenzene (SS) | 87 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CJ
Analysis Date: 07/08/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1090 | 102 | 70-130 |
| Chloromethane | 53.3 U | 2730 | 102 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1310 | 122 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1330 | 124 | 70-130 |
| Methylene Chloride | 53.3 U | 1130 | 106 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1010 | 95 | 60-140 |
| Chloroform | 53.3 U | 1070 | 100 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1340 | 126 | 70-130 |
| 2-Butanone | 533 U | 8960 | 84 | 60-140 |
| Benzene | 53.3 U | 1140 | 107 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1070 | 101 | 70-130 |
| Trichloroethene | 53.3 U | 1310 | 123 | 70-130 |
| Bromodichloromethane | 53.3 U | 1220 | 114 | 70-130 |
| Toluene | 53.3 U | 1200 | 112 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1030 | 97 | 70-130 |
| Tetrachloroethene | 53.3 U | 1270 | 119 | 70-130 |
| Dibromochloromethane | 53.3 U | 1160 | 109 | 70-130 |
| Chlorobenzene | 53.3 U | 1190 | 112 | 70-130 |
| m,p-Xylenes | 11.7 J | 2310 | 108 | 70-130 |
| Bromoform | 53.3 U | 1180 | 110 | 70-130 |
| Bromofluorobenzene (SS) | 83 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Control Sample Summary*

QC Batch: CK

Analysis Date: 07/09/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 3410 | 128 | 70-130 |
| Trichlorofluoromethane | 53.3 U | 1280 | 120 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1110 | 104 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1340 | 126 | 70-130 |
| Methylene Chloride | 53.3 U | 1250 | 118 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1070 | 100 | 60-140 |
| Chloroform | 53.3 U | 1170 | 110 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1150 | 108 | 70-130 |
| 2-Butanone | 533 U | 8900 | 83 | 60-140 |
| Benzene | 53.3 U | 1090 | 102 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1160 | 109 | 70-130 |
| Trichloroethene | 53.3 U | 1220 | 114 | 70-130 |
| Bromodichloromethane | 53.3 U | 1180 | 111 | 70-130 |
| Toluene | 53.3 U | 935 | 88 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1130 | 106 | 70-130 |
| Tetrachloroethene | 53.3 U | 1110 | 104 | 70-130 |
| Dibromochloromethane | 53.3 U | 1160 | 109 | 70-130 |
| Chlorobenzene | 53.3 U | 1150 | 108 | 70-130 |
| m,p-Xylenes | 16.5 J | 2060 | 96 | 70-130 |
| Bromoform | 53.3 U | 1170 | 110 | 70-130 |
| Bromofluorobenzene (SS) | 89 % | 100 % | 100 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CL
Analysis Date: 07/09/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 2700 | 101 | 70-130 |
| Trichlorofluoromethane | 53.3 U | 912 | 86 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1080 | 101 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1380 | 130 | 70-130 |
| Methylene Chloride | 53.3 U | 1240 | 116 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1180 | 111 | 60-140 |
| Chloroform | 53.3 U | 1320 | 124 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1260 | 119 | 70-130 |
| 2-Butanone | 533 U | 10300 | 97 | 60-140 |
| Benzene | 53.3 U | 1190 | 111 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1260 | 118 | 70-130 |
| Trichloroethene | 53.3 U | 1310 | 123 | 70-130 |
| Bromodichloromethane | 53.3 U | 1330 | 125 | 70-130 |
| Toluene | 53.3 U | 909 | 85 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1110 | 105 | 70-130 |
| Tetrachloroethene | 53.3 U | 1130 | 106 | 70-130 |
| Dibromochloromethane | 53.3 U | 1240 | 116 | 70-130 |
| Chlorobenzene | 53.3 U | 1230 | 115 | 70-130 |
| m,p-Xylenes | 14.9 J | 2240 | 104 | 70-130 |
| Bromoform | 53.3 U | 1270 | 119 | 70-130 |
| Bromofluorobenzene (SS) | 86 % | 112 % | 112 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification (ICV) Sample Summary*

QC Batch: CM

Analysis Date: 07/11/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | ICV Conc.(ug/L) | ICV % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 1.00 U | 25.6 | 128 | 70-130 |
| Chloromethane | 3.42 | 58.4 | 110 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 1.00 U | 22.6 | 113 | 70-130 |
| 1,1-Dichloroethene | 1.00 U | 24.4 | 122 | 70-130 |
| Methylene Chloride | 1.00 U | 23.6 | 118 | 60-140 |
| t-Butyl-methyl ether | 1.00 U | 23.9 | 119 | 60-140 |
| Chloroform | 1.00 U | 21.9 | 109 | 70-130 |
| 1,1,1-Trichloroethane | 1.00 U | 22.9 | 115 | 70-130 |
| 2-Butanone | 10.0 U | 199 | 100 | 60-140 |
| Benzene | 1.00 U | 22.8 | 114 | 70-130 |
| 1,2-Dichloroethane | 1.00 U | 22.5 | 113 | 70-130 |
| Trichloroethene | 1.00 U | 23.7 | 119 | 70-130 |
| Bromodichloromethane | 1.00 U | 22.2 | 111 | 70-130 |
| Toluene | 1.00 U | 19.6 | 98 | 70-130 |
| 1,1,2-Trichloroethane | 1.00 U | 20.8 | 104 | 70-130 |
| Tetrachloroethene | 1.00 U | 21.4 | 107 | 70-130 |
| Dibromochloromethane | 1.00 U | 20.7 | 104 | 70-130 |
| Chlorobenzene | 1.00 U | 21.7 | 109 | 70-130 |
| m,p-Xylenes | 1.00 U | 37.4 | 93 | 70-130 |
| Bromoform | 1.00 U | 20.2 | 101 | 70-130 |
| Bromofluorobenzene (SS) | 101 % | 105 % | 105 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CP
Analysis Date: 07/15/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1370 | 128 | 70-130 |
| Chloromethane | 42.7 J | 3360 | 124 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1250 | 117 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1350 | 126 | 70-130 |
| Methylene Chloride | 53.3 U | 1320 | 124 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1070 | 101 | 60-140 |
| Chloroform | 53.3 U | 1190 | 111 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1360 | 128 | 70-130 |
| 2-Butanone | 533 U | 11600 | 108 | 60-140 |
| Benzene | 53.3 U | 1230 | 116 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1280 | 120 | 70-130 |
| Trichloroethene | 53.3 U | 1360 | 127 | 70-130 |
| Bromodichloromethane | 53.3 U | 1220 | 114 | 70-130 |
| Toluene | 53.3 U | 1080 | 101 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1180 | 111 | 70-130 |
| Tetrachloroethene | 53.3 U | 1250 | 117 | 70-130 |
| Dibromochloromethane | 53.3 U | 1150 | 108 | 70-130 |
| Chlorobenzene | 53.3 U | 1210 | 114 | 70-130 |
| m,p-Xylenes | 12.3 J | 2180 | 102 | 70-130 |
| Bromoform | 53.3 U | 1160 | 109 | 70-130 |
| Bromofluorobenzene (SS) | 95 % | 111 % | 111 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CQ
Analysis Date: 07/15/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1350 | 127 | 70-130 |
| Chloromethane | 58.1 | 3170 | 117 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1180 | 111 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1260 | 119 | 70-130 |
| Methylene Chloride | 53.3 U | 1340 | 126 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1310 | 123 | 60-140 |
| Chloroform | 53.3 U | 1210 | 114 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1160 | 109 | 70-130 |
| 2-Butanone | 533 U | 13600 | 128 | 60-140 |
| Benzene | 53.3 U | 1170 | 110 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1300 | 122 | 70-130 |
| Trichloroethene | 53.3 U | 1210 | 113 | 70-130 |
| Bromodichloromethane | 53.3 U | 1290 | 121 | 70-130 |
| Toluene | 53.3 U | 920 | 86 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1170 | 110 | 70-130 |
| Tetrachloroethene | 53.3 U | 989 | 93 | 70-130 |
| Dibromochloromethane | 53.3 U | 1150 | 108 | 70-130 |
| Chlorobenzene | 53.3 U | 1100 | 103 | 70-130 |
| m,p-Xylenes | 53.3 U | 1830 | 86 | 70-130 |
| Bromoform | 53.3 U | 1180 | 111 | 70-130 |
| Bromofluorobenzene (SS) | 96 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070314-A1 |
| Date Analyzed | 7/8/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 1280 | |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 12.8 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 85 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070314-B1 |
| Date Analyzed | 7/8/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 17.1 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 88 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070314-C1 |
| Date Analyzed | 7/7/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 277 | J |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 13.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 83 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070714-A1 |
| Date Analyzed | 7/9/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 57.1 | |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 36.3 | J |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 14.9 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 91 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070714-B1 |
| Date Analyzed | 7/9/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 12.8 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 91 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## Prep *Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070714-C2 |
| Date Analyzed | 7/9/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 13.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070714-C3 |
| Date Analyzed | 7/9/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 90.7 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 13.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 91 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070314-A2

Analysis Date: 07/08/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 852 | 80 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 706 | 66 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 901 | 85 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1340 | 126 | 27-199 |
| Methylene Chloride | 53.3 U | 947 | 89 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 911 | 85 | 48-130 |
| Chloroform | 53.3 U | 934 | 88 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 996 | 93 | 65-130 |
| 2-Butanone | 1280 | 7490 | 58 | 41-130 |
| Benzene | 53.3 U | 962 | 90 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 938 | 88 | 61-130 |
| Trichloroethene | 53.3 U | 959 | 90 | 71-130 |
| Bromodichloromethane | 53.3 U | 896 | 84 | 62-130 |
| Toluene | 53.3 U | 941 | 88 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 635 | 60 | 30-130 |
| Tetrachloroethene | 53.3 U | 1010 | 95 | 56-130 |
| Dibromochloromethane | 53.3 U | 995 | 93 | 40-130 |
| Chlorobenzene | 53.3 U | 1040 | 97 | 70-130 |
| m,p-Xylenes | 12.8 J | 1990 | 93 | 69-130 |
| Bromoform | 53.3 U | 1000 | 94 | 36-130 |
| Bromofluorobenzene (SS) | 85 % | 88 % | 88 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070314-B2

Analysis Date: 07/08/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 831 | 78 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 475 | 45 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 711 | 67 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1100 | 103 | 27-199 |
| Methylene Chloride | 53.3 U | 908 | 85 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 819 | 77 | 48-130 |
| Chloroform | 53.3 U | 897 | 84 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 864 | 81 | 65-130 |
| 2-Butanone | 533 U | 7870 | 74 | 41-130 |
| Benzene | 53.3 U | 912 | 86 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 908 | 85 | 61-130 |
| Trichloroethene | 53.3 U | 933 | 88 | 71-130 |
| Bromodichloromethane | 53.3 U | 914 | 86 | 62-130 |
| Toluene | 53.3 U | 871 | 82 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 578 | 54 | 30-130 |
| Tetrachloroethene | 53.3 U | 942 | 88 | 56-130 |
| Dibromochloromethane | 53.3 U | 940 | 88 | 40-130 |
| Chlorobenzene | 53.3 U | 1010 | 95 | 70-130 |
| m,p-Xylenes | 17.1 J | 2000 | 93 | 69-130 |
| Bromoform | 53.3 U | 946 | 89 | 36-130 |
| Bromofluorobenzene (SS) | 88 % | 89 % | 89 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070314-C2

Analysis Date: 07/07/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 817 | 77 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 892 | 84 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1180 | 111 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1570 | 147 | 27-199 |
| Methylene Chloride | 53.3 U | 1000 | 94 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 890 | 83 | 48-130 |
| Chloroform | 53.3 U | 915 | 86 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1100 | 103 | 65-130 |
| 2-Butanone | 277 J | 7530 | 68 | 41-130 |
| Benzene | 53.3 U | 993 | 93 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 968 | 91 | 61-130 |
| Trichloroethene | 53.3 U | 1000 | 94 | 71-130 |
| Bromodichloromethane | 53.3 U | 905 | 85 | 62-130 |
| Toluene | 53.3 U | 1130 | 106 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 660 | 62 | 30-130 |
| Tetrachloroethene | 53.3 U | 1050 | 99 | 56-130 |
| Dibromochloromethane | 53.3 U | 1010 | 95 | 40-130 |
| Chlorobenzene | 53.3 U | 1020 | 96 | 70-130 |
| m,p-Xylenes | 13.3 J | 2010 | 94 | 69-130 |
| Bromoform | 53.3 U | 1030 | 97 | 36-130 |
| Bromofluorobenzene (SS) | 83 % | 87 % | 87 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070714-A2

Analysis Date: 07/09/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 1170 | 110 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 681 | 64 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 891 | 84 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1280 | 120 | 27-199 |
| Methylene Chloride | 53.3 U | 1190 | 112 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 1090 | 103 | 48-130 |
| Chloroform | 53.3 U | 1040 | 98 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 925 | 87 | 65-130 |
| 2-Butanone | 533 U | 9680 | 91 | 41-130 |
| Benzene | 53.3 U | 1030 | 96 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1150 | 108 | 61-130 |
| Trichloroethene | 57.1 | 993 | 88 | 71-130 |
| Bromodichloromethane | 53.3 U | 1060 | 100 | 62-130 |
| Toluene | 53.3 U | 855 | 80 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 723 | 68 | 30-130 |
| Tetrachloroethene | 36.3 J | 899 | 81 | 56-130 |
| Dibromochloromethane | 53.3 U | 1030 | 96 | 40-130 |
| Chlorobenzene | 53.3 U | 1040 | 98 | 70-130 |
| m,p-Xylenes | 14.9 J | 1920 | 89 | 69-130 |
| Bromoform | 53.3 U | 1060 | 100 | 36-130 |
| Bromofluorobenzene (SS) | 91 % | 94 % | 94 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070714-B2

Analysis Date: 07/09/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 841 | 79 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 474 | 44 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 661 | 62 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1130 | 106 | 27-199 |
| Methylene Chloride | 53.3 U | 962 | 90 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 956 | 90 | 48-130 |
| Chloroform | 53.3 U | 965 | 90 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 893 | 84 | 65-130 |
| 2-Butanone | 533 U | 8370 | 78 | 41-130 |
| Benzene | 53.3 U | 951 | 89 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1040 | 98 | 61-130 |
| Trichloroethene | 53.3 U | 967 | 91 | 71-130 |
| Bromodichloromethane | 53.3 U | 987 | 93 | 62-130 |
| Toluene | 53.3 U | 874 | 82 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 598 | 56 | 30-130 |
| Tetrachloroethene | 53.3 U | 933 | 88 | 56-130 |
| Dibromochloromethane | 53.3 U | 986 | 92 | 40-130 |
| Chlorobenzene | 53.3 U | 1070 | 100 | 70-130 |
| m,p-Xylenes | 12.8 J | 2030 | 95 | 69-130 |
| Bromoform | 53.3 U | 1020 | 95 | 36-130 |
| Bromofluorobenzene (SS) | 91 % | 94 % | 94 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070714-C2

Analysis Date: 07/09/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 914 | 86 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 712 | 67 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1050 | 98 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1480 | 139 | 27-199 |
| Methylene Chloride | 53.3 U | 1080 | 101 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 945 | 89 | 48-130 |
| Chloroform | 53.3 U | 948 | 89 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1020 | 96 | 65-130 |
| 2-Butanone | 533 U | 7920 | 74 | 41-130 |
| Benzene | 53.3 U | 979 | 92 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 992 | 93 | 61-130 |
| Trichloroethene | 53.3 U | 972 | 91 | 71-130 |
| Bromodichloromethane | 53.3 U | 901 | 84 | 62-130 |
| Toluene | 53.3 U | 898 | 84 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 611 | 57 | 30-130 |
| Tetrachloroethene | 53.3 U | 978 | 92 | 56-130 |
| Dibromochloromethane | 53.3 U | 993 | 93 | 40-130 |
| Chlorobenzene | 53.3 U | 996 | 93 | 70-130 |
| m,p-Xylenes | 13.3 J | 1890 | 88 | 69-130 |
| Bromoform | 53.3 U | 1030 | 96 | 36-130 |
| Bromofluorobenzene (SS) | 87 % | 84 % | 84 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070714-C3

Analysis Date: 07/09/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 90.7 J | 959 | 81 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 705 | 66 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 911 | 85 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1350 | 127 | 27-199 |
| Methylene Chloride | 53.3 U | 1110 | 104 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 1150 | 108 | 48-130 |
| Chloroform | 53.3 U | 1060 | 99 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 978 | 92 | 65-130 |
| 2-Butanone | 533 U | 9540 | 89 | 41-130 |
| Benzene | 53.3 U | 1030 | 96 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1160 | 109 | 61-130 |
| Trichloroethene | 53.3 U | 980 | 92 | 71-130 |
| Bromodichloromethane | 53.3 U | 1070 | 100 | 62-130 |
| Toluene | 53.3 U | 951 | 89 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 815 | 76 | 30-130 |
| Tetrachloroethene | 53.3 U | 955 | 90 | 56-130 |
| Dibromochloromethane | 53.3 U | 1210 | 113 | 40-130 |
| Chlorobenzene | 53.3 U | 1100 | 103 | 70-130 |
| m,p-Xylenes | 13.3 J | 1930 | 90 | 69-130 |
| Bromoform | 53.3 U | 1230 | 115 | 36-130 |
| Bromofluorobenzene (SS) | 91 % | 93 % | 93 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-65.20-VOC
Sample Date: 6/24/2014
Analysis Date: 07/09/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 730 | | 600 | | | |
| Chloromethane | 46.4 | 605 | 76 | 435 | 65 | 16 | 32 - 130 |
| Trichlorofluoromethane | 36.2 U | 456 | 62 | 400 | 67 | 8 | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 467 | 1050 | 80 | 912 | 74 | 8 | 35 - 130 |
| 1,1-Dichloroethene | 36.2 U | 791 | 108 | 700 | 117 | 8 | 27 - 199 |
| Methylene Chloride | 36.2 U | 732 | 100 | 515 | 86 | 15 | 56 - 130 |
| t-Butyl-methyl ether | 36.2 U | 669 | 92 | 480 | 80 | 14 | 48 - 130 |
| Chloroform | 36.2 U | 671 | 92 | 496 | 83 | 10 | 71 - 130 |
| 1,1,1-Trichloroethane | 36.2 U | 687 | 94 | 581 | 97 | 3 | 65 - 130 |
| 2-Butanone | 362 U | 5310 | 73 | 3510 | 59 | 21 | 41 - 130 |
| Benzene | 5.79 J | 688 | 93 | 539 | 89 | 4 | 71 - 130 |
| 1,2-Dichloroethane | 36.2 U | 684 | 94 | 465 | 78 | 19 | 61 - 130 |
| Trichloroethene | 53.2 B | 724 B | 92 | 587 B | 89 | 3 | 71 - 130 |
| Bromodichloromethane | 36.2 U | 670 | 92 | 475 | 79 | 15 | 62 - 130 |
| Toluene | 36.2 U | 616 | 84 | 520 | 87 | 4 | 63 - 130 |
| 1,1,2-Trichloroethane | 36.2 U | 616 | 84 | 436 | 73 | 14 | 30 - 130 |
| Tetrachloroethene | 36.2 U | 693 B | 95 | 596 B | 99 | 4 | 56 - 130 |
| Dibromochloromethane | 36.2 U | 696 | 95 | 503 | 84 | 12 | 40 - 130 |
| Chlorobenzene | 36.2 U | 700 | 96 | 567 | 95 | 1 | 70 - 130 |
| m,p-Xylenes | 9.42 JB | 1390 B | 95 | 1160 B | 96 | 1 | 69 - 130 |
| Bromoform | 36.2 U | 701 | 96 | 502 | 84 | 13 | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-7-69.70-VOC
Sample Date: 6/19/2014
Analysis Date: 07/08/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 1584 | | 1758 | | | |
| Chloromethane | 24.4 U | 1390 | 88 | 1220 | 69 | 24 | 32 - 130 |
| Trichlorofluoromethane | 24.4 U | 837 | 53 | 969 | 55 | 4 | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 24.4 U | 1100 | 69 | 1450 | 82 | 17 | 35 - 130 |
| 1,1-Dichloroethene | 24.4 U | 2030 | 128 | 2590 | 147 | 14 | 27 - 199 |
| Methylene Chloride | 24.4 U | 1510 | 95 | 1500 | 85 | 11 | 56 - 130 |
| t-Butyl-methyl ether | 24.4 U | 1420 | 90 | 1250 | 71 | 24 | 48 - 130 |
| Chloroform | 24.4 U | 1420 | 90 | 1460 | 83 | 8 | 71 - 130 |
| 1,1,1-Trichloroethane | 24.4 U | 1280 | 81 | 1580 | 90 | 11 | 65 - 130 |
| 2-Butanone | 244 U | 13400 | 85 | 11300 | 64 | 28 | 41 - 130 |
| Benzene | 24.4 U | 1420 | 90 | 1560 | 89 | 1 | 71 - 130 |
| 1,2-Dichloroethane | 24.4 U | 1560 | 98 | 1430 | 81 | 19 | 61 - 130 |
| Trichloroethene | 24.4 U | 1400 | 88 | 1640 | 93 | 6 | 71 - 130 |
| Bromodichloromethane | 24.4 U | 1340 | 85 | 1240 | 71 | 18 | 62 - 130 |
| Toluene | 24.4 U | 1270 | 80 | 1530 | 87 | 8 | 63 - 130 |
| 1,1,2-Trichloroethane | 24.4 U | 547 | 35 | 407 | 23 * | 41 | 30 - 130 |
| Tetrachloroethene | 24.4 U | 1340 | 85 | 1770 | 101 | 17 | 56 - 130 |
| Dibromochloromethane | 24.4 U | 1410 | 89 | 1330 | 76 | 16 | 40 - 130 |
| Chlorobenzene | 24.4 U | 1530 | 97 | 1720 | 98 | 1 | 70 - 130 |
| m,p-Xylenes | 7.82 JB | 2930 B | 92 | 3590 B | 102 | 10 | 69 - 130 |
| Bromoform | 24.4 U | 1510 | 95 | 1430 | 81 | 16 | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

# Final Data Report for Laboratory Services - REVISION 1

**PREPARED FOR: NAVARRO RESEARCH & ENGINEERING**

**SITE ID: NAVARRO, WHITE SANDS, NM**

**Stone Project ID: 14-037**

MobiLab™
DEFENSIBLE REAL-TIME ANALYTICS

***DATES OF PERFORMANCE: June 27 – July 29, 2014 (SDG-4)***
***REPORT DATE: September 21, 2014***

**Prepared for:**
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STONE ENVIRONMENTAL INC

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STONE ENVIRONMENTAL, INC. LABORATORY

# NARRATIVE – REVISION 1

September 21, 2014

This data package presents the analytical results for rock samples analyzed by Stone Environmental, Inc. Laboratory (Stone) at Stone's Mobilab Unit 1 located in Barre, Vermont. Samples in this sample delivery group (SDG-4) were collected at the White Sands Site (Site) in Las Cruces, New Mexico by Stone personnel on June 24-25, 2014. A total of 111 samples were analyzed in this SDG. All were from boring location 200-SB-6. The total sample number includes 4 trip blanks, 7 equipment blanks, 4 field duplicate samples, and 5 matrix spike and matrix spike duplicate (MS/MSD) pairs.

Samples were overnight shipped via FedEx to the laboratory by Stone field personnel. The entire sample shipment containing all samples within this SDG was delayed in transit and was received two days later instead of overnight. Sample receipt temperatures ranged from 9.4 to 20.0 degrees C. The upper end of that range is above the receipt temperature acceptance limit of 10 degrees C for methanol samples; however, no data were qualified. The data may be qualified by the client at their discretion. All samples in this SDG were received by laboratory personnel on June 27, 2014 and analyzed at Stone's Mobilab Unit 1 between July 8 and 29, 2014.

Samples were stored in a laboratory freezer upon receipt until extraction. After extraction, sample extracts were again stored in a freezer until analysis. Copies of the chains of custody (COC) as well as a summary of samples logged into Stone's laboratory information management system (LIMS) are included in the Sample Login Summary Section of this report. All sample results are reported in units of µg/kg. Rock samples are reported on a wet-weight basis (i.e., as received). In accordance with Stone's SOP SEI-10.17.1, rock samples were collected into 15 milliliters of methanol and then rinsed with an additional 5 milliliters of methanol during the sample preparation phase for the microwave assisted extraction (MAE) technique; therefore, the total volume of methanol for rock samples is 20 milliliters. All blank samples are also reported in units of µg/kg, assuming a default mass of 15 grams and a total methanol volume of 15 milliliters.

Rock samples were extracted on July 7-9, 2014 via the microwave assisted extraction (MAE) technique in accordance with Stone's SOP SEI-10.17.1. Samples were extracted, or prepared, in batches of up to 10

samples. A prep laboratory control sample (PLCS) and prep blank (PBLK) sample were extracted along with each batch of 10 rock samples. Note that all MS/MSD samples were spiked with the same spike as the PLCS and underwent the MAE process in the same manner as all PLCS samples and rock field samples. Stone has developed a set of MAE-specific control limits for the PLCS based on recovery data from past PLCS samples as well as those from this project. PLCS and MS/MSD sample recoveries were evaluated against Stone's MAE-specific control limits. An example of the nomenclature used for the PLCS samples is "PLCS-052214-A2", indicating that this PLCS would have been extracted on May 22, 2014 in extraction vessel "A2".

Samples were analyzed by EPA SW846 Method 8260 (gas chromatography / mass spectrometry (GC/MS)) set in selective ion monitoring (SIM) mode for 20 target volatile organic compounds (VOCs) in accordance with Stone's Standard Operating Procedure (SOP) SEI-10.15.11, "The Determination of Volatile Organic Compounds By GC/MS (SW846 USEPA Method 8260C)". All manual integrations have been checked and marked as reviewed by the secondary data reviewer.

Stone's Method 8260C (GC/MS) is provided under the National Environmental Laboratory Accreditation Program (NELAP) fields of testing. The analytical results associated with the samples presented in this report were generated under a quality system that adheres to requirements specified in the NELAP standards. Results for the quality control (QC) samples (continuing calibration verification samples (VSTD), laboratory control samples (LCS), laboratory method blanks (VBLK), matrix spike and matrix spike duplicate samples (MS/MSDs), PLCS and PBLK samples) are provided in the Quality Control Summaries section of this report. All QA/QC results associated with these data were found to be within the tolerances set forth in SOP SEI-10.15.11 and NELAP standards. Exceptions are noted below:

- ICAL Deficiencies:
    - The initial calibration verification (ICV) sample that was analyzed following calibration QA40724N, analyzed on July 24, 2014, had several compounds that failed acceptance criteria. The ICV sample was re-analyzed on July 28, 2014 and all compounds fell within acceptance criteria. No samples were analyzed between the date of calibration and the date of re-analysis of the ICV and no data were qualified on this basis.
- VSTD Deficiencies:
    - No deficiencies noted.
- LCS Deficiencies:
    - The percent recovery for Trichlorofluoromethane in LCS CN, analyzed on July 11, 2014, was outside acceptance criteria (i.e. >130%). There were no detections of Trichlorofluoromethane in any samples analyzed within this QC batch and no data were qualified on this basis.

- The percent recovery for Chloromethane in LCS CR, analyzed on July 16, 2014, is marginally outside the acceptance criteria (>130%). Any detections of Chloromethane within this QC batch were flagged with a Q qualifier to indicate that the results may be biased high.

- VBLK Deficiencies:
  - VBLK CJ, analyzed on July 8, 2014, had a detection of m,p-Xylenes that was greater than the MDL but less than ½ the reporting limit. Any detections of m,p-Xylenes within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CM – the VBLK associated with QA40711N, analyzed on July 11, 2014. No samples were run within this QC batch and no data were qualified on this basis.
  - Chloromethane was detected in VBLK CN analyzed on July 11, 2014. VBLK CN also had a detection of m,p-Xylenes that was greater than the MDL but less than ½ the reporting limit. Any detections of either Chloromethane or m,p-Xylenes within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CO analyzed on July 14, 2014. VBLK CO also had a detection of m,p-Xylenes that was greater than the MDL but less than ½ the reporting limit. Any detections of either Chloromethane or m,p-Xylenes within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CP analyzed on July 14, 2014. VBLK CO also had a detection of m,p-Xylenes that was greater than the MDL but less than ½ the reporting limit. Any detections of either Chloromethane or m,p-Xylenes within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CQ analyzed on July 15, 2014. Any detections of Chloromethane within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CR analyzed on July 16, 2014. Any detections of Chloromethane within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CS analyzed on July 16, 2014. VBLK CS also had a detections of m,p-Xylenes and Benzene that were greater than their MDLs but less than ½ the reporting limit. Any detections of either Chloromethane, m,p-Xylenes, or Benzene within this QC batch were flagged with a B qualifier.
  - Chloromethane was detected in VBLK CZ – the VBLK associated with QA40724N, analyzed on July 28, 2014. No samples were run within this QC batch and no data were qualified on this basis.

- Both Chloromethane and Trichloroethene (TCE) were detected in VBLK DB analyzed on July 28, 2014. VBLK DB also had a detection of Toluene that was greater than the MDL but less than ½ the reporting limit. Any detections of Chloromethane, TCE, or Toluene within this QC batch were flagged with a B qualifier.
- Chloromethane was detected in VBLK DC analyzed on July 29, 2014. Any detections of Chloromethane within this QC batch were flagged with a B qualifier.

- MS/MSD Deficiencies:
  - The MSD sample associated with parent sample 200-SB-6-115.80-VOC was inadvertently not spiked with the MAE spike standard and therefore did not have detections of the majority of the target compounds. As a result, the relative percent difference between the MS and MSD sample were not available. No data were qualified.
  - Methylene Chloride was outside the acceptance criteria (>130%) for the in the MS sample associated with parent sample 200-SB-6-167.30-VOC. Additionally, Bromodichloromethane, Dibromochloromethane, and Bromoform were outside the acceptance criteria (<62%, <40%, and <36% respectively) in both the MS and MSD sample associated with parent sample 200-SB-6-167.30-VOC. No data were qualified.
- PBLK Deficiencies:
  - Chloromethane was detected in nearly all of the PBLK samples analyzed throughout SDG-4. As there were detections in nearly all of the VBLK samples associated with the QC batches that these PBLK samples were run within, these detections of Chloromethane can likely be attributed to the analytical step as opposed to the prep step. Therefore, detections of Chloromethane in samples associated with the prep batch containing the affected PBLKs were not qualified on the basis of the PBLK detections.
  - The following PBLK samples had detections of m,p-Xylenes at a level greater than the MDL but less than ½ the reporting limit: PBLK-070714-C2, PBLK-070714-A1, PBLK-070814-B1-2, PBLK-070814-A1, PBLK-070914-A1, and PBLK-070914-C1-2. As there were low-level detections of m,p-Xylenes in all of the VBLK samples associated with the QC batches that these PBLK samples were run within, these detections of m,p-Xylenes can likely be attributed to the analytical step as opposed to the prep step. Therefore, detections of m,p-Xylenes in samples associated with the prep batch containing the affected PBLKs were not qualified on the basis of the PBLK detections.
  - PBLK-070914-A1 had a detection of Benzene at a level greater than the MDL but less than ½ the reporting limit. PBLK-070914-A1 was analyzed under QC batch CS. As VBLK CS also contained a detection of Benzene at a level greater than the MDL but less than ½ the reporting limit, the detection of Benzene in PBLK-070914-A1 can likely be

attributed to the analytical step as opposed to the prep step. Therefore, detections of Benzene in samples associated with the prep batch containing PBLK-070914-A1 were not qualified on the basis of the PBLK detections.

- PLCS Deficiencies:
  - Chloromethane had low percent recovery (<32%) for PLCS-070914-C2-2. There were six samples extracted with PLCS-070914-C2-2: 200-SB-6-190.60-VOC, 200-SB-6-193.70-VOC, 200-SB-6-110.40-VOC, 200-SB-6-195.30-VOC, 200-SB-6-196.00-VOC, and 200-SB-6-196.70-VOC. All six samples had detections of Chloromethane and thus were flagged with a Q qualifier to indicate that the sample result may be biased low.
- Surrogate Standard and Internal Standard Deficiencies:
  - No deficiencies noted.

Several samples within SDG-4 were very clayey and were, as a result, difficult to transfer from their sample vial to the extraction vessel. In the transfer process, some of the rock material could not be removed from the vial and was left behind. Due to this incomplete sample transfer, all analytical results for these samples have been flagged as estimated using the J qualifier. Those samples that were affected are summarized in the following table:

| Sample ID |
|---|
| 200-SB-6-167.30-VOC |
| 200-SB-6-167.30-MS |
| 200-SB-6-167.30-MSD |
| 200-SB-6-186.40-VOC |

When applicable, the final results were annotated with the following codes:

U - The analyte was analyzed for, but was not detected above the reported quantitation limit.

J - The reported result is an estimated value (e.g., matrix interference was observed or the analyte was positively identified, but the associated numerical value is between the method detection limit and reporting limit).

Q - One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery or CCV).

B - Indicates the analyte was found in the associated laboratory blank as well as the sample.

E - Estimated value, marginally above the calibration levels.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature: _____

Hillary Easter, Analytical Chemist, Stone Environmental, Inc.

# SAMPLE LOGIN SUMMARY

Sample Login Summary

Sample Weights Summary

Chain of Custody Records

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temperature Units | Comments | Lab ID Parent | Custody ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-247 | 200-SB-6 | 100.20 | Rock | 200-SB-6-100.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 11:57 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-248 | 200-SB-6 | 100.50 | Rock | 200-SB-6-100.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 11:58 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-249 | 200-SB-6 | 103.10 | Rock | 200-SB-6-103.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:22 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-250 | 200-SB-6 | 104.10 | Rock | 200-SB-6-104.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:23 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-251 | 200-SB-6 | 104.50 | Rock | 200-SB-6-104.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:25 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-252 | 200-SB-6 | 105.65 | Rock | 200-SB-6-105.65-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:26 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-253 | 200-SB-6 | 106.50 | Rock | 200-SB-6-106.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:28 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-254 | 200-SB-6 | 114.20 | Rock | 200-SB-6-114.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:24 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-255 | 200-SB-6 | 115.80 | Rock | 200-SB-6-115.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:28 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | SEI-255 | LLI_14-037_8_1406250719 |
| SEI-255-MS | 200-SB-6 | 115.80 | Rock | 200-SB-6-115.80-VOC-MS | Matrix Spike | 1 | CJM | 6/24/2014 | 1:29 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | SEI-255 | LLI_14-037_8_1406250719 |
| SEI-255-MSD | 200-SB-6 | 115.80 | Rock | 200-SB-6-115.80-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/24/2014 | 1:30 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | SEI-255 | LLI_14-037_8_1406250719 |
| SEI-258 | 200-SB-6 | 118.90 | Rock | 200-SB-6-118.90-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:53 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-259 | FD | 118.90 | Rock | FD-10 | Field Duplicate | 1 | CJM | 6/24/2014 | 1:54 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-260 | 200-SB-6 | 119.20 | Rock | 200-SB-6-119.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:56 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-261 | 200-SB-6 | 119.55 | Rock | 200-SB-6-119.55-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:57 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-262 | 200-SB-6 | 120.80 | Rock | 200-SB-6-120.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:58 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-263 | 200-SB-6 | 121.10 | Rock | 200-SB-6-121.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 2:00 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-264 | 200-SB-6 | 086.90 | Rock | 200-SB-6-86.90-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:13 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-265 | 200-SB-6 | 087.60 | Rock | 200-SB-6-87.60-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:15 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-266 | 200-SB-6 | 090.20 | Rock | 200-SB-6-90.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:31 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-267 | 200-SB-6 | 090.90 | Rock | 200-SB-6-90.90-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:33 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-268 | 200-SB-6 | 091.20 | Rock | 200-SB-6-91.20-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:33 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | SEI-268 | LLI_14-037_8_1406250719 |
| SEI-268-MS | 200-SB-6 | 091.20 | Rock | 200-SB-6-91.20-VOC-MS | Matrix Spike | 1 | CJM | 6/24/2014 | 10:37 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | SEI-268 | LLI_14-037_8_1406250719 |
| SEI-268-MSD | 200-SB-6 | 091.20 | Rock | 200-SB-6-91.20-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/24/2014 | 10:38 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | SEI-268 | LLI_14-037_8_1406250719 |
| SEI-271 | 200-SB-6 | 093.50 | Rock | 200-SB-6-93.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:55 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-272 | 200-SB-6 | 094.00 | Rock | 200-SB-6-94.00-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:56 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-273 | FD | 000.01 | Rock | FD-09 | Field Duplicate | 1 | CJM | 6/24/2014 | 10:57 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-274 | 200-SB-6 | 094.80 | Rock | 200-SB-6-94.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:58 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-275 | 200-SB-6 | 095.25 | Rock | 200-SB-6-95.25-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 10:59 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-276 | 200-SB-6 | 095.55 | Rock | 200-SB-6-95.55-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 11:00 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-277 | EB | 000.01 | Rock | EB-20 | Equipment Blank | 1 | CJM | 6/24/2014 | 4:30 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-278 | EB | 000.02 | Rock | EB-21 | Equipment Blank | 1 | CJM | 6/24/2014 | 5:07 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-279 | EB | 000.03 | Rock | EB-22 | Equipment Blank | 1 | CJM | 6/25/2014 | 7:00 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | LLI_14-037_8_1406250719 |
| SEI-280 | TB | 000.01 | Rock | TB-08 | Trip Blank | 1 | CM | 6/25/2014 | 8:00 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:35 PM | 16.8 | C | Sample shipment delayed one day. | | 8 |
| SEI-281 | 200-SB-6 | 108.50 | Rock | 200-SB-6-108.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:51 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-282 | 200-SB-6 | 110.75 | Rock | 200-SB-6-110.75-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:56 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-283 | 200-SB-6 | 111.40 | Rock | 200-SB-6-111.40-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:58 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-284 | 200-SB-6 | 113.90 | Rock | 200-SB-6-113.90-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:22 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-285 | 200-SB-6 | 114.80 | Rock | 200-SB-6-114.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:25 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-286 | 200-SB-6 | 115.50 | Rock | 200-SB-6-115.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 1:27 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-287 | 200-SB-6 | 124.80 | Rock | 200-SB-6-124.80-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 2:49 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-288 | 200-SB-6 | 125.10 | Rock | 200-SB-6-125.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 2:50 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-289 | 200-SB-6 | 127.00 | Rock | 200-SB-6-127.00-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 2:52 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-290 | 200-SB-6 | 127.30 | Rock | 200-SB-6-127.30-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 2:53 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-291 | 200-SB-6 | 127.60 | Rock | 200-SB-6-127.60-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 2:55 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-292 | 200-SB-6 | 129.70 | Rock | 200-SB-6-129.70-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 3:56 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-293 | 200-SB-6 | 130.00 | Rock | 200-SB-6-130.00-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 3:58 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-294 | 200-SB-6 | 132.50 | Rock | 200-SB-6-132.50-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 4:28 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-295 | 200-SB-6 | 133.00 | Rock | 200-SB-6-133.00-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 4:29 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-296 | 200-SB-6 | 135.10 | Rock | 200-SB-6-135.10-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 4:31 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-297 | 200-SB-6 | 137.40 | Rock | 200-SB-6-137.40-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 5:03 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-298 | 200-SB-6 | 138.15 | Rock | 200-SB-6-138.15-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 5:04 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-299 | 200-SB-6 | 142.20 | Rock | 200-SB-6-142.20-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 7:35 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-300 | 200-SB-6 | 143.80 | Rock | 200-SB-6-143.80-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 7:37 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-301 | 200-SB-6 | 145.00 | Rock | 200-SB-6-145.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 7:38 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | SEI-301 | LLI_14-037_9_1406251101 |
| SEI-301-MS | 200-SB-6 | 145.00 | Rock | 200-SB-6-145.00-VOC-MS | Matrix Spike | 1 | CJM | 6/25/2014 | 7:39 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | SEI-301 | LLI_14-037_9_1406251101 |
| SEI-301-MSD | 200-SB-6 | 145.00 | Rock | 200-SB-6-145.00-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/25/2014 | 7:40 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | SEI-301 | LLI_14-037_9_1406251101 |
| SEI-304 | 200-SB-6 | 145.30 | Rock | 200-SB-6-145.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 7:41 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-305 | FD | 145.30 | Rock | FD-11 | Field Duplicate | 1 | CJM | 6/25/2014 | 7:43 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-306 | 200-SB-6 | 145.90 | Rock | 200-SB-6-145.90-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 7:44 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-307 | 200-SB-6 | 147.60 | Rock | 200-SB-6-147.60-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:02 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-308 | 200-SB-6 | 149.20 | Rock | 200-SB-6-149.20-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:03 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |

| Lab ID | Location ID | Depth | Matrix | Sample Name | Sample Code | Quantity | Collected By | Collected Date | Collected Time | Collection Method | Received By | Received Date | Received Time | Received Temp | Temperature Units | Comments | Lab ID Parent | Custody ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEI-309 | 200-SB-6 | 149.80 | Rock | 200-SB-6-149.80-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:05 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-310 | EB | 000.04 | Rock | EB-19 | Equipment Blank | 1 | CJM | 6/24/2014 | 1:04 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-311 | TB | 000.02 | Rock | TB-09 | Trip Blank | 1 | CJM | 6/25/2014 | 11:00 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 9.4 | C | Sample shipment delayed one day. | | LLI_14-037_9_1406251101 |
| SEI-312 | 200-SB-6 | 155.30 | Rock | 200-SB-6-155.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:29 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-313 | 200-SB-6 | 158.00 | Rock | 200-SB-6-158.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:48 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-314 | 200-SB-6 | 158.40 | Rock | 200-SB-6-158.40-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:49 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-315 | 200-SB-6 | 160.00 | Rock | 200-SB-6-160.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:51 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-316 | 200-SB-6 | 160.30 | Rock | 200-SB-6-160.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:52 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-317 | 200-SB-6 | 163.00 | Rock | 200-SB-6-163.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:31 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-318 | 200-SB-6 | 163.50 | Rock | 200-SB-6-163.50-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:32 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-319 | 200-SB-6 | 164.30 | Rock | 200-SB-6-164.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:34 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-320 | 200-SB-6 | 164.80 | Rock | 200-SB-6-164.80-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:36 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-321 | 200-SB-6 | 166.60 | Rock | 200-SB-6-166.60-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:37 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-322 | 200-SB-6 | 167.30 | Rock | 200-SB-6-167.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:54 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | SEI-322 | LLI_14-037_11_1406251316 |
| SEI-322-MS | 200-SB-6 | 167.30 | Rock | 200-SB-6-167.30-VOC-MS | Matrix Spike | 1 | CJM | 6/25/2014 | 9:55 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | SEI-322 | LLI_14-037_11_1406251316 |
| SEI-322-MSD | 200-SB-6 | 167.30 | Rock | 200-SB-6-167.30-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/25/2014 | 9:57 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | SEI-322 | LLI_14-037_11_1406251316 |
| SEI-325 | 200-SB-6 | 167.80 | Rock | 200-SB-6-167.80-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:58 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-326 | 200-SB-6 | 168.30 | Rock | 200-SB-6-168.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 9:59 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-327 | 200-SB-6 | 171.30 | Rock | 200-SB-6-171.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 10:00 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-328 | 200-SB-6 | 174.10 | Rock | 200-SB-6-174.10-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 10:20 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-329 | FD | 174.10 | Rock | FD-12 | Field Duplicate | 1 | CJM | 6/25/2014 | 10:21 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-330 | 200-SB-6 | 174.50 | Rock | 200-SB-6-174.50-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 10:22 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-331 | 200-SB-6 | 179.50 | Rock | 200-SB-6-179.50-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:14 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-332 | 200-SB-6 | 183.00 | Rock | 200-SB-6-183.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:15 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-333 | 200-SB-6 | 183.40 | Rock | 200-SB-6-183.40-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:16 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-334 | 200-SB-6 | 185.40 | Rock | 200-SB-6-185.40-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:37 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-335 | 200-SB-6 | 186.40 | Rock | 200-SB-6-186.40-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:39 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-336 | 200-SB-6 | 186.70 | Rock | 200-SB-6-186.70-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:41 AM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-337 | 200-SB-6 | 190.20 | Rock | 200-SB-6-190.20-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:10 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-338 | 200-SB-6 | 190.60 | Rock | 200-SB-6-190.60-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:11 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-339 | 200-SB-6 | 193.70 | Rock | 200-SB-6-193.70-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:13 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-340 | 200-SB-6 | 194.80 | Rock | 200-SB-6-194.80-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:33 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | SEI-340 | LLI_14-037_11_1406251316 |
| SEI-340-MS | 200-SB-6 | 194.80 | Rock | 200-SB-6-194.80-VOC-MS | Matrix Spike | 1 | CJM | 6/25/2014 | 12:34 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | SEI-340 | LLI_14-037_11_1406251316 |
| SEI-340-MSD | 200-SB-6 | 194.80 | Rock | 200-SB-6-194.80-VOC-MSD | Matrix Spike Duplicate | 1 | CJM | 6/25/2014 | 12:35 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | SEI-340 | LLI_14-037_11_1406251316 |
| SEI-343 | 200-SB-6 | 195.30 | Rock | 200-SB-6-195.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:36 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-344 | 200-SB-6 | 196.70 | Rock | 200-SB-6-196.70-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:39 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-345 | EB | 000.05 | Rock | EB-25 | Equipment Blank | 1 | CJM | 6/25/2014 | 1:00 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-346 | TB | 000.03 | Rock | TB-10 | Trip Blank | 1 | CJM | 6/25/2014 | 1:18 PM | SEI-6.37.x | MJM | 6/27/2014 | 1:30 PM | 20.8 | C | Sample shipment delayed one day. | | LLI_14-037_11_1406251316 |
| SEI-347 | 200-SB-6 | 150.30 | Rock | 200-SB-6-150.30-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:07 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-348 | 200-SB-6 | 152.80 | Rock | 200-SB-6-152.80-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:26 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-349 | 200-SB-6 | 153.60 | Rock | 200-SB-6-153.60-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 8:28 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-350 | 200-SB-6 | 172.00 | Rock | 200-SB-6-172.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 10:02 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-351 | 200-SB-6 | 179.20 | Rock | 200-SB-6-179.20-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:12 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-352 | 200-SB-6 | 187.40 | Rock | 200-SB-6-187.40-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 11:43 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-353 | 200-SB-6 | 196.00 | Rock | 200-SB-6-196.00-VOC | Normal Sample | 1 | CJM | 6/25/2014 | 12:37 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-354 | EB | 000.06 | Rock | EB-23 | Equipment Blank | 1 | CJM | 6/25/2014 | 9:41 AM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-355 | EB | 000.07 | Rock | EB-24 | Equipment Blank | 1 | CJM | 6/25/2014 | 12:23 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-356 | 200-SB-6 | 110.40 | Rock | 200-SB-6-110.40-VOC | Normal Sample | 1 | CJM | 6/24/2014 | 12:55 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |
| SEI-357 | TB | 000.12 | Rock | TB-12 | Trip Blank | 1 | CJM | 6/25/2014 | 1:30 PM | SEI-6.37.x | MJM | 6/27/2014 | 2:00 PM | 17.6 | C | Sample shipment delayed one day. | | LLI_14-037_12_1406251328 |

| Lab ID | Sample Name | Container ID | Initial Mass | Final Vial Mass | Final Sample Weight |
|---|---|---|---|---|---|
| SEI-247 | 200-SB-6-100.20-VOC | VOC-0259 | 41.11 | 72.35 | 31.24 |
| SEI-248 | 200-SB-6-100.50-VOC | VOC-0260 | 40.91 | 69.27 | 28.36 |
| SEI-249 | 200-SB-6-103.10-VOC | VOC-0261 | 41.35 | 66.88 | 25.53 |
| SEI-250 | 200-SB-6-104.10-VOC | VOC-0262 | 41.31 | 75.67 | 34.36 |
| SEI-251 | 200-SB-6-104.50-VOC | VOC-0263 | 40.45 | 63.01 | 22.56 |
| SEI-252 | 200-SB-6-105.65-VOC | VOC-0264 | 40.68 | 58.9 | 18.22 |
| SEI-253 | 200-SB-6-106.50-VOC | VOC-0267 | 41.3 | 62.85 | 21.55 |
| SEI-281 | 200-SB-6-108.50-VOC | VOC-0268 | 41.05 | 67.24 | 26.19 |
| SEI-356 | 200-SB-6-110.40-VOC | VOC-0269 | 40.71 | 69.1 | 28.39 |
| SEI-282 | 200-SB-6-110.75-VOC | VOC-0270 | 40.91 | 70.02 | 29.11 |
| SEI-283 | 200-SB-6-111.40-VOC | VOC-0271 | 41.27 | 72.27 | 31 |
| SEI-284 | 200-SB-6-113.90-VOC | VOC-0272 | 41.11 | 66.98 | 25.87 |
| SEI-254 | 200-SB-6-114.20-VOC | VOC-0273 | 40.75 | 76.66 | 35.91 |
| SEI-285 | 200-SB-6-114.80-VOC | VOC-0274 | 41.18 | 68.65 | 27.47 |
| SEI-286 | 200-SB-6-115.50-VOC | VOC-0275 | 40.83 | 67.54 | 26.71 |
| SEI-255 | 200-SB-6-115.80-VOC | VOC-0276 | 41.09 | 68.73 | 27.64 |
| SEI-255-MS | 200-SB-6-115.80-VOC-MS | VOC-0277 | 41.29 | 72.01 | 30.72 |
| SEI-255-MSD | 200-SB-6-115.80-VOC-MSD | VOC-0278 | 41.48 | 70.36 | 28.88 |
| SEI-258 | 200-SB-6-118.90-VOC | VOC-0279 | 41.3 | 62.82 | 21.52 |
| SEI-260 | 200-SB-6-119.20-VOC | VOC-0281 | 41.32 | 62.41 | 21.09 |
| SEI-261 | 200-SB-6-119.55-VOC | VOC-0282 | 40.99 | 64.7 | 23.71 |
| SEI-262 | 200-SB-6-120.80-VOC | VOC-0283 | 41.09 | 63.99 | 22.9 |
| SEI-263 | 200-SB-6-121.10-VOC | VOC-0284 | 40.84 | 61.95 | 21.11 |
| SEI-287 | 200-SB-6-124.80-VOC | VOC-0285 | 41.46 | 69.61 | 28.15 |
| SEI-288 | 200-SB-6-125.10-VOC | VOC-0286 | 41.21 | 64.04 | 22.83 |
| SEI-289 | 200-SB-6-127.00-VOC | VOC-0287 | 41.43 | 69.51 | 28.08 |
| SEI-290 | 200-SB-6-127.30-VOC | VOC-0288 | 41.5 | 66.73 | 25.23 |
| SEI-291 | 200-SB-6-127.60-VOC | VOC-0289 | 41.16 | 67.49 | 26.33 |
| SEI-292 | 200-SB-6-129.70-VOC | VOC-0290 | 41.23 | 62.72 | 21.49 |
| SEI-293 | 200-SB-6-130.00-VOC | VOC-0291 | 40.84 | 58.37 | 17.53 |
| SEI-294 | 200-SB-6-132.50-VOC | VOC-0292 | 41.21 | 62.04 | 20.83 |
| SEI-295 | 200-SB-6-133.00-VOC | VOC-0293 | 41.12 | 65.27 | 24.15 |
| SEI-296 | 200-SB-6-135.10-VOC | VOC-0294 | 40.59 | 63.85 | 23.26 |
| SEI-297 | 200-SB-6-137.40-VOC | VOC-0295 | 40.98 | 68.31 | 27.33 |
| SEI-298 | 200-SB-6-138.15-VOC | VOC-0296 | 41.23 | 65.99 | 24.76 |
| SEI-299 | 200-SB-6-142.20-VOC | VOC-0298 | 40.77 | 73.71 | 32.94 |
| SEI-300 | 200-SB-6-143.80-VOC | VOC-0299 | 41 | 67.5 | 26.5 |
| SEI-301 | 200-SB-6-145.00-VOC | VOC-0300 | 41.3 | 63.16 | 21.86 |
| SEI-301-MS | 200-SB-6-145.00-VOC-MS | VOC-0301 | 41.28 | 67.07 | 25.79 |
| SEI-301-MSD | 200-SB-6-145.00-VOC-MSD | VOC-0302 | 41.23 | 64.59 | 23.36 |
| SEI-304 | 200-SB-6-145.30-VOC | VOC-0303 | 40.57 | 59.69 | 19.12 |
| SEI-306 | 200-SB-6-145.90-VOC | VOC-0305 | 41.15 | 64.78 | 23.63 |
| SEI-307 | 200-SB-6-147.60-VOC | VOC-0306 | 40.95 | 69.59 | 28.64 |
| SEI-308 | 200-SB-6-149.20-VOC | VOC-0307 | 40.83 | 71.46 | 30.63 |
| SEI-309 | 200-SB-6-149.80-VOC | VOC-0308 | 40.96 | 66.12 | 25.16 |

| Lab ID | Sample Name | Container ID | Initial Mass | Final Vial Mass | Final Sample Weight |
|---|---|---|---|---|---|
| SEI-347 | 200-SB-6-150.30-VOC | VOC-0309 | 41.04 | 72.59 | 31.55 |
| SEI-348 | 200-SB-6-152.80-VOC | VOC-0310 | 40.89 | 68.35 | 27.46 |
| SEI-349 | 200-SB-6-153.60-VOC | VOC-0311 | 40.62 | 70.95 | 30.33 |
| SEI-312 | 200-SB-6-155.30-VOC | VOC-0312 | 41.26 | 65.59 | 24.33 |
| SEI-313 | 200-SB-6-158.00-VOC | VOC-0313 | 40.98 | 70.35 | 29.37 |
| SEI-314 | 200-SB-6-158.40-VOC | VOC-0314 | 41.02 | 77.92 | 36.9 |
| SEI-315 | 200-SB-6-160.00-VOC | VOC-0315 | 40.98 | 62.61 | 21.63 |
| SEI-316 | 200-SB-6-160.30-VOC | VOC-0316 | 41.28 | 71.09 | 29.81 |
| SEI-317 | 200-SB-6-163.00-VOC | VOC-0317 | 40.97 | 69.93 | 28.96 |
| SEI-318 | 200-SB-6-163.50-VOC | VOC-0318 | 41.2 | 91.08 | 49.88 |
| SEI-319 | 200-SB-6-164.30-VOC | VOC-0319 | 40.96 | 66.83 | 25.87 |
| SEI-320 | 200-SB-6-164.80-VOC | VOC-0320 | 40.89 | 71.14 | 30.25 |
| SEI-321 | 200-SB-6-166.60-VOC | VOC-0322 | 40.5 | 79.83 | 39.33 |
| SEI-322 | 200-SB-6-167.30-VOC | VOC-0323 | 40.76 | 62.36 | 21.6 |
| SEI-322-MS | 200-SB-6-167.30-VOC-MS | VOC-0324 | 40.54 | 62.6 | 22.06 |
| SEI-322-MSD | 200-SB-6-167.30-VOC-MSD | VOC-0325 | 40.98 | 58.24 | 17.26 |
| SEI-325 | 200-SB-6-167.80-VOC | VOC-0326 | 41.37 | 66.1 | 24.73 |
| SEI-326 | 200-SB-6-168.30-VOC | VOC-0327 | 41.19 | 63.26 | 22.07 |
| SEI-327 | 200-SB-6-171.30-VOC | VOC-0328 | 41.19 | 69.18 | 27.99 |
| SEI-350 | 200-SB-6-172.00-VOC | VOC-0329 | 40.88 | 63.61 | 22.73 |
| SEI-328 | 200-SB-6-174.10-VOC | VOC-0330 | 40.12 | 71.76 | 31.64 |
| SEI-330 | 200-SB-6-174.50-VOC | VOC-0334 | 40.62 | 82.51 | 41.89 |
| SEI-351 | 200-SB-6-179.20-VOC | VOC-0336 | 41.17 | 61.77 | 20.6 |
| SEI-331 | 200-SB-6-179.50-VOC | VOC-0337 | 41 | 73.44 | 32.44 |
| SEI-332 | 200-SB-6-183.00-VOC | VOC-0338 | 41.4 | 69.68 | 28.28 |
| SEI-333 | 200-SB-6-183.40-VOC | VOC-0339 | 41.14 | 68.5 | 27.36 |
| SEI-334 | 200-SB-6-185.40-VOC | VOC-0340 | 41.41 | 67.41 | 26 |
| SEI-335 | 200-SB-6-186.40-VOC | VOC-0341 | 41.44 | 73.74 | 32.3 |
| SEI-336 | 200-SB-6-186.70-VOC | VOC-0342 | 41.61 | 68.22 | 26.61 |
| SEI-352 | 200-SB-6-187.40-VOC | VOC-0343 | 41.5 | 60.56 | 19.06 |
| SEI-337 | 200-SB-6-190.20-VOC | VOC-0346 | 42.55 | 73.8 | 31.25 |
| SEI-338 | 200-SB-6-190.60-VOC | VOC-0347 | 40.6 | 71.52 | 30.92 |
| SEI-339 | 200-SB-6-193.70-VOC | VOC-0348 | 41.23 | 83.72 | 42.49 |
| SEI-340 | 200-SB-6-194.80-VOC | VOC-0349 | 41.24 | 71.08 | 29.84 |
| SEI-340-MS | 200-SB-6-194.80-VOC-MS | VOC-0350 | 41.42 | 62.55 | 21.13 |
| SEI-340-MSD | 200-SB-6-194.80-VOC-MSD | VOC-0351 | 41.26 | 67.88 | 26.62 |
| SEI-343 | 200-SB-6-195.30-VOC | VOC-0352 | 41.15 | 66.87 | 25.72 |
| SEI-353 | 200-SB-6-196.00-VOC | VOC-0353 | 41.02 | 67.76 | 26.74 |
| SEI-344 | 200-SB-6-196.70-VOC | VOC-0354 | 41.48 | 69.61 | 28.13 |
| SEI-264 | 200-SB-6-86.90-VOC | VOC-0245 | 40.84 | 76.42 | 35.58 |
| SEI-265 | 200-SB-6-87.60-VOC | VOC-0246 | 41.29 | 63.46 | 22.17 |
| SEI-266 | 200-SB-6-90.20-VOC | VOC-0248 | 41.03 | 69.05 | 28.02 |
| SEI-267 | 200-SB-6-90.90-VOC | VOC-0249 | 40.7 | 67.99 | 27.29 |
| SEI-268 | 200-SB-6-91.20-VOC | VOC-0250 | 40.91 | 61.93 | 21.02 |
| SEI-268-MS | 200-SB-6-91.20-VOC-MS | VOC-0251 | 41.12 | 65.26 | 24.14 |

SDG-4: Summary of Sample Weights

| Lab ID | Sample Name | Container ID | Initial Mass | Final Vial Mass | Final Sample Weight |
|---|---|---|---|---|---|
| SEI-268-MSD | 200-SB-6-91.20-VOC-MSD | VOC-0252 | 41.25 | 61.31 | 20.06 |
| SEI-271 | 200-SB-6-93.50-VOC | VOC-0253 | 40.87 | 65.81 | 24.94 |
| SEI-272 | 200-SB-6-94.00-VOC | VOC-0254 | 41.25 | 58.26 | 17.01 |
| SEI-274 | 200-SB-6-94.80-VOC | VOC-0256 | 40.76 | 71.44 | 30.68 |
| SEI-275 | 200-SB-6-95.25-VOC | VOC-0257 | 41.16 | 69.88 | 28.72 |
| SEI-276 | 200-SB-6-95.55-VOC | VOC-0258 | 41.25 | 69.9 | 28.65 |
| SEI-310 | EB-19 | VOC-0120 | 41.06 | | 15 |
| SEI-277 | EB-20 | VOC-0121 | 41.16 | | 15 |
| SEI-278 | EB-21 | VOC-0122 | 41.06 | | 15 |
| SEI-279 | EB-22 | VOC-0123 | 40.5 | | 15 |
| SEI-354 | EB-23 | VOC-0124 | 40.84 | | 15 |
| SEI-355 | EB-24 | VOC-0345 | 42.49 | | 15 |
| SEI-345 | EB-25 | VOC-0344 | 41.42 | | 15 |
| SEI-273 | FD-09 | VOC-0255 | 41.2 | 70.6 | 29.4 |
| SEI-259 | FD-10 | VOC-0280 | 41.11 | 59.9 | 18.79 |
| SEI-305 | FD-11 | VOC-0304 | 40.89 | 65.63 | 24.74 |
| SEI-329 | FD-12 | VOC-0331 | 41.59 | 68.91 | 27.32 |
| SEI-280 | TB-08 | | | | 15 |
| SEI-311 | TB-09 | | | | 15 |
| SEI-346 | TB-10 | | | | 15 |
| SEI-357 | TB-12 | | | | 15 |

# Chain of Custody Record

SDG-4

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | SEI-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-5-120.80-VOC | 262 | Rock VOC | VOC-0283 | 40mL VOA | 1 | 6/24/2014 | 13:58 | MeOH | MAE | VOCs Rock |
| 200-SB-5-119.55-VOC | 261 | Rock VOC | VOC-0282 | 40mL VOA | 1 | 6/24/2014 | 13:57 | MeOH | MAE | VOCs Rock |
| EB-20 | 277 | Equip Blank | VOC-0121 | 40mL VOA | 1 | ~~12/30/1899~~ 6/24/14 | 16:30 | MeOH | None | VOCs Rock |
| EB-21 | 278 | Equip Blank | VOC-0122 | 40mL VOA | 1 | 6/24/2014 | 17:07 | MeOH | None | VOCs Rock |
| 200-SB-5-115.80-VOC-MSD | 255-MSD | Rock VOC | VOC-0278 | 40mL VOA | 1 | 6/24/2014 | 13:30 | MeOH | MAE | VOCs Rock |
| 200-SB-5-121.10-VOC | 263 | Rock VOC | VOC-0284 | 40mL VOA | 1 | 6/24/2014 | 14:00 | MeOH | MAE | VOCs Rock |
| 200-SB-5-119.20-VOC | 260 | Rock VOC | VOC-0281 | 40mL VOA | 1 | 6/24/2014 | 13:56 | MeOH | MAE | VOCs Rock |
| FD-10 | 259 | Rock VOC | VOC-0280 | 40mL VOA | 1 | 6/24/2014 | 13:54 | MeOH | MAE | VOCs Rock |
| 200-SB-5-118.90-VOC | 258 | Rock VOC | VOC-0279 | 40mL VOA | 1 | 6/24/2014 | 13:53 | MeOH | MAE | VOCs Rock |
| 200-SB-5-115.80-VOC-MS | 255-MS | Rock VOC | VOC-0277 | 40mL VOA | 1 | 6/24/2014 | 13:29 | MeOH | MAE | VOCs Rock |
| 200-SB-5-114.20-VOC | 254 | Rock VOC | VOC-0273 | 40mL VOA | 1 | 6/24/2014 | 13:24 | MeOH | MAE | VOCs Rock |
| 200-SB-5-86.90-VOC | 264 | Rock VOC | VOC-0245 | 40mL VOA | 1 | 6/24/2014 | 10:13 | MeOH | MAE | VOCs Rock |
| 200-SB-5-87.60-VOC | 265 | Rock VOC | VOC-0246 | 40mL VOA | 1 | 6/24/2014 | 10:15 | MeOH | MAE | VOCs Rock |
| 200-SB-5-90.90-VOC | 267 | Rock VOC | VOC-0249 | 40mL VOA | 1 | 6/24/2014 | 10:33 | MeOH | MAE | VOCs Rock |
| 200-SB-5-90.20-VOC | 266 | Rock VOC | VOC-0248 | 40mL VOA | 1 | 6/24/2014 | 10:31 | MeOH | MAE | VOCs Rock |

Wednesday, June 25, 2014 → SEI-255 Cooler ID 8



Field Sample 200-SB-5-115.80-VOC moved to this shipment [illegible]

| Sample ID | SET-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-~~5~~-94.80-VOC (6 HE 9/18/14) | 274 | Rock VOC | VOC-0256 | 40mL VOA | 1 | ~~12/30/1899~~ 6/24/14 HE 7/3/14 | 10:58 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-91.20-VOC (6 HE 9/18/14) | 268 | Rock VOC | VOC-0250 | 40mL VOA | 1 | 6/24/2014 | 10:33 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-93.50-VOC (6 HE 9/18/14) | 271 | Rock VOC | VOC-0253 | 40mL VOA | 1 | 6/24/2014 | 10:55 | MeOH | MAE | VOCs Rock |
| FD-09 | 273 | Rock VOC | VOC-0255 | 40mL VOA | 1 | ~~12/30/1899~~ 6/24/14 HE 7/3/14 | 10:57 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-91.20-VOC-MSD (6 HE 9/18/14) | 268-MSD | Rock VOC | VOC-0252 (VOC-35) | 40mL VOA | 1 | 6/24/2014 | 10:38 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-95.55-VOC (6 HE 9/18/14) | 276 | Rock VOC | VOC-0258 | 40mL VOA | 1 | ~~12/30/1899~~ 6/24/14 HE 7/3/14 | 11:00 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-91.20-VOC-MS (6 HE 9/18/14) | 268-MS | Rock VOC | VOC-0251 (VOC-35) | 40mL VOA | 1 | 6/24/2014 | 10:37 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-95.25-VOC (6 HE 9/18/14) | 275 | Rock VOC | VOC-0257 | 40mL VOA | 1 | ~~12/30/1899~~ 6/24/14 HE 7/3/14 | 10:59 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-94.00-VOC (6 HE 9/18/14) | 272 | Rock VOC | VOC-0254 | 40mL VOA | 1 | 6/24/2014 | 10:56 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-100.20-VOC (6 HE 9/18/14) | 247 | Rock VOC | VOC-0259 | 40mL VOA | 1 | 6/24/2014 | 11:57 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-104.10-VOC (6 HE 9/18/14) | 250 | Rock VOC | VOC-0262 | 40mL VOA | 1 | 6/24/2014 | 12:23 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-103.10-VOC (6 HE 9/18/14) | 249 | Rock VOC | VOC-0261 | 40mL VOA | 1 | 6/24/2014 | 12:22 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-104.50-VOC (6 HE 9/18/14) | 251 | Rock VOC | VOC-0263 | 40mL VOA | 1 | 6/24/2014 | 12:25 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-100.50-VOC (6 HE 9/18/14) | 248 | Rock VOC | VOC-0260 | 40mL VOA | 1 | 6/24/2014 | 11:58 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-106.50-VOC (6 HE 9/18/14) | 253 | Rock VOC | VOC-0267 | 40mL VOA | 1 | 6/24/2014 | 12:28 | MeOH | MAE | VOCs Rock |
| 200-SB-~~5~~-105.65-VOC (6 HE 9/18/14) | 252 | Rock VOC | VOC-0264 | 40mL VOA | 1 | 6/24/2014 | 12:26 | MeOH | MAE | VOCs Rock |
| EB-22 | 279 | Equip Blank | VOC-0123 | 40mL VOA | 1 | 6/25/2014 | 07:00 | MeOH | None | VOCs Rock |

| | | | |
|---|---|---|---|
| Relinquished By: | Date/Time: 6/25/14 0825 | Sample Integrity: | |
| Received By: [signature] | Date/Time: 6/27/14 1335 | Temperature: | 16.8°C |
| Relinquished By: | Date/Time: | In Tact: | |
| Received By: | Date/Time: | On Ice: ~ | Ice Packs: X |

TB-09 280 TRIP Blank VOC-0297 6/25/2014 08:00 MeOH None VOCs

NOTE. Samples stuck in Memphis TN overnight, elevated temps @ receipt

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | SET-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Mass (g) | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 HE, 9/18/14 200-SB-~~5~~-108.50-VOC | 281 | Rock VOC | VOC-0268 | 40mL VOA | 1 | 6/24/2014 | 12:51 | MeOH | MAE | 67.24 | VOCs Rock |
| ~~200-SB-5-110.40-VOC~~ | | ~~Rock VOC~~ | ~~VOC-0269~~ | ~~40mL VOA~~ | ~~1~~ | ~~6/24/2014~~ | ~~12:55~~ | ~~MeOH~~ | ~~MAE~~ | | ~~VOCs Rock~~ |
| 6 HE, 9/18/14 200-SB-~~5~~-110.75-VOC | 282 | Rock VOC | VOC-0270 | 40mL VOA | 1 | 6/24/2014 | 12:56 | MeOH | MAE | 70.02 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-111.40-VOC | 283 | Rock VOC | VOC-0271 | 40mL VOA | 1 | 6/24/2014 | 12:58 | MeOH | MAE | 72.27 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-113.90-VOC | 284 | Rock VOC | VOC-0272 | 40mL VOA | 1 | 6/24/2014 | 13:22 | MeOH | MAE | 66.98 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-114.80-VOC | 285 | Rock VOC | VOC-0274 | 40mL VOA | 1 | 6/24/2014 | 13:25 | MeOH | MAE | 68.65 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-115.50-VOC | 286 | Rock VOC | VOC-0275 | 40mL VOA | 1 | 6/24/2014 | 13:27 | MeOH | MAE | 67.54 | VOCs Rock |
| * 6 HE, 9/18/14 200-SB-~~5~~-115.80-VOC | 255 | Rock VOC | VOC-0276 | 40mL VOA | 1 | 6/24/2014 | 13:28 | MeOH | MAE | | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-124.80-VOC | 287 | Rock VOC | VOC-0285 | 40mL VOA | 1 | 6/24/2014 | 14:49 | MeOH | MAE | 69.61 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-125.10-VOC | 288 | Rock VOC | VOC-0286 | 40mL VOA | 1 | 6/24/2014 | 14:50 | MeOH | MAE | 64.04 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-127.00-VOC | 289 | Rock VOC | VOC-0287 | 40mL VOA | 1 | 6/24/2014 | 14:52 | MeOH | MAE | 69.51 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-127.30-VOC | 290 | Rock VOC | VOC-0288 | 40mL VOA | 1 | 6/24/2014 | 14:53 | MeOH | MAE | 66.73 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-127.60-VOC | 291 | Rock VOC | VOC-0289 | 40mL VOA | 1 | 6/24/2014 | 14:55 | MeOH | MAE | 67.49 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-129.70-VOC | 292 | Rock VOC | VOC-0290 | 40mL VOA | 1 | 6/24/2014 | 15:56 | MeOH | MAE | 62.72 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-~~5~~-130.00-VOC | 293 | Rock VOC | VOC-0291 | 40mL VOA | 1 | 6/24/2014 | 15:58 | MeOH | MAE | 58.37 | VOCs Rock |

Wednesday, June 25, 2014

~~* logged into SDG-3~~ HE, 9/18/14 Cooler ID 9

[illegible] logged into SDG-4.

* not in this cooler, located [illegible]

| Sample ID | SEL-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction (Mass (g)) | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 HE, 9/18/14 200-SB-5-132.50-VOC | 294 | Rock VOC | VOC-0292 | 40mL VOA | 1 | 6/24/2014 | 16:28 | MeOH | MAE 62.04 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-133.00-VOC | 295 | Rock VOC | VOC-0293 | 40mL VOA | 1 | 6/24/2014 | 16:29 | MeOH | MAE 65.27 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-135.10-VOC | 296 | Rock VOC | VOC-0294 | 40mL VOA | 1 | 6/24/2014 | 16:31 | MeOH | MAE 63.85 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-137.40-VOC | 297 | Rock VOC | VOC-0295 | 40mL VOA | 1 | 6/24/2014 | 17:03 | MeOH | MAE 68.31 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-138.15-VOC | 298 | Rock VOC | VOC-0296 | 40mL VOA | 1 | 6/24/2014 | 17:04 | MeOH | MAE 65.99 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-142.20-VOC | 299 | Rock VOC | VOC-0298 | 40mL VOA | 1 | 6/25/2014 | 07:35 | MeOH | MAE 73.71 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-143.80-VOC | 300 | Rock VOC | VOC-0299 | 40mL VOA | 1 | 6/25/2014 | 07:37 | MeOH | MAE 67.50 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-145.00-VOC | 301 | Rock VOC | VOC-0300 | 40mL VOA | 1 | 6/25/2014 | 07:38 | MeOH | MAE 63.14 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-145.00-VOC-MS | 301-MS | Rock VOC | VOC-0301 | 40mL VOA | 1 | 6/25/2014 | 07:39 | MeOH | MAE 67.07 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-145.00-VOC-MSD | 301-MSD | Rock VOC | VOC-0302 | 40mL VOA | 1 | 6/25/2014 | 07:40 | MeOH | MAE 64.59 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-145.30-VOC | 304 | Rock VOC | VOC-0303 | 40mL VOA | 1 | 6/25/2014 | 07:41 | MeOH | MAE 59.69 | VOCs Rock |
| FD-11 | 305 | Rock VOC | VOC-0304 | 40mL VOA | 1 | 6/25/2014 | 07:43 | MeOH | MAE 65.63 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-145.90-VOC | 306 | Rock VOC | VOC-0305 | 40mL VOA | 1 | 6/25/2014 | 07:44 | MeOH | MAE 64.78 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-147.60-VOC | 307 | Rock VOC | VOC-0306 | 40mL VOA | 1 | 6/25/2014 | 08:02 | MeOH | MAE 69.59 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-149.20-VOC | 308 | Rock VOC | VOC-0307 | 40mL VOA | 1 | 6/25/2014 | 08:03 | MeOH | MAE 71.46 | VOCs Rock |
| 6 HE, 9/18/14 200-SB-5-149.80-VOC | 309 | Rock VOC | VOC-0308 | 40mL VOA | 1 | 6/25/2014 | 08:05 | MeOH | MAE 66.12 | VOCs Rock |
| EB-19 | 310 | Equip Blank | VOC-0120 | 40mL VOA | 1 | 6/24/2014 | 13:04 | MeOH | None | VOCs Rock |

| | | | |
|---|---|---|---|
| Relinquished By: | | Date/Time: 6/25/14 1510 | Sample Integrity: |
| Received By: Matt Mill | | Date/Time: 6/27/14 1400 | Temperature: 9.4°C |
| Relinquished By: | | Date/Time: | In Tact: ✓ |
| Received By: | | Date/Time: | On Ice:_____ Ice Packs: X |

TB-09 311 Trip Blank VOC-335 6/25/2014 11:00

NOTE: cooler stuck in Memphis, TN overnight and resulted in elevated temps at receipt.

Wednesday, June 25, 2014 Cooler ID 9

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

| Sample ID | SET # | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | Mass (g) | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 HE; 9/18/14 200-SB-~~5~~-155.30-VOC | 312 | Rock VOC | VOC-0312 | 40mL VOA | 1 | 6/25/2014 | 08:29 | MeOH | MAE | 65.59 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-158.00-VOC | 313 | Rock VOC | VOC-0313 | 40mL VOA | 1 | 6/25/2014 | 08:48 | MeOH | MAE | 70.35 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-158.40-VOC | 314 | Rock VOC | VOC-0314 | 40mL VOA | 1 | 6/25/2014 | 08:49 | MeOH | MAE | 77.92 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-160.00-VOC | 315 | Rock VOC | VOC-0315 | 40mL VOA | 1 | 6/25/2014 | 08:51 | MeOH | MAE | 62.61 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-160.30-VOC | 316 | Rock VOC | VOC-0316 | 40mL VOA | 1 | 6/25/14 | 08:52 | MeOH | MAE | 71.09 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-163.00-VOC | 317 | Rock VOC | VOC-0317 | 40mL VOA | 1 | 6/25/2014 | 09:31 | MeOH | MAE | 69.93 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-163.50-VOC | 318 | Rock VOC | VOC-0318 | 40mL VOA | 1 | 6/25/2014 | 09:32 | MeOH | MAE | 91.08 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-164.30-VOC | 319 | Rock VOC | VOC-0319 | 40mL VOA | 1 | 6/25/2014 | 09:34 | MeOH | MAE | 66.83 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-164.80-VOC | 320 | Rock VOC | VOC-0320 | 40mL VOA | 1 | 6/25/2014 | 09:36 | MeOH | MAE | 71.14 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-166.60-VOC | 321 | Rock VOC | VOC-0322 | 40mL VOA | 1 | 6/25/2014 | 09:37 | MeOH | MAE | 74.83 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-167.30-VOC | 322 | Rock VOC | VOC-0323 | 40mL VOA | 1 | 6/25/2014 | 09:54 | MeOH | MAE | 62.36 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-167.30-VOC-MS | 322-MS | Rock VOC | VOC-0324 | 40mL VOA | 1 | 6/25/2014 | 09:55 | MeOH | MAE | 62.60 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-167.80-VOC | 325 | Rock VOC | VOC-0326 | 40mL VOA | 1 | 6/25/2014 | 09:58 | MeOH | MAE | 66.10 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-168.30-VOC | 326 | Rock VOC | VOC-0327 | 40mL VOA | 1 | 6/25/2014 | 09:59 | MeOH | MAE | 63.26 | VOCs Rock |
| 6 HE; 9/18/14 200-SB-~~5~~-171.30-VOC | 327 | Rock VOC | VOC-0328 | 40mL VOA | 1 | 6/25/2014 | 10:00 | MeOH | MAE | 69.18 | VOCs Rock |

| Sample ID | SET-# | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction (MAES) | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-~~5~~-174.10-VOC (HE; 9/18/14) | 328 | Rock VOC | VOC-0330 | 40mL VOA | 1 | 6/25/2014 | 10:20 | MeOH | MAE 71.76 | VOCs Rock |
| FD-12 | 329 | Rock VOC | VOC-0331 | 40mL VOA | 1 | 6/25/2014 | 10:21 | MeOH | MAE 68.91 | VOCs Rock |
| 200-SB-~~5~~-174.50-VOC (HE; 9/18/14) | 330 | Rock VOC | VOC-0334 | 40mL VOA | 1 | 6/25/2014 | 10:22 | MeOH | MAE 82.51 | VOCs Rock |
| 200-SB-~~5~~-179.50-VOC (HE; 9/18/14) | 331 | Rock VOC | VOC-0337 | 40mL VOA | 1 | 6/25/2014 | 11:14 | MeOH | MAE 73.44 | VOCs Rock |
| 200-SB-~~5~~-183.00-VOC (HE; 9/18/14) | 332 | Rock VOC | VOC-0338 | 40mL VOA | 1 | 6/25/2014 | 11:15 | MeOH | MAE 69.68 | VOCs Rock |
| 200-SB-~~5~~-183.40-VOC (HE; 9/18/14) | 333 | Rock VOC | VOC-0339 | 40mL VOA | 1 | 6/25/2014 | 11:16 | MeOH | MAE 68.50 | VOCs Rock |
| 200-SB-~~5~~-185.40-VOC (HE; 9/18/14) | 334 | Rock VOC | VOC-0340 | 40mL VOA | 1 | 6/25/2014 | 11:37 | MeOH | MAE 67.41 | VOCs Rock |
| 200-SB-~~5~~-186.40-VOC (HE; 9/18/14) | 335 | Rock VOC | VOC-0341 | 40mL VOA | 1 | 6/25/2014 | 11:39 | MeOH | MAE 73.74 | VOCs Rock |
| 200-SB-~~5~~-186.70-VOC (HE; 9/18/14) | 336 | Rock VOC | VOC-0342 | 40mL VOA | 1 | 6/25/2014 | 11:41 | MeOH | MAE 68.22 | VOCs Rock |
| 200-SB-~~5~~-190.20-VOC (HE; 9/18/14) | 337 | Rock VOC | VOC-0346 | 40mL VOA | 1 | 6/25/2014 | 12:10 | MeOH | MAE 73.80 | VOCs Rock |
| 200-SB-~~5~~-190.60-VOC (HE; 9/18/14) | 338 | Rock VOC | VOC-0347 | 40mL VOA | 1 | 6/25/2014 | 12:11 | MeOH | MAE 71.52 | VOCs Rock |
| 200-SB-~~5~~-193.70-VOC (HE; 9/18/14) | 339 | Rock VOC | VOC-0348 | 40mL VOA | 1 | 6/25/2014 | 12:13 | MeOH | MAE 83.72 | VOCs Rock |
| 200-SB-~~5~~-194.80-VOC (HE; 9/18/14) | 340 | Rock VOC | VOC-0349 | 40mL VOA | 1 | 6/25/2014 | 12:33 | MeOH | MAE 71.08 | VOCs Rock |
| 200-SB-~~5~~-194.80-VOC-MSD (HE; 9/18/14) | 340-MSD | Rock VOC | VOC-0351 | 40mL VOA | 1 | 6/25/2014 | 12:35 | MeOH | MAE 67.88 | VOCs Rock |
| 200-SB-~~5~~-195.30-VOC (HE; 9/18/14) | 343 | Rock VOC | VOC-0352 | 40mL VOA | 1 | 6/25/2014 | 12:36 | MeOH | MAE 66.87 | VOCs Rock |
| 200-SB-~~5~~-196.70-VOC (HE; 9/18/14) | 344 | Rock VOC | VOC-0354 | 40mL VOA | 1 | 6/25/2014 | 12:39 | MeOH | MAE 69.61 | VOCs Rock |
| EB-25 | 345 | Equip Blank | VOC-0344 | 40mL VOA | 1 | 6/25/2014 | 13:00 | MeOH | None | VOCs Rock |

| | | | |
|---|---|---|---|
| Relinquished By: [signature] | Date/Time: 6/25/14 | Sample Integrity: | |
| Received By: [signature] | Date/Time: 6/27/14 1330 | Temperature: 20.8 | |
| Relinquished By: | Date/Time: | In Tact: | |
| Received By: | Date/Time: | On Ice: ____ Ice Packs: ✓ | |

TB-10 SET-# 346 Trip Blank VOC-356 6/25/14 13:18 MeOH

Wednesday, June 25, 2014 Cooler ID 11

NOTE: Sample cooler stuck in Memphis TN overnight resulting in elevated temps at receipt

# Chain of Custody Record

STONE ENVIRONMENTAL INC
535 Stone Cutters Way
Montpelier, Vermont
05602 USA
Phone / 802.229.4541
Fax / 802.229.5417
Web Site / www.stone-env.com

**Project #:** 14-037
**Project Name:** Navarro White Sands NM
**Project Manager:** Will Waterstrat
**Site:** Las Cruces, NM

TB-12 Trip Blank VOC-357 6/25/14 13:30 MeOH 357

| Sample ID | | Sample Type | Vial ID | Container Type | # Containers | Sample Date | Sample Time | Sample Preservative | VOC Extraction | SET # | Analyses Required |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 200-SB-~~5~~-150.30-VOC | 72.59 | Rock VOC | VOC-0309 | 40mL VOA | 1 | 6/25/2014 | 08:07 | MeOH | MAE | 347 | VOCs Rock |
| 200-SB-~~5~~-152.80-VOC | 68.35 | Rock VOC | VOC-0310 | 40mL VOA | 1 | 6/25/2014 | 08:26 | MeOH | MAE | 348 | VOCs Rock |
| 200-SB-~~5~~-153.60-VOC | 70.95 | Rock VOC | VOC-0311 | 40mL VOA | 1 | 6/25/2014 | 08:28 | MeOH | MAE | 349 | VOCs Rock |
| * 200-SB-~~5~~-167.30-VOC-MSD | 58.24 | Rock VOC | VOC-0325 | 40mL VOA | 1 | 6/25/2014 | 09:57 | MeOH | MAE | 322-MSD | VOCs Rock |
| 200-SB-~~5~~-172.00-VOC | 63.61 | Rock VOC | VOC-0329 | 40mL VOA | 1 | 6/25/2014 | 10:02 | MeOH | MAE | 350 | VOCs Rock |
| 200-SB-~~5~~-179.20-VOC | 61.77 | Rock VOC | VOC-0336 | 40mL VOA | 1 | 6/25/2014 | 11:12 | MeOH | MAE | 351 | VOCs Rock |
| 200-SB-~~5~~-187.40-VOC | 60.56 | Rock VOC | VOC-0343 | 40mL VOA | 1 | 6/25/2014 | 11:43 | MeOH | MAE | 352 | VOCs Rock |
| *' 200-SB-~~5~~-194.80-VOC-MS | 62.55 | Rock VOC | VOC-0350 | 40mL VOA | 1 | 6/25/2014 | 12:34 | MeOH | MAE | 340-MS | VOCs Rock |
| 200-SB-~~5~~-196.00-VOC | 67.76 | Rock VOC | VOC-0353 | 40mL VOA | 1 | 6/25/2014 | 12:37 | MeOH | MAE | 353 | VOCs Rock |
| EB-23 | 41.39 | Equip Blank | VOC-0124 | 40mL VOA | 1 | 6/25/2014 | 09:41 | MeOH | None | 354 | VOCs Rock |
| EB-24 | 42.91 | Equip Blank | VOC-0345 | 40mL VOA | 1 | 6/25/2014 | 12:23 | MeOH | None | 355 | VOCs Rock |

| | | | |
|---|---|---|---|
| Relinquished By: [signature] | Date/Time: 6/25/14 | Sample Integrity: | |
| Received By: Matt Miller | Date/Time: 6/27/14 1400 | Temperature: 17.6 °C | |
| Relinquished By: | Date/Time: | In Tact: | |
| Received By: | Date/Time: | On Ice: ____ Ice Packs: ✓ | |

200-SB-~~5~~-110.40-VOC Rock VOC VOC-269 40mL VOA 6/24/14 12:55 MeOH MAE 356 VOCs Rock

LA 69.10

NOTE: Sample cooler stuck in Memphis, TN overnight resulting in elevated temps (21 of 32 e-lot.)

Wednesday, June 25, 2014 Cooler ID 12

* parent and MS in cooler 11 / *' parent and MSD in cooler 11 ⟹ Both

# LABORATORY ANALYTICAL RESULTS

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineeri | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/29/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 086.90 | | 087.60 | | 090.20 | | 090.90 | | 091.20 | | 093.50 | | 094.00 | | 094.80 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-86.90-VOC | | 200-SB-6-87.60-VOC | | 200-SB-6-90.20-VOC | | 200-SB-6-90.90-VOC | | 200-SB-6-91.20-VOC | | 200-SB-6-93.50-VOC | | 200-SB-6-94.00-VOC | | 200-SB-6-94.80-VOC | |
| **Analysis Date** | | 07/09/14 04:30 | N | 07/09/14 04:51 | N | 07/09/14 05:12 | N | 07/09/14 05:32 | N | 07/14/14 18:24 | N | 07/08/14 22:13 | N | 07/08/14 22:34 | N | 07/08/14 23:16 | N |
| Chloromethane | 74-87-3 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 30.4 | JB | 32.1 | U | 47.0 | U | 26.1 | U |
| Trichlorofluoromethane | 75694 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 22.5 | U | 36.1 | U | 52.5 | | 50.1 | | 38.1 | U | 51.6 | | 47.0 | U | 23.7 | J |
| 1,1-Dichloroethene | 75-35-4 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Methylene Chloride | 75-09-2 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| t-Butyl-methyl ether | 1634-04-4 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Chloroform | 67-66-3 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| 2-Butanone | 78-93-3 | 225 | U | 361 | U | 286 | U | 293 | U | 381 | U | 321 | U | 470 | U | 261 | U |
| Benzene | 71-43-2 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| 1,2-Dichloroethane | 107-06-2 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Trichloroethene | 79-01-6 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 16.0 | J | 47.0 | U | 26.1 | U |
| Bromodichloromethane | 75-27-4 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Toluene | 108-88-3 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Tetrachloroethene | 127-18-4 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Dibromochloromethane | 124-48-1 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Chlorobenzene | 108-90-7 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| m,p-Xylenes | 136777612 | 5.85 | J | 8.30 | J | 6.28 | J | 6.45 | J | 38.1 | U | 11.2 | J | 16.0 | J | 8.60 | J |
| Bromoform | 75-25-2 | 22.5 | U | 36.1 | U | 28.6 | U | 29.3 | U | 38.1 | U | 32.1 | U | 47.0 | U | 26.1 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 88 | % | 88 | % | 84 | % | 81 | % | 98 | % | 84 | % | 90 | % | 85 | % |

| **Depth** | | 095.25 | | 095.55 | | 100.20 | | 100.50 | | 103.10 | | 104.10 | | 104.50 | | 105.65 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-95.25-VOC | | 200-SB-6-95.55-VOC | | 200-SB-6-100.20-VOC | | 200-SB-6-100.50-VOC | | 200-SB-6-103.10-VOC | | 200-SB-6-104.10-VOC | | 200-SB-6-104.50-VOC | | 200-SB-6-105.65-VOC | |
| **Analysis Date** | | 07/09/14 02:03 | N | 07/08/14 23:58 | N | 07/09/14 00:19 | N | 07/09/14 00:40 | N | 07/09/14 01:01 | N | 07/09/14 01:22 | N | 07/14/14 19:29 | N | 07/14/14 19:50 | N |
| Chloromethane | 74-87-3 | 26.2 | J | 22.6 | J | 18.4 | J | 37.8 | | 31.3 | U | 23.3 | U | 30.9 | JB | 34.7 | JB |
| Trichlorofluoromethane | 75694 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 267 | | 131 | | 117 | | 134 | |
| 1,1-Dichloroethene | 75-35-4 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Methylene Chloride | 75-09-2 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| t-Butyl-methyl ether | 1634-04-4 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Chloroform | 67-66-3 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| 2-Butanone | 78-93-3 | 279 | U | 279 | U | 256 | U | 282 | U | 313 | U | 233 | U | 355 | U | 439 | U |
| Benzene | 71-43-2 | 27.9 | U | 27.9 | U | 25.6 | U | 4.23 | J | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| 1,2-Dichloroethane | 107-06-2 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Trichloroethene | 79-01-6 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 62.4 | | 118 | | 61.0 | | 278 | |
| Bromodichloromethane | 75-27-4 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Toluene | 108-88-3 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Tetrachloroethene | 127-18-4 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 25.9 | J |
| Dibromochloromethane | 124-48-1 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Chlorobenzene | 108-90-7 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| m,p-Xylenes | 136777612 | 6.69 | J | 8.38 | J | 7.68 | J | 11.3 | J | 10.3 | J | 7.45 | J | 35.5 | U | 43.9 | U |
| Bromoform | 75-25-2 | 27.9 | U | 27.9 | U | 25.6 | U | 28.2 | U | 31.3 | U | 23.3 | U | 35.5 | U | 43.9 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 86 | % | 84 | % | 83 | % | 86 | % | 86 | % | 86 | % | 95 | % | 97 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineeri | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/29/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 106.50 | | 108.50 | | 110.40 | | 110.75 | | 111.40 | | 113.90 | | 114.20 | | 114.80 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-106.50-VOC | | 200-SB-6-108.50-VOC | | 200-SB-6-110.40-VOC | | 200-SB-6-110.75-VOC | | 200-SB-6-111.40-VOC | | 200-SB-6-113.90-VOC | | 200-SB-6-114.20-VOC | | 200-SB-6-114.80-VOC | |
| **Analysis Date** | | 07/14/14 20:12 | N | 07/15/14 03:10 | N | 07/17/14 02:38 | N | 07/15/14 03:31 | N | 07/15/14 03:51 | N | 07/15/14 04:12 | N | 07/14/14 20:33 | N | 07/14/14 14:13 | N |
| Chloromethane | 74-87-3 | 29.0 | JB | 22.6 | JB | 21.1 | JQB | 23.6 | JB | 15.5 | JB | 18.2 | JB | 20.1 | JB | 26.8 | JB |
| Trichlorofluoromethane | 75694 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 910 | | 2020 | | 22.0 | J | 27.5 | U | 25.8 | U | 370 | | 22.3 | U | 29.1 | U |
| 1,1-Dichloroethene | 75-35-4 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Methylene Chloride | 75-09-2 | 37.1 | U | 43.7 | | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| t-Butyl-methyl ether | 1634-04-4 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Chloroform | 67-66-3 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 37.1 | U | 12.8 | J | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| 2-Butanone | 78-93-3 | 371 | U | 305 | U | 282 | U | 275 | U | 258 | U | 309 | U | 223 | U | 291 | U |
| Benzene | 71-43-2 | 8.91 | J | 25.7 | J | 4.23 | JB | 6.32 | J | 25.8 | U | 5.57 | J | 102 | | 184 | |
| 1,2-Dichloroethane | 107-06-2 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Trichloroethene | 79-01-6 | 910 | | 2350 | | 52.4 | | 27.5 | U | 25.8 | U | 81.0 | | 22.3 | U | 29.1 | U |
| Bromodichloromethane | 75-27-4 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Toluene | 108-88-3 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 70.8 | | 228 | |
| 1,1,2-Trichloroethane | 79-00-5 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Tetrachloroethene | 127-18-4 | 37.1 | U | 40.3 | | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Dibromochloromethane | 124-48-1 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Chlorobenzene | 108-90-7 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| m,p-Xylenes | 136777612 | 37.1 | U | 30.5 | U | 7.33 | JB | 5.50 | JB | 25.8 | U | 30.9 | U | 16.5 | JB | 42.8 | |
| Bromoform | 75-25-2 | 37.1 | U | 30.5 | U | 28.2 | U | 27.5 | U | 25.8 | U | 30.9 | U | 22.3 | U | 29.1 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 93 | % | 95 | % | 97 | % | 94 | % | 92 | % | 89 | % | 95 | % | 94 | % |

| **Depth** | | 115.50 | | 115.80 | | 118.90 | | 119.20 | | 119.55 | | 120.80 | | 121.10 | | 124.80 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-115.50-VOC | | 200-SB-6-115.80-VOC | | 200-SB-6-118.90-VOC | | 200-SB-6-119.20-VOC | | 200-SB-6-119.55-VOC | | 200-SB-6-120.80-VOC | | 200-SB-6-121.10-VOC | | 200-SB-6-124.80-VOC | |
| **Analysis Date** | | 07/14/14 14:34 | N | 07/14/14 20:54 | N | 07/15/14 01:04 | N | 07/15/14 01:46 | N | 07/15/14 02:07 | N | 07/15/14 02:28 | N | 07/15/14 02:49 | N | 07/14/14 14:55 | N |
| Chloromethane | 74-87-3 | 23.1 | JB | 22.9 | JB | 32.7 | JB | 33.8 | JB | 27.3 | JB | 25.9 | JB | 26.5 | JB | 27.6 | JB |
| Trichlorofluoromethane | 75694 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| 1,1-Dichloroethene | 75-35-4 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Methylene Chloride | 75-09-2 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| t-Butyl-methyl ether | 1634-04-4 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Chloroform | 67-66-3 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| 2-Butanone | 78-93-3 | 300 | U | 289 | U | 372 | U | 379 | U | 337 | U | 349 | U | 379 | U | 284 | U |
| Benzene | 71-43-2 | 158 | | 194 | | 5.95 | J | 7.59 | J | 9.78 | J | 27.2 | J | 235 | | 302 | |
| 1,2-Dichloroethane | 107-06-2 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Trichloroethene | 79-01-6 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Bromodichloromethane | 75-27-4 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Toluene | 108-88-3 | 170 | | 240 | | 17.5 | J | 103 | | 172 | | 57.6 | | 300 | | 282 | |
| 1,1,2-Trichloroethane | 79-00-5 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Tetrachloroethene | 127-18-4 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Dibromochloromethane | 124-48-1 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Chlorobenzene | 108-90-7 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| m,p-Xylenes | 136777612 | 29.4 | JB | 33.9 | | 14.5 | JB | 15.6 | JB | 23.6 | JB | 17.8 | JB | 27.7 | JB | 27.9 | JB |
| Bromoform | 75-25-2 | 30.0 | U | 28.9 | U | 37.2 | U | 37.9 | U | 33.7 | U | 34.9 | U | 37.9 | U | 28.4 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 95 | % | 97 | % | 97 | % | 96 | % | 96 | % | 93 | % | 93 | % | 96 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineeri | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/29/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 125.10 | | 127.00 | | 127.30 | | 127.60 | | 129.70 | | 130.00 | | 132.50 | | 133.00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-125.10-VOC | | 200-SB-6-127.00-VOC | | 200-SB-6-127.30-VOC | | 200-SB-6-127.60-VOC | | 200-SB-6-129.70-VOC | | 200-SB-6-130.00-VOC | | 200-SB-6-132.50-VOC | | 200-SB-6-133.00-VOC | |
| **Analysis Date** | | 07/14/14 15:16 | N | 07/14/14 16:16 | N | 07/17/14 04:43 | N | 07/14/14 16:58 | N | 07/14/14 17:20 | N | 07/14/14 17:41 | N | 07/14/14 18:03 | N | 07/11/14 23:35 | N |
| Chloromethane | 74-87-3 | 39.9 | B | 37.0 | B | 20.0 | JB | 20.1 | JB | 20.1 | JB | 35.6 | JB | 36.9 | JB | 19.2 | JB |
| Trichlorofluoromethane | 75694 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 35.0 | U | 66.4 | | 47.9 | | 30.4 | U | 53.2 | | 39.2 | J | 38.4 | U | 33.1 | U |
| 1,1-Dichloroethene | 75-35-4 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Methylene Chloride | 75-09-2 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| t-Butyl-methyl ether | 1634-04-4 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Chloroform | 67-66-3 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| 2-Butanone | 78-93-3 | 350 | U | 285 | U | 317 | U | 304 | U | 372 | U | 456 | U | 384 | U | 331 | U |
| Benzene | 71-43-2 | 120 | | 4.84 | J | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 6.91 | J | 14.2 | J |
| 1,2-Dichloroethane | 107-06-2 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Trichloroethene | 79-01-6 | 35.0 | U | 39.0 | | 17.4 | J | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Bromodichloromethane | 75-27-4 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Toluene | 108-88-3 | 129 | | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 140 | |
| 1,1,2-Trichloroethane | 79-00-5 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Tetrachloroethene | 127-18-4 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Dibromochloromethane | 124-48-1 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Chlorobenzene | 108-90-7 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| m,p-Xylenes | 136777612 | 18.6 | JB | 28.5 | U | 7.93 | JB | 30.4 | U | 7.82 | JB | 9.58 | JB | 13.4 | JB | 26.5 | J |
| Bromoform | 75-25-2 | 35.0 | U | 28.5 | U | 31.7 | U | 30.4 | U | 37.2 | U | 45.6 | U | 38.4 | U | 33.1 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 98 | % | 94 | % | 93 | % | 93 | % | 93 | % | 94 | % | 98 | % | 95 | % |

| **Depth** | | 135.10 | | 137.40 | | 138.15 | | 142.20 | | 143.80 | | 145.00 | | 145.30 | | 145.90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-135.10-VOC | | 200-SB-6-137.40-VOC | | 200-SB-6-138.15-VOC | | 200-SB-6-142.20-VOC | | 200-SB-6-143.80-VOC | | 200-SB-6-145.00-VOC | | 200-SB-6-145.30-VOC | | 200-SB-6-145.90-VOC | |
| **Analysis Date** | | 07/11/14 23:14 | N | 07/17/14 04:01 | N | 07/11/14 22:33 | N | 07/11/14 22:12 | N | 07/11/14 21:51 | N | 07/12/14 01:39 | N | 07/11/14 21:09 | N | 07/11/14 20:48 | N |
| Chloromethane | 74-87-3 | 34.4 | U | 17.9 | JB | 20.7 | JB | 17.7 | JB | 30.2 | U | 27.8 | JB | 30.5 | JB | 33.9 | U |
| Trichlorofluoromethane | 75694 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 34.4 | U | 29.3 | U | 32.3 | U | 43.0 | | 850 | | 25.3 | J | 41.8 | U | 42.3 | |
| 1,1-Dichloroethene | 75-35-4 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Methylene Chloride | 75-09-2 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| t-Butyl-methyl ether | 1634-04-4 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Chloroform | 67-66-3 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| 2-Butanone | 78-93-3 | 344 | U | 293 | U | 323 | U | 243 | U | 302 | U | 366 | U | 418 | U | 339 | U |
| Benzene | 71-43-2 | 34.4 | U | 29.3 | U | 27.1 | J | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| 1,2-Dichloroethane | 107-06-2 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Trichloroethene | 79-01-6 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Bromodichloromethane | 75-27-4 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Toluene | 108-88-3 | 10.7 | J | 29.3 | U | 177 | | 24.3 | U | 30.2 | U | 36.6 | U | 20.1 | J | 33.9 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Tetrachloroethene | 127-18-4 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Dibromochloromethane | 124-48-1 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Chlorobenzene | 108-90-7 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| m,p-Xylenes | 136777612 | 12.0 | J | 7.03 | JB | 23.3 | J | 5.83 | J | 6.94 | J | 8.42 | J | 9.62 | J | 8.46 | J |
| Bromoform | 75-25-2 | 34.4 | U | 29.3 | U | 32.3 | U | 24.3 | U | 30.2 | U | 36.6 | U | 41.8 | U | 33.9 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 96 | % | 91 | % | 96 | % | 95 | % | 95 | % | 94 | % | 98 | % | 94 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineeri | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/29/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 147.60 | | 149.20 | | 149.80 | | 150.30 | | 152.80 | | 153.60 | | 155.30 | | 158.00 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-147.60-VOC | | 200-SB-6-149.20-VOC | | 200-SB-6-149.80-VOC | | 200-SB-6-150.30-VOC | | 200-SB-6-152.80-VOC | | 200-SB-6-153.60-VOC | | 200-SB-6-155.30-VOC | | 200-SB-6-158.00-VOC | |
| **Analysis Date** | | 07/11/14 20:27 | N | 07/12/14 02:42 | N | 07/12/14 03:02 | N | 07/12/14 03:23 | N | 07/12/14 03:43 | N | 07/12/14 04:04 | N | 07/12/14 04:25 | N | 07/17/14 05:03 | N |
| Chloromethane | 74-87-3 | 18.7 | JB | 17.5 | JB | 22.9 | JB | 18.0 | JB | 21.0 | JB | 21.4 | JB | 34.9 | B | 25.1 | JB |
| Trichlorofluoromethane | 75694 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 46.9 | |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 4270 | |
| 1,1-Dichloroethene | 75-35-4 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Methylene Chloride | 75-09-2 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| t-Butyl-methyl ether | 1634-04-4 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Chloroform | 67-66-3 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| 2-Butanone | 78-93-3 | 279 | U | 261 | U | 318 | U | 254 | U | 291 | U | 264 | U | 329 | U | 272 | U |
| Benzene | 71-43-2 | 27.9 | U | 20.6 | J | 14.3 | J | 25.4 | U | 29.1 | U | 4.75 | J | 32.9 | U | 27.2 | U |
| 1,2-Dichloroethane | 107-06-2 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Trichloroethene | 79-01-6 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Bromodichloromethane | 75-27-4 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Toluene | 108-88-3 | 27.9 | U | 14.6 | J | 14.3 | J | 25.4 | U | 29.1 | U | 25.6 | J | 32.9 | U | 27.2 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Tetrachloroethene | 127-18-4 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Dibromochloromethane | 124-48-1 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Chlorobenzene | 108-90-7 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| m,p-Xylenes | 136777612 | 6.70 | J | 5.22 | JB | 5.72 | JB | 25.4 | U | 29.1 | U | 5.01 | JB | 6.25 | JB | 7.08 | JB |
| Bromoform | 75-25-2 | 27.9 | U | 26.1 | U | 31.8 | U | 25.4 | U | 29.1 | U | 26.4 | U | 32.9 | U | 27.2 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 95 | % | 93 | % | 92 | % | 96 | % | 95 | % | 95 | % | 96 | % | 94 | % |

| **Depth** | | 158.40 | | 160.00 | | 160.30 | | 163.00 | | 163.50 | | 164.30 | | 164.80 | | 166.60 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-158.40-VOC | | 200-SB-6-160.00-VOC | | 200-SB-6-160.30-VOC | | 200-SB-6-163.00-VOC | | 200-SB-6-163.50-VOC | | 200-SB-6-164.30-VOC | | 200-SB-6-164.80-VOC | | 200-SB-6-166.60-VOC | |
| **Analysis Date** | | 07/28/14 21:24 | N | 07/28/14 21:03 | N | 07/16/14 14:36 | N | 07/16/14 11:20 | N | 07/16/14 15:41 | N | 07/16/14 16:02 | N | 07/16/14 16:24 | N | 07/28/14 22:06 | N |
| Chloromethane | 74-87-3 | 15.4 | JB | 27.0 | JB | 32.7 | QB | 30.1 | QB | 18.6 | QB | 30.3 | JQB | 29.1 | QB | 22.0 | B |
| Trichlorofluoromethane | 75694 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 320 | | 169 | | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| 1,1-Dichloroethene | 75-35-4 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Methylene Chloride | 75-09-2 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| t-Butyl-methyl ether | 1634-04-4 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Chloroform | 67-66-3 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| 2-Butanone | 78-93-3 | 217 | U | 370 | U | 268 | U | 276 | U | 160 | U | 309 | U | 264 | U | 203 | U |
| Benzene | 71-43-2 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 2.89 | J | 30.9 | U | 4.23 | J | 20.3 | U |
| 1,2-Dichloroethane | 107-06-2 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Trichloroethene | 79-01-6 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Bromodichloromethane | 75-27-4 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Toluene | 108-88-3 | 21.7 | U | 37.0 | U | 11.0 | J | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Tetrachloroethene | 127-18-4 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Dibromochloromethane | 124-48-1 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Chlorobenzene | 108-90-7 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| m,p-Xylenes | 136777612 | 21.7 | U | 37.0 | U | 7.78 | J | 20.7 | J | 3.37 | J | 5.57 | J | 4.76 | J | 20.3 | U |
| Bromoform | 75-25-2 | 21.7 | U | 37.0 | U | 26.8 | U | 27.6 | U | 16.0 | U | 30.9 | U | 26.4 | U | 20.3 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 109 | % | 109 | % | 98 | % | 97 | % | 97 | % | 94 | % | 97 | % | 112 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineeri | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/29/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 167.30 | | 167.80 | | 168.30 | | 171.30 | | 172.00 | | 174.10 | | 174.50 | | 179.20 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-167.30-VOC | | 200-SB-6-167.80-VOC | | 200-SB-6-168.30-VOC | | 200-SB-6-171.30-VOC | | 200-SB-6-172.00-VOC | | 200-SB-6-174.10-VOC | | 200-SB-6-174.50-VOC | | 200-SB-6-179.20-VOC | |
| **Analysis Date** | | 07/28/14 21:45 | N | 07/16/14 17:08 | N | 07/16/14 17:30 | N | 07/16/14 17:52 | N | 07/28/14 22:28 | N | 07/16/14 18:36 | N | 07/16/14 21:45 | N | 07/16/14 22:06 | N |
| Chloromethane | 74-87-3 | 32.2 | JB | 32.7 | QB | 61.3 | QB | 67.7 | QB | 40.8 | B | 59.9 | QB | 21.2 | B | 52.0 | B |
| Trichlorofluoromethane | 75694 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| 1,1-Dichloroethene | 75-35-4 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Methylene Chloride | 75-09-2 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| t-Butyl-methyl ether | 1634-04-4 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Chloroform | 67-66-3 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| 2-Butanone | 78-93-3 | 370 | UJ | 323 | U | 362 | U | 286 | U | 352 | U | 253 | U | 191 | U | 388 | U |
| Benzene | 71-43-2 | 37.0 | UJ | 32.3 | U | 36.2 | U | 12.3 | J | 16.5 | J | 8330 | | 2330 | B | 69.5 | B |
| 1,2-Dichloroethane | 107-06-2 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Trichloroethene | 79-01-6 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Bromodichloromethane | 75-27-4 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Toluene | 108-88-3 | 37.0 | UJ | 32.3 | U | 36.2 | U | 215 | | 24.6 | JB | 2180 | | 802 | | 88.9 | |
| 1,1,2-Trichloroethane | 79-00-5 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 91.9 | | 25.3 | U | 53.9 | | 38.8 | U |
| Tetrachloroethene | 127-18-4 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Dibromochloromethane | 124-48-1 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Chlorobenzene | 108-90-7 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| m,p-Xylenes | 136777612 | 37.0 | UJ | 32.3 | U | 7.25 | J | 199 | | 13.7 | J | 158 | | 94.7 | | 120 | |
| Bromoform | 75-25-2 | 37.0 | UJ | 32.3 | U | 36.2 | U | 28.6 | U | 35.2 | U | 25.3 | U | 19.1 | U | 38.8 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 110 | % | 95 | % | 95 | % | 96 | % | 106 | % | 102 | % | 96 | % | 94 | % |

| **Depth** | | 179.50 | | 183.00 | | 183.40 | | 185.40 | | 186.40 | | 186.70 | | 187.40 | | 190.20 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-179.50-VOC | | 200-SB-6-183.00-VOC | | 200-SB-6-183.40-VOC | | 200-SB-6-185.40-VOC | | 200-SB-6-186.40-VOC | | 200-SB-6-186.70-VOC | | 200-SB-6-187.40-VOC | | 200-SB-6-190.20-VOC | |
| **Analysis Date** | | 07/16/14 22:27 | N | 07/16/14 22:48 | N | 07/16/14 23:09 | N | 07/16/14 23:30 | N | 07/16/14 23:51 | N | 07/17/14 00:12 | N | 07/17/14 00:33 | N | 07/17/14 00:53 | N |
| Chloromethane | 74-87-3 | 25.4 | B | 28.6 | B | 20.2 | JB | 28.6 | JB | 19.1 | JB | 54.1 | B | 32.7 | JB | 17.9 | JB |
| Trichlorofluoromethane | 75694 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 107 | | 25.6 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 50.8 | J | 30.1 | U | 233 | | 25.6 | U |
| 1,1-Dichloroethene | 75-35-4 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| Methylene Chloride | 75-09-2 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| t-Butyl-methyl ether | 1634-04-4 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | J | 30.1 | U | 42.0 | U | 25.6 | U |
| Chloroform | 67-66-3 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| 2-Butanone | 78-93-3 | 247 | U | 283 | U | 292 | U | 308 | U | 248 | UJ | 301 | U | 448 | | 256 | U |
| Benzene | 71-43-2 | 46.1 | B | 7.07 | JB | 9.06 | JB | 8.00 | JB | 3.72 | JB | 11.7 | JB | 42.0 | U | 15.4 | JB |
| 1,2-Dichloroethane | 107-06-2 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| Trichloroethene | 79-01-6 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 12.6 | J | 30.1 | U | 42.0 | U | 25.6 | U |
| Bromodichloromethane | 75-27-4 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| Toluene | 108-88-3 | 196 | | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 10.5 | J | 42.0 | U | 19.2 | J |
| 1,1,2-Trichloroethane | 79-00-5 | 132 | | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 290 | | 97.8 | |
| Tetrachloroethene | 127-18-4 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| Dibromochloromethane | 124-48-1 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| Chlorobenzene | 108-90-7 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| m,p-Xylenes | 136777612 | 53.5 | | 6.51 | JB | 6.43 | JB | 6.46 | JB | 4.71 | JB | 21.9 | JB | 8.81 | JB | 14.3 | JB |
| Bromoform | 75-25-2 | 24.7 | U | 28.3 | U | 29.2 | U | 30.8 | U | 24.8 | UJ | 30.1 | U | 42.0 | U | 25.6 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 94 | % | 96 | % | 95 | % | 95 | % | 96 | % | 95 | % | 95 | % | 95 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineeri | **Report Date:** | 9/21/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/29/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | 200-SB-6 | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Depth** | | 190.60 | | 193.70 | | 194.80 | | 195.30 | | 196.00 | | 196.70 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | **CAS #** | 200-SB-6-190.60-VOC | | 200-SB-6-193.70-VOC | | 200-SB-6-194.80-VOC | | 200-SB-6-195.30-VOC | | 200-SB-6-196.00-VOC | | 200-SB-6-196.70-VOC | |
| **Analysis Date** | | 07/17/14 01:56 | N | 07/17/14 02:17 | N | 07/16/14 11:42 | N | 07/17/14 02:58 | N | 07/17/14 03:19 | N | 07/17/14 03:40 | N |
| Chloromethane | 74-87-3 | 18.6 | JQB | 16.2 | JQB | 34.3 | QB | 30.5 | JQB | 33.2 | QB | 19.6 | JQB |
| Trichlorofluoromethane | 75694 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 19.7 | J | 37.5 | | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| 1,1-Dichloroethene | 75-35-4 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Methylene Chloride | 75-09-2 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| t-Butyl-methyl ether | 1634-04-4 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Chloroform | 67-66-3 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| 2-Butanone | 78-93-3 | 259 | U | 188 | U | 268 | U | 311 | U | 299 | U | 284 | U |
| Benzene | 71-43-2 | 4.40 | JB | 17.5 | JB | 4.83 | J | 31.1 | U | 29.9 | U | 28.4 | U |
| 1,2-Dichloroethane | 107-06-2 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Trichloroethene | 79-01-6 | 25.9 | U | 26.2 | | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Bromodichloromethane | 75-27-4 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Toluene | 108-88-3 | 25.9 | U | 6.59 | J | 22.5 | J | 31.1 | U | 29.9 | U | 28.4 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Tetrachloroethene | 127-18-4 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Dibromochloromethane | 124-48-1 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Chlorobenzene | 108-90-7 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| m,p-Xylenes | 136777612 | 8.02 | JB | 6.02 | JB | 30.6 | | 21.2 | JB | 12.9 | JB | 10.8 | JB |
| Bromoform | 75-25-2 | 25.9 | U | 18.8 | U | 26.8 | U | 31.1 | U | 29.9 | U | 28.4 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 94 | % | 97 | % | 97 | % | 94 | % | 96 | % | 96 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

STONE ENVIRONMENTAL INC

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 8/1/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/28/2014 - 07/28/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Methanol | **Results Given as:** | ug/kg |
| **Location ID:** | EB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | | EB-20 | | EB-21 | | EB-22 | | EB-19 | | EB-25 | | EB-23 | | EB-24 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | **CAS #** | 07/28/14 18:34 | EB | 07/28/14 18:55 | EB | 07/28/14 19:17 | EB | 07/15/14 15:53 | EB | 07/28/14 20:21 | EB | 07/28/14 19:38 | EB | 07/28/14 19:59 | EB |
| Chloromethane | 74-87-3 | 32.8 | JB | 48.0 | B | 29.6 | JB | 37.6 | JB | 31.6 | JB | 35.6 | JB | 35.6 | JB |
| Trichlorofluoromethane | 75694 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Methylene Chloride | 75-09-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloroform | 67-66-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 2-Butanone | 78-93-3 | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U | 400 | U |
| Benzene | 71-43-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Trichloroethene | 79-01-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromodichloromethane | 75-27-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Toluene | 108-88-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Tetrachloroethene | 127-18-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Dibromochloromethane | 124-48-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chlorobenzene | 108-90-7 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| m,p-Xylenes | 136777612 | 40.0 | U | 40.0 | U | 40.0 | U | 8.40 | J | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromoform | 75-25-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 112 | % | 117 | % | 110 | % | 95 | % | 109 | % | 108 | % | 112 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 8/1/2014 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/24/2014 - 06/24/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/08/2014 - 07/15/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Rock | **Results Given as:** | ug/kg as wet weight |
| **Location ID:** | FD | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| Sample Name | | FD-09 | | FD-10 | | FD-11 | | FD-12 | |
|---|---|---|---|---|---|---|---|---|---|
| Analysis Date | CAS # | 07/08/14 22:55 | FD | 07/15/14 01:25 | FD | 07/11/14 21:30 | FD | 07/28/14 22:49 | FD |
| Chloromethane | 74-87-3 | 27.2 | U | 34.5 | JB | 18.4 | JB | 48.0 | B |
| Trichlorofluoromethane | 75694 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 31.8 | | 42.6 | U | 32.3 | U | 29.3 | U |
| 1,1-Dichloroethene | 75-35-4 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Methylene Chloride | 75-09-2 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| t-Butyl-methyl ether | 1634-04-4 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Chloroform | 67-66-3 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| 2-Butanone | 78-93-3 | 272 | U | 426 | U | 323 | U | 293 | U |
| Benzene | 71-43-2 | 27.2 | U | 6.81 | J | 32.3 | U | 9380 | |
| 1,2-Dichloroethane | 107-06-2 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Trichloroethene | 79-01-6 | 13.9 | J | 42.6 | U | 32.3 | U | 29.3 | U |
| Bromodichloromethane | 75-27-4 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Toluene | 108-88-3 | 27.2 | U | 20.9 | J | 20.7 | J | 2440 | B |
| 1,1,2-Trichloroethane | 79-00-5 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Tetrachloroethene | 127-18-4 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Dibromochloromethane | 124-48-1 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Chlorobenzene | 108-90-7 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| m,p-Xylenes | 136777612 | 8.71 | J | 13.6 | JB | 7.11 | J | 184 | |
| Bromoform | 75-25-2 | 27.2 | U | 42.6 | U | 32.3 | U | 29.3 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 83 | % | 91 | % | 95 | % | 110 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

## *Stone Environmental Laboratory Results*

| | | | |
|---|---|---|---|
| **Laboratory Unit:** | ML1 | **Sample Delivery Group (SDG):** | 4 |
| **Client:** | Navarro Research and Engineer | **Report Date:** | 7/31/2012 |
| **Location:** | Las Cruces, NM | **Date(s) Sampled:** | 06/25/2014 - 06/25/2014 |
| **Project ID:** | Navarro White Sands CORE | **Date(s) Analyzed:** | 07/15/2014 - 07/28/2014 |
| **SEI Project No.:** | 14-037 | **Test Method:** | 8260C |
| **Matrix:** | Methanol | **Results Given as:** | ug/kg |
| **Location ID:** | TB | **Prep Method:** | Soils (SW), EPA 5035A0H/ASTM D62520-00<br>Ground Waters (NPW), ASTM D6520-00 |

All of the tests results were performed in accordance with the NELAP standards and meet all NELAP requirements for parameters for which accreditation is required or available. The reports were completed according to contract specific reporting requirements. Any exceptions to the NELAP standard requirements are noted and the data has been qualified accordingly.

| **Sample Name** | | TB-08 | | TB-09 | | TB-10 | | TB-12 | |
|---|---|---|---|---|---|---|---|---|---|
| **Analysis Date** | **CAS #** | 07/15/14 14:29 | TB | 07/15/14 14:50 | TB | 07/28/14 18:13 | TB | 07/15/14 15:32 | TB |
| Chloromethane | 74-87-3 | 38.0 | JB | 34.0 | JB | 30.8 | JB | 33.2 | JB |
| Trichlorofluoromethane | 75694 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 76-13-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1-Dichloroethene | 75-35-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Methylene Chloride | 75-09-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| t-Butyl-methyl ether | 1634-04-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chloroform | 67-66-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,1-Trichloroethane | 71-55-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 2-Butanone | 78-93-3 | 400 | U | 400 | U | 400 | U | 400 | U |
| Benzene | 71-43-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,2-Dichloroethane | 107-06-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Trichloroethene | 79-01-6 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromodichloromethane | 75-27-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Toluene | 108-88-3 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| 1,1,2-Trichloroethane | 79-00-5 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Tetrachloroethene | 127-18-4 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Dibromochloromethane | 124-48-1 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Chlorobenzene | 108-90-7 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| m,p-Xylenes | 136777612 | 40.0 | U | 8.40 | J | 40.0 | U | 8.40 | J |
| Bromoform | 75-25-2 | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Bromofluorobenzene (SS) | 460-00-4 | 97 | % | 97 | % | 113 | % | 95 | % |

U= Not detected above specified RL
J= Estimated value
Q= Associated with QC failure
E= Estimated value, marginally above calibration level
D= Analyzed at dilution
N= Normal sample
EB= Equip. Blank
B= Blank contam.

# QUALITY CONTROL SUMMARIES

Continuing Calibration Verification Summaries (VSTD)

Laboratory Method Blank Summaries (VBLK)

Laboratory Control Sample Summaries (LCS)

Prep Blank Summaries (PBLK)

Prep Control Sample Summaries (PLCS)

Matrix Spike / Matrix Spike Duplicate Sample Summaries (MS/MSD)

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CJ
Analysis Date: 07/08/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 18.38 | 8.1 |
| Chloromethane | 17.55 | 12.3 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 23.18 | -15.9 |
| 1,1-Dichloroethene | 20.93 | -4.7 |
| Methylene Chloride | 17.64 | 11.8 |
| t-Butyl-methyl ether | 18.53 | 7.3 |
| Chloroform | 19.36 | 3.2 |
| 1,1,1-Trichloroethane | 21.73 | -8.7 |
| 2-Butanone | 165.96 | 17.0 |
| Benzene | 18.89 | 5.6 |
| 1,2-Dichloroethane | 17.33 | 13.4 |
| Trichloroethene | 20.93 | -4.7 |
| Bromodichloromethane | 19.7 | 1.5 |
| Toluene | 18.39 | 8.1 |
| 1,1,2-Trichloroethane | 18.71 | 6.5 |
| Tetrachloroethene | 21.63 | -8.2 |
| Dibromochloromethane | 21.1 | -5.5 |
| Chlorobenzene | 20.86 | -4.3 |
| m,p-Xylenes | 43.56 | -8.9 |
| Bromoform | 21.61 | -8.1 |
| Bromofluorobenzene (SS) | 98.9 % | 98.9 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CN
Analysis Date: 07/11/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 23.69 | -18.5 |
| Chloromethane | 16.62 | 16.9 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 23.01 | -15.1 |
| 1,1-Dichloroethene | 23.61 | -18.1 |
| Methylene Chloride | 19.78 | 1.1 |
| t-Butyl-methyl ether | 22.76 | -13.8 |
| Chloroform | 20.47 | -2.3 |
| 1,1,1-Trichloroethane | 23.57 | -17.9 |
| 2-Butanone | 190.15 | 4.9 |
| Benzene | 20.39 | -2.0 |
| 1,2-Dichloroethane | 19.72 | 1.4 |
| Trichloroethene | 20.11 | -.5 |
| Bromodichloromethane | 20.03 | -.2 |
| Toluene | 20.02 | -.1 |
| 1,1,2-Trichloroethane | 22.44 | -12.2 |
| Tetrachloroethene | 20 | .0 |
| Dibromochloromethane | 22.94 | -14.7 |
| Chlorobenzene | 20.16 | -.8 |
| m,p-Xylenes | 36.49 | 8.8 |
| Bromoform | 22.56 | -12.8 |
| Bromofluorobenzene (SS) | 97.1 % | 97.1 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CO
Analysis Date: 07/14/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 20.16 | -.8 |
| Chloromethane | 16.99 | 15.1 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 20.69 | -3.5 |
| 1,1-Dichloroethene | 20.86 | -4.3 |
| Methylene Chloride | 18.15 | 9.3 |
| t-Butyl-methyl ether | 16.03 | 19.9 |
| Chloroform | 19.01 | 4.9 |
| 1,1,1-Trichloroethane | 21.23 | -6.2 |
| 2-Butanone | 178.57 | 10.7 |
| Benzene | 19.49 | 2.6 |
| 1,2-Dichloroethane | 17.63 | 11.9 |
| Trichloroethene | 20.77 | -3.9 |
| Bromodichloromethane | 18.73 | 6.4 |
| Toluene | 18.68 | 6.6 |
| 1,1,2-Trichloroethane | 17.32 | 13.4 |
| Tetrachloroethene | 20.25 | -1.3 |
| Dibromochloromethane | 18.09 | 9.6 |
| Chlorobenzene | 19.98 | .1 |
| m,p-Xylenes | 39.62 | 1.0 |
| Bromoform | 17.87 | 10.7 |
| Bromofluorobenzene (SS) | 98.45 % | 98.45 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CP
Analysis Date: 07/14/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 20.58 | -2.9 |
| Chloromethane | 22.24 | -11.2 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 19.62 | 1.9 |
| 1,1-Dichloroethene | 20.79 | -4.0 |
| Methylene Chloride | 22.73 | -13.7 |
| t-Butyl-methyl ether | 22.32 | -11.6 |
| Chloroform | 22.71 | -13.6 |
| 1,1,1-Trichloroethane | 21.82 | -9.1 |
| 2-Butanone | 236.41 | -18.2 |
| Benzene | 20.79 | -4.0 |
| 1,2-Dichloroethane | 23.79 | -19.0 |
| Trichloroethene | 20.96 | -4.8 |
| Bromodichloromethane | 22.79 | -14.0 |
| Toluene | 18.76 | 6.2 |
| 1,1,2-Trichloroethane | 23.68 | -18.4 |
| Tetrachloroethene | 18.7 | 6.5 |
| Dibromochloromethane | 22.6 | -13.0 |
| Chlorobenzene | 20.7 | -3.5 |
| m,p-Xylenes | 37.31 | 6.7 |
| Bromoform | 23.35 | -16.8 |
| Bromofluorobenzene (SS) | 104.05 % | 104.05 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CQ
Analysis Date: 07/15/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 19.24 | 3.8 |
| Chloromethane | 22.49 | -12.5 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 16 | 20.0 |
| 1,1-Dichloroethene | 18.15 | 9.3 |
| Methylene Chloride | 21 | -5.0 |
| t-Butyl-methyl ether | 23.71 | -18.6 |
| Chloroform | 21.78 | -8.9 |
| 1,1,1-Trichloroethane | 19.42 | 2.9 |
| 2-Butanone | 230.57 | -15.3 |
| Benzene | 20.12 | -.6 |
| 1,2-Dichloroethane | 22.36 | -11.8 |
| Trichloroethene | 20.22 | -1.1 |
| Bromodichloromethane | 22.21 | -11.1 |
| Toluene | 17.16 | 14.2 |
| 1,1,2-Trichloroethane | 22.19 | -11.0 |
| Tetrachloroethene | 16.98 | 15.1 |
| Dibromochloromethane | 20.9 | -4.5 |
| Chlorobenzene | 20.3 | -1.5 |
| m,p-Xylenes | 36.19 | 9.5 |
| Bromoform | 21 | -5.0 |
| Bromofluorobenzene (SS) | 104.5 % | 104.5 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CR
Analysis Date: 07/16/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 18.18 | 9.1 |
| Chloromethane | 22.88 | -14.4 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.19 | 14.1 |
| 1,1-Dichloroethene | 18.81 | 6.0 |
| Methylene Chloride | 20.29 | -1.5 |
| t-Butyl-methyl ether | 20.43 | -2.2 |
| Chloroform | 20.88 | -4.4 |
| 1,1,1-Trichloroethane | 20.66 | -3.3 |
| 2-Butanone | 206.99 | -3.5 |
| Benzene | 19.89 | .5 |
| 1,2-Dichloroethane | 20.87 | -4.4 |
| Trichloroethene | 20.59 | -3.0 |
| Bromodichloromethane | 21.41 | -7.1 |
| Toluene | 17.75 | 11.3 |
| 1,1,2-Trichloroethane | 20.97 | -4.8 |
| Tetrachloroethene | 18.38 | 8.1 |
| Dibromochloromethane | 19.94 | .3 |
| Chlorobenzene | 20.39 | -2.0 |
| m,p-Xylenes | 38.63 | 3.4 |
| Bromoform | 20.46 | -2.3 |
| Bromofluorobenzene (SS) | 103.5 % | 103.5 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: CS
Analysis Date: 07/16/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 20.71 | -3.6 |
| Chloromethane | 16.07 | 19.7 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 21.02 | -5.1 |
| 1,1-Dichloroethene | 18.96 | 5.2 |
| Methylene Chloride | 20.43 | -2.2 |
| t-Butyl-methyl ether | 23.12 | -15.6 |
| Chloroform | 20.83 | -4.1 |
| 1,1,1-Trichloroethane | 21.59 | -8.0 |
| 2-Butanone | 232.36 | -16.2 |
| Benzene | 19.42 | 2.9 |
| 1,2-Dichloroethane | 21.35 | -6.8 |
| Trichloroethene | 19.24 | 3.8 |
| Bromodichloromethane | 21.23 | -6.2 |
| Toluene | 17.43 | 12.9 |
| 1,1,2-Trichloroethane | 21.87 | -9.4 |
| Tetrachloroethene | 17.52 | 12.4 |
| Dibromochloromethane | 22.28 | -11.4 |
| Chlorobenzene | 19.16 | 4.2 |
| m,p-Xylenes | 34.88 | 12.8 |
| Bromoform | 23.18 | -15.9 |
| Bromofluorobenzene (SS) | 96.4 % | 96.4 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: DB
Analysis Date: 07/28/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 17.53 | 12.4 |
| Chloromethane | 23.03 | -15.2 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.75 | 11.3 |
| 1,1-Dichloroethene | 17.4 | 13.0 |
| Methylene Chloride | 23.44 | -17.2 |
| t-Butyl-methyl ether | 23.43 | -17.2 |
| Chloroform | 23.75 | -18.8 |
| 1,1,1-Trichloroethane | 18.03 | 9.8 |
| 2-Butanone | 219.87 | -9.9 |
| Benzene | 20.97 | -4.8 |
| 1,2-Dichloroethane | 23.25 | -16.3 |
| Trichloroethene | 19.57 | 2.2 |
| Bromodichloromethane | 22.55 | -12.8 |
| Toluene | 17.16 | 14.2 |
| 1,1,2-Trichloroethane | 23.51 | -17.6 |
| Tetrachloroethene | 17.03 | 14.9 |
| Dibromochloromethane | 23.27 | -16.4 |
| Chlorobenzene | 20.95 | -4.8 |
| m,p-Xylenes | 37.22 | 7.0 |
| Bromoform | 23.8 | -19.0 |
| Bromofluorobenzene (SS) | 109.45 % | 109.45 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

# *Stone Environmental Inc. Project Number: 14-037*
# *Volatile Standard Analyses Summary*

QC Batch: DC
Analysis Date: 07/29/2014
Spike Amount: 20

| Analyte | VSTD Conc. (ug/L) | VSTD % Difference (Acceptable Limit <=20 %) |
|---|---|---|
| Trichlorofluoromethane | 16.28 | 18.6 |
| Chloromethane | 23.78 | -18.9 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 17.52 | 12.4 |
| 1,1-Dichloroethene | 17.48 | 12.6 |
| Methylene Chloride | 23.58 | -17.9 |
| t-Butyl-methyl ether | 22.49 | -12.5 |
| Chloroform | 21.28 | -6.4 |
| 1,1,1-Trichloroethane | 18.21 | 9.0 |
| 2-Butanone | 218.9 | -9.5 |
| Benzene | 20.52 | -2.6 |
| 1,2-Dichloroethane | 22.81 | -14.1 |
| Trichloroethene | 19.45 | 2.8 |
| Bromodichloromethane | 23.09 | -15.5 |
| Toluene | 17.06 | 14.7 |
| 1,1,2-Trichloroethane | 22.65 | -13.3 |
| Tetrachloroethene | 17.26 | 13.7 |
| Dibromochloromethane | 22.21 | -11.1 |
| Chlorobenzene | 20.73 | -3.7 |
| m,p-Xylenes | 37.7 | 5.7 |
| Bromoform | 23.03 | -15.2 |
| Bromofluorobenzene (SS) | 107.35 % | 107.35 % |

U = Not detected above the specified reporting limit.
J = Estimated value.
* = Outside acceptable limit

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CA |
| Date Analyzed | 6/30/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 1.00 | U |
| Chloromethane | 1.00 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 1.00 | U |
| 1,1-Dichloroethene | 1.00 | U |
| Methylene Chloride | 1.00 | U |
| t-Butyl-methyl ether | 1.00 | U |
| Chloroform | 1.00 | U |
| 1,1,1-Trichloroethane | 1.00 | U |
| 2-Butanone | 10.0 | U |
| Benzene | 1.00 | U |
| 1,2-Dichloroethane | 1.00 | U |
| Trichloroethene | 1.00 | U |
| Bromodichloromethane | 1.00 | U |
| Toluene | 1.00 | U |
| 1,1,2-Trichloroethane | 1.00 | U |
| Tetrachloroethene | 1.00 | U |
| Dibromochloromethane | 1.00 | U |
| Chlorobenzene | 1.00 | U |
| m,p-Xylenes | 1.00 | U |
| Bromoform | 1.00 | U |
| Bromofluorobenzene (SS) | 90 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CJ |
| Date Analyzed | 7/8/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 11.7 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 83 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CM |
| Date Analyzed | 7/11/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 1.00 | U |
| Chloromethane | 3.42 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 1.00 | U |
| 1,1-Dichloroethene | 1.00 | U |
| Methylene Chloride | 1.00 | U |
| t-Butyl-methyl ether | 1.00 | U |
| Chloroform | 1.00 | U |
| 1,1,1-Trichloroethane | 1.00 | U |
| 2-Butanone | 10.0 | U |
| Benzene | 1.00 | U |
| 1,2-Dichloroethane | 1.00 | U |
| Trichloroethene | 1.00 | U |
| Bromodichloromethane | 1.00 | U |
| Toluene | 1.00 | U |
| 1,1,2-Trichloroethane | 1.00 | U |
| Tetrachloroethene | 1.00 | U |
| Dibromochloromethane | 1.00 | U |
| Chlorobenzene | 1.00 | U |
| m,p-Xylenes | 1.00 | U |
| Bromoform | 1.00 | U |
| Bromofluorobenzene (SS) | 101 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CN |
| Date Analyzed | 7/11/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 57.6 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 12.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 95 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CO |
| Date Analyzed | 7/14/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 60.3 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 11.7 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 96 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CP |
| Date Analyzed | 7/15/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 42.7 | J |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 12.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 95 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CQ |
| Date Analyzed | 7/15/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 58.1 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 96 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CR |
| Date Analyzed | 7/16/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 50.1 | J |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 98 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CS |
| Date Analyzed | 7/16/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 40.0 | J |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 11.2 | J |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 12.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 94 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK CZ |
| Date Analyzed | 7/28/2014 |

| Analyte | Result (ug/L) | |
|---|---|---|
| Trichlorofluoromethane | 1.00 | U |
| Chloromethane | 0.810 | J |
| 1,1,2-Trichloro-1,2,2-trifluoro | 1.00 | U |
| 1,1-Dichloroethene | 1.00 | U |
| Methylene Chloride | 1.00 | U |
| t-Butyl-methyl ether | 1.00 | U |
| Chloroform | 1.00 | U |
| 1,1,1-Trichloroethane | 1.00 | U |
| 2-Butanone | 10.0 | U |
| Benzene | 1.00 | U |
| 1,2-Dichloroethane | 1.00 | U |
| Trichloroethene | 1.00 | U |
| Bromodichloromethane | 1.00 | U |
| Toluene | 1.00 | U |
| 1,1,2-Trichloroethane | 1.00 | U |
| Tetrachloroethene | 1.00 | U |
| Dibromochloromethane | 1.00 | U |
| Chlorobenzene | 1.00 | U |
| m,p-Xylenes | 1.00 | U |
| Bromoform | 1.00 | U |
| Bromofluorobenzene (SS) | 109 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK DB |
| Date Analyzed | 7/28/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 93.3 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 28.8 | J |
| Bromodichloromethane | 53.3 | U |
| Toluene | 17.1 | J |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 112 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | VBLK DC |
| Date Analyzed | 7/29/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Trichlorofluoromethane | 53.3 | U |
| Chloromethane | 56.5 | |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 108 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification Control Sample Summary*

QC Batch: CA

Analysis Date: 06/30/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | LCS Conc.(ug/L) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 1.00 U | 22.8 | 114 | 70-130 |
| Chloromethane | 1.00 U | 49.6 | 99 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 1.00 U | 19.8 | 99 | 70-130 |
| 1,1-Dichloroethene | 1.00 U | 23.7 | 119 | 70-130 |
| Methylene Chloride | 1.00 U | 22.0 | 110 | 60-140 |
| t-Butyl-methyl ether | 1.00 U | 22.8 | 114 | 60-140 |
| Chloroform | 1.00 U | 20.6 | 103 | 70-130 |
| 1,1,1-Trichloroethane | 1.00 U | 20.6 | 103 | 70-130 |
| 2-Butanone | 10.0 U | 234 | 117 | 60-140 |
| Benzene | 1.00 U | 20.2 | 101 | 70-130 |
| 1,2-Dichloroethane | 1.00 U | 22.5 | 113 | 70-130 |
| Trichloroethene | 1.00 U | 21.4 | 107 | 70-130 |
| Bromodichloromethane | 1.00 U | 22.4 | 112 | 70-130 |
| Toluene | 1.00 U | 20.4 | 102 | 70-130 |
| 1,1,2-Trichloroethane | 1.00 U | 20.9 | 104 | 70-130 |
| Tetrachloroethene | 1.00 U | 19.0 | 95 | 70-130 |
| Dibromochloromethane | 1.00 U | 21.6 | 108 | 70-130 |
| Chlorobenzene | 1.00 U | 21.2 | 106 | 70-130 |
| m,p-Xylenes | 1.00 U | 38.2 | 95 | 70-130 |
| Bromoform | 1.00 U | 22.0 | 110 | 70-130 |
| Bromofluorobenzene (SS) | 90 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CJ

Analysis Date: 07/08/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1090 | 102 | 70-130 |
| Chloromethane | 53.3 U | 2730 | 102 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1310 | 122 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1330 | 124 | 70-130 |
| Methylene Chloride | 53.3 U | 1130 | 106 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1010 | 95 | 60-140 |
| Chloroform | 53.3 U | 1070 | 100 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1340 | 126 | 70-130 |
| 2-Butanone | 533 U | 8960 | 84 | 60-140 |
| Benzene | 53.3 U | 1140 | 107 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1070 | 101 | 70-130 |
| Trichloroethene | 53.3 U | 1310 | 123 | 70-130 |
| Bromodichloromethane | 53.3 U | 1220 | 114 | 70-130 |
| Toluene | 53.3 U | 1200 | 112 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1030 | 97 | 70-130 |
| Tetrachloroethene | 53.3 U | 1270 | 119 | 70-130 |
| Dibromochloromethane | 53.3 U | 1160 | 109 | 70-130 |
| Chlorobenzene | 53.3 U | 1190 | 112 | 70-130 |
| m,p-Xylenes | 11.7 J | 2310 | 108 | 70-130 |
| Bromoform | 53.3 U | 1180 | 110 | 70-130 |
| Bromofluorobenzene (SS) | 83 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification Summary*

QC Batch: CM

Analysis Date: 07/11/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | LCS Conc.(ug/L) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 1.00 U | 25.6 | 128 | 70-130 |
| Chloromethane | 3.42 | 58.4 | 110 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 1.00 U | 22.6 | 113 | 70-130 |
| 1,1-Dichloroethene | 1.00 U | 24.4 | 122 | 70-130 |
| Methylene Chloride | 1.00 U | 23.6 | 118 | 60-140 |
| t-Butyl-methyl ether | 1.00 U | 23.9 | 119 | 60-140 |
| Chloroform | 1.00 U | 21.9 | 109 | 70-130 |
| 1,1,1-Trichloroethane | 1.00 U | 22.9 | 115 | 70-130 |
| 2-Butanone | 10.0 U | 199 | 100 | 60-140 |
| Benzene | 1.00 U | 22.8 | 114 | 70-130 |
| 1,2-Dichloroethane | 1.00 U | 22.5 | 113 | 70-130 |
| Trichloroethene | 1.00 U | 23.7 | 119 | 70-130 |
| Bromodichloromethane | 1.00 U | 22.2 | 111 | 70-130 |
| Toluene | 1.00 U | 19.6 | 98 | 70-130 |
| 1,1,2-Trichloroethane | 1.00 U | 20.8 | 104 | 70-130 |
| Tetrachloroethene | 1.00 U | 21.4 | 107 | 70-130 |
| Dibromochloromethane | 1.00 U | 20.7 | 104 | 70-130 |
| Chlorobenzene | 1.00 U | 21.7 | 109 | 70-130 |
| m,p-Xylenes | 1.00 U | 37.4 | 93 | 70-130 |
| Bromoform | 1.00 U | 20.2 | 101 | 70-130 |
| Bromofluorobenzene (SS) | 101 % | 105 % | 105 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CN
Analysis Date: 07/11/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1540 | 145 * | 70-130 |
| Chloromethane | 57.6 | 2370 | 87 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1340 | 125 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1370 | 128 | 70-130 |
| Methylene Chloride | 53.3 U | 1110 | 104 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 858 | 80 | 60-140 |
| Chloroform | 53.3 U | 1070 | 100 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1270 | 119 | 70-130 |
| 2-Butanone | 533 U | 7850 | 74 | 60-140 |
| Benzene | 53.3 U | 1220 | 115 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1030 | 96 | 70-130 |
| Trichloroethene | 53.3 U | 1260 | 118 | 70-130 |
| Bromodichloromethane | 53.3 U | 1060 | 99 | 70-130 |
| Toluene | 53.3 U | 1170 | 109 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 948 | 89 | 70-130 |
| Tetrachloroethene | 53.3 U | 1490 | 140 * | 70-130 |
| Dibromochloromethane | 53.3 U | 978 | 92 | 70-130 |
| Chlorobenzene | 53.3 U | 1200 | 113 | 70-130 |
| m,p-Xylenes | 12.3 J | 2410 | 112 | 70-130 |
| Bromoform | 53.3 U | 942 | 88 | 70-130 |
| Bromofluorobenzene (SS) | 95 % | 105 % | 105 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CO
Analysis Date: 07/14/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1380 | 130 | 70-130 |
| Chloromethane | 60.3 | 3370 | 124 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1140 | 107 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1380 | 130 | 70-130 |
| Methylene Chloride | 53.3 U | 1310 | 123 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1020 | 96 | 60-140 |
| Chloroform | 53.3 U | 1190 | 111 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1200 | 113 | 70-130 |
| 2-Butanone | 533 U | 11600 | 109 | 60-140 |
| Benzene | 53.3 U | 1180 | 111 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1250 | 117 | 70-130 |
| Trichloroethene | 53.3 U | 1280 | 120 | 70-130 |
| Bromodichloromethane | 53.3 U | 1180 | 111 | 70-130 |
| Toluene | 53.3 U | 1000 | 94 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1100 | 103 | 70-130 |
| Tetrachloroethene | 53.3 U | 1110 | 105 | 70-130 |
| Dibromochloromethane | 53.3 U | 1070 | 100 | 70-130 |
| Chlorobenzene | 53.3 U | 1130 | 106 | 70-130 |
| m,p-Xylenes | 11.7 J | 1980 | 92 | 70-130 |
| Bromoform | 53.3 U | 1050 | 99 | 70-130 |
| Bromofluorobenzene (SS) | 96 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CP

Analysis Date: 07/15/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1370 | 128 | 70-130 |
| Chloromethane | 42.7 J | 3360 | 124 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1250 | 117 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1350 | 126 | 70-130 |
| Methylene Chloride | 53.3 U | 1320 | 124 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1070 | 101 | 60-140 |
| Chloroform | 53.3 U | 1190 | 111 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1360 | 128 | 70-130 |
| 2-Butanone | 533 U | 11600 | 108 | 60-140 |
| Benzene | 53.3 U | 1230 | 116 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1280 | 120 | 70-130 |
| Trichloroethene | 53.3 U | 1360 | 127 | 70-130 |
| Bromodichloromethane | 53.3 U | 1220 | 114 | 70-130 |
| Toluene | 53.3 U | 1080 | 101 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1180 | 111 | 70-130 |
| Tetrachloroethene | 53.3 U | 1250 | 117 | 70-130 |
| Dibromochloromethane | 53.3 U | 1150 | 108 | 70-130 |
| Chlorobenzene | 53.3 U | 1210 | 114 | 70-130 |
| m,p-Xylenes | 12.3 J | 2180 | 102 | 70-130 |
| Bromoform | 53.3 U | 1160 | 109 | 70-130 |
| Bromofluorobenzene (SS) | 95 % | 111 % | 111 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CQ
Analysis Date: 07/15/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1350 | 127 | 70-130 |
| Chloromethane | 58.1 | 3170 | 117 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1180 | 111 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1260 | 119 | 70-130 |
| Methylene Chloride | 53.3 U | 1340 | 126 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1310 | 123 | 60-140 |
| Chloroform | 53.3 U | 1210 | 114 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1160 | 109 | 70-130 |
| 2-Butanone | 533 U | 13600 | 128 | 60-140 |
| Benzene | 53.3 U | 1170 | 110 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1300 | 122 | 70-130 |
| Trichloroethene | 53.3 U | 1210 | 113 | 70-130 |
| Bromodichloromethane | 53.3 U | 1290 | 121 | 70-130 |
| Toluene | 53.3 U | 920 | 86 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1170 | 110 | 70-130 |
| Tetrachloroethene | 53.3 U | 989 | 93 | 70-130 |
| Dibromochloromethane | 53.3 U | 1150 | 108 | 70-130 |
| Chlorobenzene | 53.3 U | 1100 | 103 | 70-130 |
| m,p-Xylenes | 53.3 U | 1830 | 86 | 70-130 |
| Bromoform | 53.3 U | 1180 | 111 | 70-130 |
| Bromofluorobenzene (SS) | 96 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CR
Analysis Date: 07/16/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1320 | 124 | 70-130 |
| Chloromethane | 50.1 J | 3590 | 133 * | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1090 | 102 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1360 | 127 | 70-130 |
| Methylene Chloride | 53.3 U | 1230 | 115 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 915 | 86 | 60-140 |
| Chloroform | 53.3 U | 1140 | 107 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1280 | 120 | 70-130 |
| 2-Butanone | 533 U | 9770 | 92 | 60-140 |
| Benzene | 53.3 U | 1170 | 109 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1140 | 107 | 70-130 |
| Trichloroethene | 53.3 U | 1280 | 120 | 70-130 |
| Bromodichloromethane | 53.3 U | 1070 | 100 | 70-130 |
| Toluene | 53.3 U | 1030 | 97 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1020 | 95 | 70-130 |
| Tetrachloroethene | 53.3 U | 1180 | 111 | 70-130 |
| Dibromochloromethane | 53.3 U | 981 | 92 | 70-130 |
| Chlorobenzene | 53.3 U | 1110 | 104 | 70-130 |
| m,p-Xylenes | 53.3 U | 2050 | 96 | 70-130 |
| Bromoform | 53.3 U | 964 | 90 | 70-130 |
| Bromofluorobenzene (SS) | 98 % | 99 % | 99 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: CS
Analysis Date: 07/16/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 1380 | 129 | 70-130 |
| Chloromethane | 40.0 J | 3320 | 123 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1230 | 115 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 1330 | 125 | 70-130 |
| Methylene Chloride | 53.3 U | 1350 | 127 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1170 | 109 | 60-140 |
| Chloroform | 53.3 U | 1240 | 117 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1360 | 128 | 70-130 |
| 2-Butanone | 533 U | 11400 | 107 | 60-140 |
| Benzene | 11.2 J | 1230 | 114 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1340 | 126 | 70-130 |
| Trichloroethene | 53.3 U | 1290 | 121 | 70-130 |
| Bromodichloromethane | 53.3 U | 1240 | 116 | 70-130 |
| Toluene | 53.3 U | 1020 | 95 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1240 | 116 | 70-130 |
| Tetrachloroethene | 53.3 U | 1130 | 106 | 70-130 |
| Dibromochloromethane | 53.3 U | 1170 | 110 | 70-130 |
| Chlorobenzene | 53.3 U | 1140 | 107 | 70-130 |
| m,p-Xylenes | 12.3 J | 1980 | 92 | 70-130 |
| Bromoform | 53.3 U | 1190 | 112 | 70-130 |
| Bromofluorobenzene (SS) | 94 % | 104 % | 104 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Initial Calibration Verification Sample Summary*

QC Batch: CZ

Analysis Date: 07/28/2014

Method: 8260C

Spike Amount: 20.0

| Analyte | Lab Blank Conc. (ug/L) | LCS Conc.(ug/L) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 1.00 U | 17.8 | 89 | 70-130 |
| Chloromethane | 0.810 J | 53.0 | 104 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 1.00 U | 16.9 | 84 | 70-130 |
| 1,1-Dichloroethene | 1.00 U | 16.6 | 83 | 70-130 |
| Methylene Chloride | 1.00 U | 18.0 | 90 | 60-140 |
| t-Butyl-methyl ether | 1.00 U | 21.6 | 108 | 60-140 |
| Chloroform | 1.00 U | 19.5 | 98 | 70-130 |
| 1,1,1-Trichloroethane | 1.00 U | 18.2 | 91 | 70-130 |
| 2-Butanone | 10.0 U | 201 | 100 | 60-140 |
| Benzene | 1.00 U | 16.8 | 84 | 70-130 |
| 1,2-Dichloroethane | 1.00 U | 20.3 | 102 | 70-130 |
| Trichloroethene | 1.00 U | 17.8 | 89 | 70-130 |
| Bromodichloromethane | 1.00 U | 21.5 | 107 | 70-130 |
| Toluene | 1.00 U | 16.1 | 81 | 70-130 |
| 1,1,2-Trichloroethane | 1.00 U | 20.5 | 102 | 70-130 |
| Tetrachloroethene | 1.00 U | 17.0 | 85 | 70-130 |
| Dibromochloromethane | 1.00 U | 19.8 | 99 | 70-130 |
| Chlorobenzene | 1.00 U | 20.4 | 102 | 70-130 |
| m,p-Xylenes | 1.00 U | 36.3 | 91 | 70-130 |
| Bromoform | 1.00 U | 20.5 | 103 | 70-130 |
| Bromofluorobenzene (SS) | 109 % | 108 % | 108 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: DB
Analysis Date: 07/28/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 900 | 84 | 70-130 |
| Chloromethane | 93.3 | 3300 | 120 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 760 | 71 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 802 | 75 | 70-130 |
| Methylene Chloride | 53.3 U | 1140 | 107 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1180 | 110 | 60-140 |
| Chloroform | 53.3 U | 1130 | 106 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 939 | 88 | 70-130 |
| 2-Butanone | 533 U | 12200 | 115 | 60-140 |
| Benzene | 53.3 U | 933 | 87 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1310 | 123 | 70-130 |
| Trichloroethene | 28.8 J | 959 | 87 | 70-130 |
| Bromodichloromethane | 53.3 U | 1300 | 122 | 70-130 |
| Toluene | 17.1 J | 790 | 72 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1280 | 120 | 70-130 |
| Tetrachloroethene | 53.3 U | 849 | 80 | 70-130 |
| Dibromochloromethane | 53.3 U | 1210 | 114 | 70-130 |
| Chlorobenzene | 53.3 U | 1090 | 103 | 70-130 |
| m,p-Xylenes | 53.3 U | 1860 | 87 | 70-130 |
| Bromoform | 53.3 U | 1250 | 117 | 70-130 |
| Bromofluorobenzene (SS) | 112 % | 110 % | 110 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Control Sample Summary*

QC Batch: DC
Analysis Date: 07/29/2014
Method: 8260C
Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Trichlorofluoromethane | 53.3 U | 997 | 94 | 70-130 |
| Chloromethane | 56.5 | 3430 | 127 | 70-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 755 | 71 | 70-130 |
| 1,1-Dichloroethene | 53.3 U | 816 | 77 | 70-130 |
| Methylene Chloride | 53.3 U | 1050 | 99 | 60-140 |
| t-Butyl-methyl ether | 53.3 U | 1120 | 105 | 60-140 |
| Chloroform | 53.3 U | 1100 | 103 | 70-130 |
| 1,1,1-Trichloroethane | 53.3 U | 939 | 88 | 70-130 |
| 2-Butanone | 533 U | 12700 | 119 | 60-140 |
| Benzene | 53.3 U | 911 | 85 | 70-130 |
| 1,2-Dichloroethane | 53.3 U | 1230 | 116 | 70-130 |
| Trichloroethene | 53.3 U | 926 | 87 | 70-130 |
| Bromodichloromethane | 53.3 U | 1190 | 112 | 70-130 |
| Toluene | 53.3 U | 810 | 76 | 70-130 |
| 1,1,2-Trichloroethane | 53.3 U | 1280 | 120 | 70-130 |
| Tetrachloroethene | 53.3 U | 857 | 80 | 70-130 |
| Dibromochloromethane | 53.3 U | 1180 | 111 | 70-130 |
| Chlorobenzene | 53.3 U | 1090 | 102 | 70-130 |
| m,p-Xylenes | 53.3 U | 1860 | 87 | 70-130 |
| Bromoform | 53.3 U | 1230 | 115 | 70-130 |
| Bromofluorobenzene (SS) | 108 % | 108 % | 108 % | 70-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070714-A1 |
| Date Analyzed | 7/8/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 58.7 | |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 16.0 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 90 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070714-C1 |
| Date Analyzed | 7/9/2014 |

| Analyte | Result (ug/kg) | |
|---|---|---|
| Chloromethane | 53.3 | U |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 13.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 87 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070814-A1 |
| Date Analyzed | 7/15/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 33.1 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 10.1 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 91 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070814-A1-2 |
| Date Analyzed | 7/12/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 62.9 | |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 98 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070814-B1 |
| Date Analyzed | 7/14/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 38.9 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 97 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070814-B1-2 |
| Date Analyzed | 7/11/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 37.9 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 10.7 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 101 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070814-C1 |
| Date Analyzed | 7/14/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 46.4 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 96 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070914-A1 |
| Date Analyzed | 7/16/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 41.6 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 8.00 | J |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 11.7 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 96 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070914-B1 |
| Date Analyzed | 7/28/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 32.0 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 107 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070914-C1 |
| Date Analyzed | 7/16/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 61.9 | |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 53.3 | U |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 98 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

## *Stone Environmental Inc. Project Number: 14-037*
## *Prep Laboratory Blank Sample Analysis Summary*

| | |
|---|---|
| Sample ID | PBLK-070914-C1-2 |
| Date Analyzed | 7/17/2014 |

| **Analyte** | **Result (ug/kg)** | |
|---|---|---|
| Chloromethane | 42.7 | J |
| Trichlorofluoromethane | 53.3 | U |
| 1,1,2-Trichloro-1,2,2-trifluoro | 53.3 | U |
| 1,1-Dichloroethene | 53.3 | U |
| Methylene Chloride | 53.3 | U |
| t-Butyl-methyl ether | 53.3 | U |
| Chloroform | 53.3 | U |
| 1,1,1-Trichloroethane | 53.3 | U |
| 2-Butanone | 533 | U |
| Benzene | 53.3 | U |
| 1,2-Dichloroethane | 53.3 | U |
| Trichloroethene | 53.3 | U |
| Bromodichloromethane | 53.3 | U |
| Toluene | 53.3 | U |
| 1,1,2-Trichloroethane | 53.3 | U |
| Tetrachloroethene | 53.3 | U |
| Dibromochloromethane | 53.3 | U |
| Chlorobenzene | 53.3 | U |
| m,p-Xylenes | 13.3 | J |
| Bromoform | 53.3 | U |
| Bromofluorobenzene (SS) | 92 | % |

U = Not detected above the specified reporting limit.
J = Estimated value.

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070714-A2

Analysis Date: 07/08/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 58.7 | 748 | 65 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 661 | 62 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 915 | 86 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1420 | 134 | 27-199 |
| Methylene Chloride | 53.3 U | 916 | 86 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 836 | 78 | 48-130 |
| Chloroform | 53.3 U | 914 | 86 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1030 | 97 | 65-130 |
| 2-Butanone | 533 U | 7130 | 67 | 41-130 |
| Benzene | 53.3 U | 942 | 88 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 900 | 84 | 61-130 |
| Trichloroethene | 53.3 U | 965 | 90 | 71-130 |
| Bromodichloromethane | 53.3 U | 874 | 82 | 62-130 |
| Toluene | 53.3 U | 988 | 93 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 659 | 62 | 30-130 |
| Tetrachloroethene | 53.3 U | 1080 | 101 | 56-130 |
| Dibromochloromethane | 53.3 U | 1020 | 95 | 40-130 |
| Chlorobenzene | 53.3 U | 1040 | 97 | 70-130 |
| m,p-Xylenes | 16.0 J | 2020 | 94 | 69-130 |
| Bromoform | 53.3 U | 1040 | 97 | 36-130 |
| Bromofluorobenzene (SS) | 90 % | 84 % | 84 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070714-C2

Analysis Date: 07/09/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 53.3 U | 914 | 86 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 712 | 67 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1050 | 98 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1480 | 139 | 27-199 |
| Methylene Chloride | 53.3 U | 1080 | 101 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 945 | 89 | 48-130 |
| Chloroform | 53.3 U | 948 | 89 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1020 | 96 | 65-130 |
| 2-Butanone | 533 U | 7920 | 74 | 41-130 |
| Benzene | 53.3 U | 979 | 92 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 992 | 93 | 61-130 |
| Trichloroethene | 53.3 U | 972 | 91 | 71-130 |
| Bromodichloromethane | 53.3 U | 901 | 84 | 62-130 |
| Toluene | 53.3 U | 898 | 84 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 611 | 57 | 30-130 |
| Tetrachloroethene | 53.3 U | 978 | 92 | 56-130 |
| Dibromochloromethane | 53.3 U | 993 | 93 | 40-130 |
| Chlorobenzene | 53.3 U | 996 | 93 | 70-130 |
| m,p-Xylenes | 13.3 J | 1890 | 88 | 69-130 |
| Bromoform | 53.3 U | 1030 | 96 | 36-130 |
| Bromofluorobenzene (SS) | 87 % | 84 % | 84 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070814-A2

Analysis Date: 07/15/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 33.1 J | 830 | 75 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 759 | 71 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 929 | 87 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1560 | 146 | 27-199 |
| Methylene Chloride | 53.3 U | 1140 | 107 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 929 | 87 | 48-130 |
| Chloroform | 53.3 U | 998 | 94 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1100 | 103 | 65-130 |
| 2-Butanone | 533 U | 10500 | 98 | 41-130 |
| Benzene | 53.3 U | 1120 | 105 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1150 | 108 | 61-130 |
| Trichloroethene | 53.3 U | 1120 | 105 | 71-130 |
| Bromodichloromethane | 53.3 U | 963 | 90 | 62-130 |
| Toluene | 53.3 U | 1010 | 94 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 639 | 60 | 30-130 |
| Tetrachloroethene | 53.3 U | 1080 | 102 | 56-130 |
| Dibromochloromethane | 53.3 U | 913 | 86 | 40-130 |
| Chlorobenzene | 53.3 U | 1070 | 100 | 70-130 |
| m,p-Xylenes | 10.1 J | 2080 | 97 | 69-130 |
| Bromoform | 53.3 U | 929 | 87 | 36-130 |
| Bromofluorobenzene (SS) | 91 % | 97 % | 97 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070814-A2-2

Analysis Date: 07/12/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 62.9 | 764 | 66 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 895 | 84 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1040 | 97 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1670 | 157 | 27-199 |
| Methylene Chloride | 53.3 U | 1070 | 100 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 822 | 77 | 48-130 |
| Chloroform | 53.3 U | 966 | 91 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1160 | 109 | 65-130 |
| 2-Butanone | 533 U | 7570 | 71 | 41-130 |
| Benzene | 53.3 U | 1120 | 105 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1050 | 98 | 61-130 |
| Trichloroethene | 53.3 U | 1150 | 107 | 71-130 |
| Bromodichloromethane | 53.3 U | 914 | 86 | 62-130 |
| Toluene | 53.3 U | 1070 | 100 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 664 | 62 | 30-130 |
| Tetrachloroethene | 53.3 U | 1190 | 112 | 56-130 |
| Dibromochloromethane | 53.3 U | 905 | 85 | 40-130 |
| Chlorobenzene | 53.3 U | 1100 | 103 | 70-130 |
| m,p-Xylenes | 53.3 U | 2170 | 102 | 69-130 |
| Bromoform | 53.3 U | 889 | 83 | 36-130 |
| Bromofluorobenzene (SS) | 98 % | 96 % | 96 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070814-B2

Analysis Date: 07/14/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 38.9 J | 911 | 82 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 778 | 73 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 931 | 87 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1580 | 148 | 27-199 |
| Methylene Chloride | 53.3 U | 1010 | 95 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 775 | 73 | 48-130 |
| Chloroform | 53.3 U | 929 | 87 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1100 | 103 | 65-130 |
| 2-Butanone | 533 U | 9010 | 84 | 41-130 |
| Benzene | 53.3 U | 1070 | 100 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 990 | 93 | 61-130 |
| Trichloroethene | 53.3 U | 1090 | 102 | 71-130 |
| Bromodichloromethane | 53.3 U | 871 | 82 | 62-130 |
| Toluene | 53.3 U | 1040 | 98 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 579 | 54 | 30-130 |
| Tetrachloroethene | 53.3 U | 1150 | 108 | 56-130 |
| Dibromochloromethane | 53.3 U | 847 | 79 | 40-130 |
| Chlorobenzene | 53.3 U | 1040 | 97 | 70-130 |
| m,p-Xylenes | 53.3 U | 2070 | 97 | 69-130 |
| Bromoform | 53.3 U | 850 | 80 | 36-130 |
| Bromofluorobenzene (SS) | 97 % | 91 % | 91 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070814-B2-2

Analysis Date: 07/11/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 37.9 J | 443 | 38 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 804 | 75 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 906 | 85 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1470 | 138 | 27-199 |
| Methylene Chloride | 53.3 U | 893 | 84 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 765 | 72 | 48-130 |
| Chloroform | 53.3 U | 890 | 83 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1130 | 106 | 65-130 |
| 2-Butanone | 533 U | 7020 | 66 | 41-130 |
| Benzene | 53.3 U | 1070 | 100 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 955 | 90 | 61-130 |
| Trichloroethene | 53.3 U | 1130 | 106 | 71-130 |
| Bromodichloromethane | 53.3 U | 917 | 86 | 62-130 |
| Toluene | 53.3 U | 1010 | 95 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 565 | 53 | 30-130 |
| Tetrachloroethene | 53.3 U | 1160 | 109 | 56-130 |
| Dibromochloromethane | 53.3 U | 841 | 79 | 40-130 |
| Chlorobenzene | 53.3 U | 1070 | 100 | 70-130 |
| m,p-Xylenes | 10.7 J | 2170 | 101 | 69-130 |
| Bromoform | 53.3 U | 820 | 77 | 36-130 |
| Bromofluorobenzene (SS) | 101 % | 95 % | 95 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070814-C2

Analysis Date: 07/14/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 46.4 J | 930 | 83 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 765 | 72 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 882 | 83 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1550 | 145 | 27-199 |
| Methylene Chloride | 53.3 U | 1150 | 108 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 887 | 83 | 48-130 |
| Chloroform | 53.3 U | 1000 | 94 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1060 | 99 | 65-130 |
| 2-Butanone | 533 U | 10900 | 102 | 41-130 |
| Benzene | 53.3 U | 1130 | 106 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1110 | 104 | 61-130 |
| Trichloroethene | 53.3 U | 1130 | 106 | 71-130 |
| Bromodichloromethane | 53.3 U | 969 | 91 | 62-130 |
| Toluene | 53.3 U | 1010 | 94 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 615 | 58 | 30-130 |
| Tetrachloroethene | 53.3 U | 1090 | 102 | 56-130 |
| Dibromochloromethane | 53.3 U | 894 | 84 | 40-130 |
| Chlorobenzene | 53.3 U | 1070 | 100 | 70-130 |
| m,p-Xylenes | 53.3 U | 2080 | 98 | 69-130 |
| Bromoform | 53.3 U | 896 | 84 | 36-130 |
| Bromofluorobenzene (SS) | 96 % | 98 % | 98 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070914-A2

Analysis Date: 07/16/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 41.6 J | 453 | 39 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 708 | 66 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 782 | 73 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1370 | 129 | 27-199 |
| Methylene Chloride | 53.3 U | 1120 | 105 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 899 | 84 | 48-130 |
| Chloroform | 53.3 U | 1020 | 96 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1070 | 101 | 65-130 |
| 2-Butanone | 533 U | 10500 | 98 | 41-130 |
| Benzene | 8.00 J | 1140 | 106 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1260 | 118 | 61-130 |
| Trichloroethene | 53.3 U | 1150 | 108 | 71-130 |
| Bromodichloromethane | 53.3 U | 1060 | 99 | 62-130 |
| Toluene | 53.3 U | 978 | 92 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 704 | 66 | 30-130 |
| Tetrachloroethene | 53.3 U | 1070 | 101 | 56-130 |
| Dibromochloromethane | 53.3 U | 982 | 92 | 40-130 |
| Chlorobenzene | 53.3 U | 1090 | 102 | 70-130 |
| m,p-Xylenes | 11.7 J | 2070 | 97 | 69-130 |
| Bromoform | 53.3 U | 1030 | 97 | 36-130 |
| Bromofluorobenzene (SS) | 96 % | 100 % | 100 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070914-B2

Analysis Date: 07/28/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 32.0 J | 805 | 73 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 482 | 45 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 837 | 78 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1550 | 145 | 27-199 |
| Methylene Chloride | 53.3 U | 961 | 90 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 861 | 81 | 48-130 |
| Chloroform | 53.3 U | 1090 | 102 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1190 | 111 | 65-130 |
| 2-Butanone | 533 U | 8960 | 84 | 41-130 |
| Benzene | 53.3 U | 1190 | 112 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1070 | 100 | 61-130 |
| Trichloroethene | 53.3 U | 1240 | 116 | 71-130 |
| Bromodichloromethane | 53.3 U | 1070 | 100 | 62-130 |
| Toluene | 53.3 U | 974 | 91 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 540 | 51 | 30-130 |
| Tetrachloroethene | 53.3 U | 1150 | 107 | 56-130 |
| Dibromochloromethane | 53.3 U | 819 | 77 | 40-130 |
| Chlorobenzene | 53.3 U | 1090 | 103 | 70-130 |
| m,p-Xylenes | 53.3 U | 2210 | 104 | 69-130 |
| Bromoform | 53.3 U | 838 | 79 | 36-130 |
| Bromofluorobenzene (SS) | 107 % | 101 % | 101 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070914-C2

Analysis Date: 07/16/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 61.9 | 1230 | 110 | 32-130 |
| Trichlorofluoromethane | 53.3 U | 938 | 88 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 1070 | 100 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1720 | 161 | 27-199 |
| Methylene Chloride | 53.3 U | 1310 | 122 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 1000 | 94 | 48-130 |
| Chloroform | 53.3 U | 1110 | 104 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1180 | 111 | 65-130 |
| 2-Butanone | 533 U | 10900 | 102 | 41-130 |
| Benzene | 53.3 U | 1260 | 118 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1230 | 116 | 61-130 |
| Trichloroethene | 53.3 U | 1250 | 117 | 71-130 |
| Bromodichloromethane | 53.3 U | 1050 | 98 | 62-130 |
| Toluene | 53.3 U | 1080 | 102 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 746 | 70 | 30-130 |
| Tetrachloroethene | 53.3 U | 1170 | 110 | 56-130 |
| Dibromochloromethane | 53.3 U | 939 | 88 | 40-130 |
| Chlorobenzene | 53.3 U | 1150 | 108 | 70-130 |
| m,p-Xylenes | 53.3 U | 2230 | 104 | 69-130 |
| Bromoform | 53.3 U | 943 | 88 | 36-130 |
| Bromofluorobenzene (SS) | 98 % | 105 % | 105 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Prep Laboratory Control Sample Summary*

PLCS ID: PLCS-070914-C2-2

Analysis Date: 07/17/2014

Method: 8260C

Spike Amount: 1070

| Analyte | Lab Blank Conc. (ug/kg) | LCS Conc. (ug/kg) | LCS % Recovery | QC Limits (% Recovery) |
|---|---|---|---|---|
| Chloromethane | 42.7 J | 262 | 21 * | 32-130 |
| Trichlorofluoromethane | 53.3 U | 778 | 73 | 25-130 |
| 1,1,2-Trichloro-1,2,2-trifluoroet | 53.3 U | 918 | 86 | 35-130 |
| 1,1-Dichloroethene | 53.3 U | 1650 | 155 | 27-199 |
| Methylene Chloride | 53.3 U | 991 | 93 | 56-130 |
| t-Butyl-methyl ether | 53.3 U | 850 | 80 | 48-130 |
| Chloroform | 53.3 U | 949 | 89 | 71-130 |
| 1,1,1-Trichloroethane | 53.3 U | 1180 | 111 | 65-130 |
| 2-Butanone | 533 U | 7550 | 71 | 41-130 |
| Benzene | 53.3 U | 1120 | 105 | 71-130 |
| 1,2-Dichloroethane | 53.3 U | 1040 | 97 | 61-130 |
| Trichloroethene | 53.3 U | 1120 | 105 | 71-130 |
| Bromodichloromethane | 53.3 U | 912 | 86 | 62-130 |
| Toluene | 53.3 U | 1030 | 97 | 63-130 |
| 1,1,2-Trichloroethane | 53.3 U | 575 | 54 | 30-130 |
| Tetrachloroethene | 53.3 U | 1100 | 104 | 56-130 |
| Dibromochloromethane | 53.3 U | 886 | 83 | 40-130 |
| Chlorobenzene | 53.3 U | 1050 | 99 | 70-130 |
| m,p-Xylenes | 13.3 J | 1970 | 92 | 69-130 |
| Bromoform | 53.3 U | 914 | 86 | 36-130 |
| Bromofluorobenzene (SS) | 92 % | 92 % | 92 % | 62-130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
NA = Compound not present.
* = Percent Recovery outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-91.20-VOC
Sample Date: 6/24/2014
Analysis Date: 07/14/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 663 | | 798 | | | |
| Chloromethane | 30.4 JB | 732 B | 106 | 1050 B | 128 | 19 | 32 - 130 |
| Trichlorofluoromethane | 38.1 U | 626 | 94 | 633 | 79 | 17 | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 38.1 U | 743 | 112 | 788 | 99 | 12 | 35 - 130 |
| 1,1-Dichloroethene | 38.1 U | 924 | 139 | 949 | 119 | 16 | 27 - 199 |
| Methylene Chloride | 38.1 U | 791 | 119 | 977 | 122 | 2 | 56 - 130 |
| t-Butyl-methyl ether | 38.1 U | 589 | 89 | 856 | 107 | 18 | 48 - 130 |
| Chloroform | 38.1 U | 660 | 100 | 816 | 102 | 2 | 71 - 130 |
| 1,1,1-Trichloroethane | 38.1 U | 750 | 113 | 796 | 100 | 12 | 65 - 130 |
| 2-Butanone | 381 U | 5310 | 80 | 8440 | 106 | 28 | 41 - 130 |
| Benzene | 38.1 U | 763 | 115 | 897 | 112 | 3 | 71 - 130 |
| 1,2-Dichloroethane | 38.1 U | 693 | 105 | 983 | 123 | 16 | 61 - 130 |
| Trichloroethene | 38.1 U | 780 | 118 | 866 | 109 | 8 | 71 - 130 |
| Bromodichloromethane | 38.1 U | 636 | 96 | 881 | 110 | 14 | 62 - 130 |
| Toluene | 38.1 U | 673 | 102 | 741 | 93 | 9 | 63 - 130 |
| 1,1,2-Trichloroethane | 38.1 U | 570 | 86 | 818 | 103 | 18 | 30 - 130 |
| Tetrachloroethene | 38.1 U | 741 | 112 | 770 | 97 | 14 | 56 - 130 |
| Dibromochloromethane | 38.1 U | 581 | 88 | 809 | 101 | 14 | 40 - 130 |
| Chlorobenzene | 38.1 U | 693 | 105 | 828 | 104 | 1 | 70 - 130 |
| m,p-Xylenes | 38.1 U | 1370 B | 103 | 1530 B | 96 | 7 | 69 - 130 |
| Bromoform | 38.1 U | 561 | 85 | 812 | 102 | 18 | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-115.80-VO
Sample Date: 6/24/2014
Analysis Date: 07/14/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 521 | | 554 | | | |
| Chloromethane | 22.9 JB | 622 B | 115 | 46.5 B | 4 * | 187 * | 32 - 130 |
| Trichlorofluoromethane | 28.9 U | 379 | 73 | 27.7 U | 5 * | 174 * | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 28.9 U | 480 | 92 | 27.7 U | 5 * | 179 * | 35 - 130 |
| 1,1-Dichloroethene | 28.9 U | 566 | 109 | 27.7 U | 5 * | 182 * | 27 - 199 |
| Methylene Chloride | 28.9 U | 616 | 118 | 27.7 U | 5 * | 184 * | 56 - 130 |
| t-Butyl-methyl ether | 28.9 U | 486 | 93 | 27.7 U | 5 * | 180 * | 48 - 130 |
| Chloroform | 28.9 U | 534 | 103 | 27.7 U | 5 * | 181 * | 71 - 130 |
| 1,1,1-Trichloroethane | 28.9 U | 479 | 92 | 27.7 U | 5 * | 179 * | 65 - 130 |
| 2-Butanone | 289 U | 5420 | 104 | 277 U | 5 * | 182 * | 41 - 130 |
| Benzene | 194 | 832 | 122 | 235 | 7 * | 178 * | 71 - 130 |
| 1,2-Dichloroethane | 28.9 U | 600 | 115 | 27.7 U | 5 * | 183 * | 61 - 130 |
| Trichloroethene | 28.9 U | 561 | 108 | 27.7 U | 5 * | 182 * | 71 - 130 |
| Bromodichloromethane | 28.9 U | 288 | 55 * | 27.7 U | 5 * | 167 * | 62 - 130 |
| Toluene | 240 | 835 | 114 | 257 | 3 * | 190 * | 63 - 130 |
| 1,1,2-Trichloroethane | 28.9 U | 531 | 102 | 27.7 U | 5 * | 181 * | 30 - 130 |
| Tetrachloroethene | 28.9 U | 583 | 112 | 27.7 U | 5 * | 183 * | 56 - 130 |
| Dibromochloromethane | 28.9 U | 250 | 48 | 27.7 U | 5 * | 162 * | 40 - 130 |
| Chlorobenzene | 28.9 U | 585 | 112 | 27.7 U | 5 * | 183 * | 70 - 130 |
| m,p-Xylenes | 33.9 | 1170 B | 109 | 36.6 B | 0 * | 200 * | 69 - 130 |
| Bromoform | 28.9 U | 232 | 45 | 27.7 U | 5 * | 160 * | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-145.00-VO
Sample Date: 6/25/2014
Analysis Date: 07/12/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 620 | | 685 | | | |
| Chloromethane | 27.8 JB | 364 B | 54 | 344 B | 46 | 16 | 32 - 130 |
| Trichlorofluoromethane | 36.6 U | 645 | 104 | 563 | 82 | 24 | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 25.3 J | 701 | 109 | 707 | 100 | 9 | 35 - 130 |
| 1,1-Dichloroethene | 36.6 U | 784 | 126 | 799 | 117 | 7 | 27 - 199 |
| Methylene Chloride | 36.6 U | 627 | 101 | 655 | 96 | 5 | 56 - 130 |
| t-Butyl-methyl ether | 36.6 U | 475 | 77 | 502 | 73 | 5 | 48 - 130 |
| Chloroform | 36.6 U | 581 | 94 | 628 | 92 | 2 | 71 - 130 |
| 1,1,1-Trichloroethane | 36.6 U | 712 | 115 | 727 | 106 | 8 | 65 - 130 |
| 2-Butanone | 366 U | 4300 | 69 | 4830 | 71 | 3 | 41 - 130 |
| Benzene | 36.6 U | 657 | 106 | 687 | 100 | 6 | 71 - 130 |
| 1,2-Dichloroethane | 36.6 U | 590 | 95 | 646 | 94 | 1 | 61 - 130 |
| Trichloroethene | 36.6 U | 684 | 110 | 681 | 99 | 11 | 71 - 130 |
| Bromodichloromethane | 36.6 U | 523 | 84 | 568 | 83 | 1 | 62 - 130 |
| Toluene | 36.6 U | 640 | 103 | 671 | 98 | 5 | 63 - 130 |
| 1,1,2-Trichloroethane | 36.6 U | 562 | 91 | 664 | 97 | 6 | 30 - 130 |
| Tetrachloroethene | 36.6 U | 734 | 118 | 710 | 104 | 13 | 56 - 130 |
| Dibromochloromethane | 36.6 U | 496 | 80 | 583 | 85 | 6 | 40 - 130 |
| Chlorobenzene | 36.6 U | 646 | 104 | 675 | 99 | 5 | 70 - 130 |
| m,p-Xylenes | 8.42 J | 1330 B | 107 | 1270 B | 92 | 15 | 69 - 130 |
| Bromoform | 36.6 U | 465 | 75 | 553 | 81 | 8 | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-167.30-VOC
Sample Date: 6/25/2014
Analysis Date: 07/28/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 725 | | 927 | | | |
| Chloromethane | 32.2 JB | 80 JQB | 89 | 863 JQB | 90 | 1 | 32 - 130 |
| Trichlorofluoromethane | 37.0 UJ | 623 J | 86 | 621 J | 67 | 25 | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 37.0 UJ | 715 J | 99 | 861 J | 93 | 6 | 35 - 130 |
| 1,1-Dichloroethene | 37.0 UJ | 919 J | 127 | 1110 J | 120 | 6 | 27 - 199 |
| Methylene Chloride | 37.0 UJ | 950 J | 131 * | 1060 J | 114 | 14 | 56 - 130 |
| t-Butyl-methyl ether | 37.0 UJ | 726 J | 100 | 749 J | 81 | 21 | 48 - 130 |
| Chloroform | 37.0 UJ | 830 J | 114 | 835 J | 90 | 24 | 71 - 130 |
| 1,1,1-Trichloroethane | 37.0 UJ | 699 J | 96 | 740 J | 80 | 18 | 65 - 130 |
| 2-Butanone | 370 UJ | 5650 J | 78 | 6390 J | 69 | 12 | 41 - 130 |
| Benzene | 37.0 UJ | 835 J | 115 | 1000 J | 108 | 6 | 71 - 130 |
| 1,2-Dichloroethane | 37.0 UJ | 807 J | 111 | 899 J | 97 | 13 | 61 - 130 |
| Trichloroethene | 37.0 UJ | 803 J | 111 | 988 J | 107 | 4 | 71 - 130 |
| Bromodichloromethane | 37.0 UJ | 251 J | 35 * | 290 J | 31 * | 12 | 62 - 130 |
| Toluene | 37.0 UJ | 688 J | 95 | 1050 J | 113 | 17 | 63 - 130 |
| 1,1,2-Trichloroethane | 37.0 UJ | 681 J | 94 | 786 J | 85 | 10 | 30 - 130 |
| Tetrachloroethene | 37.0 UJ | 733 J | 101 | 970 J | 105 | 4 | 56 - 130 |
| Dibromochloromethane | 37.0 UJ | 160 J | 22 * | 224 J | 24 * | 9 | 40 - 130 |
| Chlorobenzene | 37.0 UJ | 696 J | 96 | 902 J | 97 | 1 | 70 - 130 |
| m,p-Xylenes | 37.0 UJ | 1320 J | 91 | 1810 J | 98 | 7 | 69 - 130 |
| Bromoform | 37.0 UJ | 123 J | 17 * | 205 J | 22 * | 26 | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

*Stone Environmental Inc. Project Number: 14-037*
*Laboratory Matrix Spike/Matrix Spike Duplicate Analyses Summary Sheet*

Sample ID: 200-SB-6-194.80-VOC
Sample Date: 6/25/2014
Analysis Date: 07/16/2014
Method: 8260C

| Analyte | Original Conc. (ug/kg) | MS Conc. (ug/kg) | MS % Recovery | MSD Conc. (ug/kg) | MSD % Recovery | RPD < 50 | QC Limits (% Recovery) |
|---|---|---|---|---|---|---|---|
| Spike Amount (ug/kg) | | 757 | | 601 | | | |
| Chloromethane | 34.3 QB | 716 QB | 90 | 561 QB | 88 | 2 | 32 - 130 |
| Trichlorofluoromethane | 26.8 U | 517 | 68 | 378 | 63 | 8 | 25 - 130 |
| 1,1,2-Trichloro-1,2,2-triflu | 26.8 U | 657 | 87 | 490 | 82 | 6 | 35 - 130 |
| 1,1-Dichloroethene | 26.8 U | 821 | 108 | 606 | 101 | 7 | 27 - 199 |
| Methylene Chloride | 26.8 U | 860 | 114 | 654 | 109 | 4 | 56 - 130 |
| t-Butyl-methyl ether | 26.8 U | 702 | 93 | 527 | 88 | 6 | 48 - 130 |
| Chloroform | 26.8 U | 713 | 94 | 556 | 93 | 1 | 71 - 130 |
| 1,1,1-Trichloroethane | 26.8 U | 698 | 92 | 524 | 87 | 6 | 65 - 130 |
| 2-Butanone | 268 U | 6650 | 88 | 5020 | 84 | 5 | 41 - 130 |
| Benzene | 4.83 J | 835 | 110 | 634 | 105 | 5 | 71 - 130 |
| 1,2-Dichloroethane | 26.8 U | 827 | 109 | 637 | 106 | 3 | 61 - 130 |
| Trichloroethene | 26.8 U | 786 | 104 | 606 | 101 | 3 | 71 - 130 |
| Bromodichloromethane | 26.8 U | 510 | 67 | 381 | 63 | 6 | 62 - 130 |
| Toluene | 22.5 J | 740 | 95 | 570 | 91 | 4 | 63 - 130 |
| 1,1,2-Trichloroethane | 26.8 U | 750 | 99 | 584 | 97 | 2 | 30 - 130 |
| Tetrachloroethene | 26.8 U | 748 | 99 | 583 | 97 | 2 | 56 - 130 |
| Dibromochloromethane | 26.8 U | 447 | 59 | 334 | 56 | 5 | 40 - 130 |
| Chlorobenzene | 26.8 U | 758 | 100 | 590 | 98 | 2 | 70 - 130 |
| m,p-Xylenes | 30.6 | 1480 | 96 | 1160 | 94 | 2 | 69 - 130 |
| Bromoform | 26.8 U | 434 | 57 | 325 | 54 | 5 | 36 - 130 |

U = Not detected above the specified reporting limit.
J = Estimated value.
E = Estimated value, marginally above the calibration levels.
Q=Associated with QC Failure
* =Outside QC Limits

# APPENDIX B: PHYSICAL PROPERTY ANALYTICAL REPORT

July 31, 2014

Project No. 1403861 (2000)

14-037

Will Waterstrat
Stone Environmental Inc.
535 Stone Cutters Way
Montpelier, Vermont
05602

**GEOTECHNICAL LABORATORY TESTING**

Dear Sir,

This letter reports the results of laboratory testing carried out on the samples received at our office in Mississauga. The results of the tests are summarized in the attached tables.

The testing services reported herein have been performed in accordance with the indicated recognized standard, unless noted otherwise. This report is for the sole use of the designated client. This report constitutes a testing service only and does not represent any results interpretation or opinion regarding specification compliance or material suitability.

We trust that the results are sufficient for your current requirements. If you have any questions, please do not hesitate to call us.

Regards

**GOLDER ASSOCIATES LTD.**

Marijana Manojlovic
Laboratory Manager

MM/lg

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## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-5-35.10-35.60-PHY (A) | 200-SB-5-35.10-35.60-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 247.81 | 451.20 |
| Wet Mass of Rock + Wax in Air, g | 253.92 | 458.81 |
| Wet Mass of Rock + Wax in Water, g | 154.72 | 282.26 |
| Weight of Wax, g | 6.11 | 7.61 |
| Displaced Volume, $cm^3$ | 99.20 | 176.55 |
| Displaced Wax, $cm^3$ | 6.73 | 8.38 |
| Volume of Rock, $cm^3$ | 92.47 | 168.17 |
| Specific Gravity, measured | 2.76 | 2.76 |
| Volume of Solids, $cm^3$ | 89.25 | 162.66 |
| Volume of Voids, $cm^3$ | 3.22 | 5.50 |
| Porosity | 0.03 | 0.03 |
| Water Content, % | 0.60 | 0.50 |
| Unit Weight, $kN/m^3$ | 26.28 | 26.31 |
| Dry Unit Weight, $kN/m^3$ | 26.12 | 26.18 |

| Sample Number | 200-SB-5-59.50-60.00-PHY (A) | 200-SB-5-59.50-60.00-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 366.04 | 348.92 |
| Wet Mass of Rock + Wax in Air, g | 373.00 | 355.28 |
| Wet Mass of Rock + Wax in Water, g | 216.50 | 211.04 |
| Weight of Wax, g | 6.96 | 6.36 |
| Displaced Volume, $cm^3$ | 156.50 | 144.24 |
| Displaced Wax, $cm^3$ | 7.67 | 7.00 |
| Volume of Rock, $cm^3$ | 148.83 | 137.24 |
| Specific Gravity, measured | 2.78 | 2.78 |
| Volume of Solids, $cm^3$ | 122.60 | 119.53 |
| Volume of Voids, $cm^3$ | 26.24 | 17.70 |
| Porosity | 0.18 | 0.13 |
| Water Content, % | 7.40 | 5.00 |
| Unit Weight, $kN/m^3$ | 24.12 | 24.93 |
| Dry Unit Weight, $kN/m^3$ | 22.46 | 23.75 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-5-76.50-77.00-PHY (A) | 200-SB-5-76.50-77.00-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 279.48 | 342.58 |
| Wet Mass of Rock + Wax in Air, g | 285.61 | 350.37 |
| Wet Mass of Rock + Wax in Water, g | 170.29 | 206.60 |
| Weight of Wax, g | 6.13 | 7.79 |
| Displaced Volume, $cm^3$ | 115.32 | 143.77 |
| Displaced Wax, $cm^3$ | 6.75 | 8.58 |
| Volume of Rock, $cm^3$ | 108.57 | 135.19 |
| Specific Gravity, measured | 2.75 | 2.75 |
| Volume of Solids, $cm^3$ | 98.10 | 119.44 |
| Volume of Voids, $cm^3$ | 10.47 | 15.75 |
| Porosity | 0.10 | 0.12 |
| Water Content, % | 3.60 | 4.30 |
| Unit Weight, $kN/m^3$ | 25.24 | 24.85 |
| Dry Unit Weight, $kN/m^3$ | 24.37 | 23.83 |

| Sample Number | 200-SB-5-96.30-96.80-PHY (A) | 200-SB-5-96.30-96.80-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 347.51 | 294.61 |
| Wet Mass of Rock + Wax in Air, g | 354.53 | 301.02 |
| Wet Mass of Rock + Wax in Water, g | 218.68 | 185.87 |
| Weight of Wax, g | 7.02 | 6.41 |
| Displaced Volume, $cm^3$ | 135.85 | 115.15 |
| Displaced Wax, $cm^3$ | 7.73 | 7.06 |
| Volume of Rock, $cm^3$ | 128.12 | 108.09 |
| Specific Gravity, measured | 2.79 | 2.79 |
| Volume of Solids, $cm^3$ | 123.57 | 105.28 |
| Volume of Voids, $cm^3$ | 4.55 | 2.81 |
| Porosity | 0.04 | 0.03 |
| Water Content, % | 0.80 | 0.30 |
| Unit Weight, $kN/m^3$ | 26.60 | 26.73 |
| Dry Unit Weight, $kN/m^3$ | 26.39 | 26.65 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-5-116.40-117.00-PHY (A) | 200-SB-5-116.40-117.00-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 422.39 | 508.37 |
| Wet Mass of Rock + Wax in Air, g | 429.61 | 516.45 |
| Wet Mass of Rock + Wax in Water, g | 261.40 | 314.80 |
| Weight of Wax, g | 7.22 | 8.08 |
| Displaced Volume, $cm^3$ | 168.21 | 201.65 |
| Displaced Wax, $cm^3$ | 7.95 | 8.90 |
| Volume of Rock, $cm^3$ | 160.26 | 192.75 |
| Specific Gravity, measured | 2.75 | 2.75 |
| Volume of Solids, $cm^3$ | 150.73 | 181.41 |
| Volume of Voids, $cm^3$ | 9.53 | 11.34 |
| Porosity | 0.06 | 0.06 |
| Water Content, % | 1.90 | 1.90 |
| Unit Weight, $kN/m^3$ | 25.85 | 25.86 |
| Dry Unit Weight, $kN/m^3$ | 25.37 | 25.38 |

| Sample Number | 200-SB-5-136.80-137.30-PHY (A) | 200-SB-5-136.80-137.30-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 337.66 | 266.53 |
| Wet Mass of Rock + Wax in Air, g | 344.11 | 272.73 |
| Wet Mass of Rock + Wax in Water, g | 208.54 | 164.07 |
| Weight of Wax, g | 6.45 | 6.20 |
| Displaced Volume, $cm^3$ | 135.57 | 108.66 |
| Displaced Wax, $cm^3$ | 7.10 | 6.83 |
| Volume of Rock, $cm^3$ | 128.47 | 101.83 |
| Specific Gravity, measured | 2.76 | 2.76 |
| Volume of Solids, $cm^3$ | 119.36 | 93.85 |
| Volume of Voids, $cm^3$ | 9.11 | 7.98 |
| Porosity | 0.07 | 0.08 |
| Water Content, % | 2.50 | 2.90 |
| Unit Weight, $kN/m^3$ | 25.78 | 25.67 |
| Dry Unit Weight, $kN/m^3$ | 25.15 | 24.94 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-5-160.70-161.20-PHY (A) | 200-SB-5-160.70-161.20-PHY (A) |
|---|---|---|
| Wet Mass of Rock in Air, g | 372.97 | 356.86 |
| Wet Mass of Rock + Wax in Air, g | 380.09 | 363.64 |
| Wet Mass of Rock + Wax in Water, g | 228.94 | 218.28 |
| Weight of Wax, g | 7.12 | 6.78 |
| Displaced Volume, $cm^3$ | 151.15 | 145.36 |
| Displaced Wax, $cm^3$ | 7.84 | 7.47 |
| Volume of Rock, $cm^3$ | 143.31 | 137.89 |
| Specific Gravity, measured | 2.73 | 2.73 |
| Volume of Solids, $cm^3$ | 132.90 | 126.79 |
| Volume of Voids, $cm^3$ | 10.41 | 11.11 |
| Porosity | 0.07 | 0.08 |
| Water Content, % | 2.80 | 3.10 |
| Unit Weight, $kN/m^3$ | 25.52 | 25.38 |
| Dry Unit Weight, $kN/m^3$ | 24.83 | 24.62 |

| Sample Number | 200-SB-5-187.80-188.30-PHY (A) | 200-SB-5-187.80-188.30-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 445.85 | 353.22 |
| Wet Mass of Rock + Wax in Air, g | 454.14 | 360.45 |
| Wet Mass of Rock + Wax in Water, g | 278.28 | 221.50 |
| Weight of Wax, g | 8.29 | 7.23 |
| Displaced Volume, $cm^3$ | 175.86 | 138.95 |
| Displaced Wax, $cm^3$ | 9.13 | 7.96 |
| Volume of Rock, $cm^3$ | 166.73 | 130.99 |
| Specific Gravity, measured | 2.74 | 2.74 |
| Volume of Solids, $cm^3$ | 161.43 | 128.66 |
| Volume of Voids, $cm^3$ | 5.30 | 2.33 |
| Porosity | 0.03 | 0.02 |
| Water Content, % | 0.80 | 0.20 |
| Unit Weight, $kN/m^3$ | 26.22 | 26.44 |
| Dry Unit Weight, $kN/m^3$ | 26.02 | 26.39 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-7-73.80-74.35-PHY (A) | 200-SB-7-73.80-74.35-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 390.11 | 408.12 |
| Wet Mass of Rock + Wax in Air, g | 396.66 | 415.11 |
| Wet Mass of Rock + Wax in Water, g | 243.10 | 257.46 |
| Weight of Wax, g | 6.55 | 6.99 |
| Displaced Volume, $cm^3$ | 153.56 | 157.65 |
| Displaced Wax, $cm^3$ | 7.21 | 7.70 |
| Volume of Rock, $cm^3$ | 146.35 | 149.95 |
| Specific Gravity, measured | 2.82 | 2.82 |
| Volume of Solids, $cm^3$ | 134.44 | 142.44 |
| Volume of Voids, $cm^3$ | 11.91 | 7.51 |
| Porosity | 0.08 | 0.05 |
| Water Content, % | 2.90 | 1.60 |
| Unit Weight, $kN/m^3$ | 26.14 | 26.69 |
| Dry Unit Weight, $kN/m^3$ | 25.40 | 26.27 |

| Sample Number | 200-SB-7-102.70-103.40-PHY (A) | 200-SB-7-102.70-103.40-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 391.12 | 392.31 |
| Wet Mass of Rock + Wax in Air, g | 398.41 | 398.91 |
| Wet Mass of Rock + Wax in Water, g | 241.36 | 244.88 |
| Weight of Wax, g | 7.29 | 6.60 |
| Displaced Volume, $cm^3$ | 157.05 | 154.03 |
| Displaced Wax, $cm^3$ | 8.03 | 7.27 |
| Volume of Rock, $cm^3$ | 149.02 | 146.76 |
| Specific Gravity, measured | 2.73 | 2.73 |
| Volume of Solids, $cm^3$ | 140.32 | 142.28 |
| Volume of Voids, $cm^3$ | 8.70 | 4.48 |
| Porosity | 0.06 | 0.03 |
| Water Content, % | 2.10 | 1.00 |
| Unit Weight, $kN/m^3$ | 25.74 | 26.21 |
| Dry Unit Weight, $kN/m^3$ | 25.21 | 25.95 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-7-116.30-117.00-PHY (A) | 200-SB-7-116.30-117.00-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 363.89 | 211.91 |
| Wet Mass of Rock + Wax in Air, g | 370.70 | 217.27 |
| Wet Mass of Rock + Wax in Water, g | 215.56 | 124.96 |
| Weight of Wax, g | 6.81 | 5.36 |
| Displaced Volume, $cm^3$ | 155.14 | 92.31 |
| Displaced Wax, $cm^3$ | 7.50 | 5.90 |
| Volume of Rock, $cm^3$ | 147.64 | 86.41 |
| Specific Gravity, measured | 2.72 | 2.72 |
| Volume of Solids, $cm^3$ | 125.74 | 72.81 |
| Volume of Voids, $cm^3$ | 21.90 | 13.60 |
| Porosity | 0.15 | 0.16 |
| Water Content, % | 6.40 | 7.00 |
| Unit Weight, $kN/m^3$ | 24.17 | 24.05 |
| Dry Unit Weight, $kN/m^3$ | 22.72 | 22.48 |

| Sample Number | 200-SB-7-136.00-136.50-PHY (A) | 200-SB-7-136.00-136.50-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 353.76 | 398.07 |
| Wet Mass of Rock + Wax in Air, g | 360.14 | 405.08 |
| Wet Mass of Rock + Wax in Water, g | 220.42 | 248.30 |
| Weight of Wax, g | 6.38 | 7.01 |
| Displaced Volume, $cm^3$ | 139.72 | 156.78 |
| Displaced Wax, $cm^3$ | 7.03 | 7.72 |
| Volume of Rock, $cm^3$ | 132.69 | 149.06 |
| Specific Gravity, measured | 2.72 | 2.72 |
| Volume of Solids, $cm^3$ | 129.03 | 145.19 |
| Volume of Voids, $cm^3$ | 3.67 | 3.87 |
| Porosity | 0.03 | 0.03 |
| Water Content, % | 0.80 | 0.80 |
| Unit Weight, $kN/m^3$ | 26.14 | 26.19 |
| Dry Unit Weight, $kN/m^3$ | 25.94 | 25.98 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-7-151.30-152.00-PHY (A) | 200-SB-7-151.30-152.00-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 483.31 | 411.10 |
| Wet Mass of Rock + Wax in Air, g | 491.85 | 417.98 |
| Wet Mass of Rock + Wax in Water, g | 300.10 | 257.20 |
| Weight of Wax, g | 8.54 | 6.88 |
| Displaced Volume, $cm^3$ | 191.75 | 160.78 |
| Displaced Wax, $cm^3$ | 9.41 | 7.58 |
| Volume of Rock, $cm^3$ | 182.34 | 153.20 |
| Specific Gravity, measured | 2.71 | 2.71 |
| Volume of Solids, $cm^3$ | 176.58 | 151.24 |
| Volume of Voids, $cm^3$ | 5.77 | 1.96 |
| Porosity | 0.03 | 0.01 |
| Water Content, % | 1.00 | 0.30 |
| Unit Weight, $kN/m^3$ | 25.99 | 26.31 |
| Dry Unit Weight, $kN/m^3$ | 25.74 | 26.24 |

| Sample Number | 200-SB-7-167.00-167.50-PHY (A) | 200-SB-7-167.00-167.50-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 419.30 | 310.38 |
| Wet Mass of Rock + Wax in Air, g | 426.37 | 316.05 |
| Wet Mass of Rock + Wax in Water, g | 261.08 | 193.82 |
| Weight of Wax, g | 7.07 | 5.67 |
| Displaced Volume, $cm^3$ | 165.29 | 122.23 |
| Displaced Wax, $cm^3$ | 7.79 | 6.24 |
| Volume of Rock, $cm^3$ | 157.50 | 115.99 |
| Specific Gravity, measured | 2.72 | 2.72 |
| Volume of Solids, $cm^3$ | 152.78 | 113.32 |
| Volume of Voids, $cm^3$ | 4.72 | 2.67 |
| Porosity | 0.03 | 0.02 |
| Water Content, % | 0.90 | 0.70 |
| Unit Weight, $kN/m^3$ | 26.11 | 26.24 |
| Dry Unit Weight, $kN/m^3$ | 25.87 | 26.06 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## DENSITY AND POROSITY DETERMINATIONS OF IRREGULAR SHAPE SAMPLES
## ASTM D 4531-86 TEST METHOD B

| Sample Number | 200-SB-7-196.50-197.00-PHY (A) | 200-SB-7-196.50-197.00-PHY (B) |
|---|---|---|
| Wet Mass of Rock in Air, g | 405.45 | 356.02 |
| Wet Mass of Rock + Wax in Air, g | 412.63 | 362.63 |
| Wet Mass of Rock + Wax in Water, g | 254.12 | 223.36 |
| Weight of Wax, g | 7.18 | 6.61 |
| Displaced Volume, $cm^3$ | 158.51 | 139.27 |
| Displaced Wax, $cm^3$ | 7.91 | 7.28 |
| Volume of Rock, $cm^3$ | 150.60 | 131.99 |
| Specific Gravity, measured | 2.72 | 2.72 |
| Volume of Solids, $cm^3$ | 148.47 | 130.63 |
| Volume of Voids, $cm^3$ | 2.13 | 1.36 |
| Porosity | 0.01 | 0.01 |
| Water Content, % | 0.40 | 0.20 |
| Unit Weight, $kN/m^3$ | 26.40 | 26.45 |
| Dry Unit Weight, $kN/m^3$ | 26.30 | 26.40 |

| | | | |
|---|---|---|---|
| Project Number | 1403861 (2000) | Tested By | Angela |
| Reference Number | 14-037 | Checked By | |
| Date Tested | 7/3/2014 | | |

## SUMMARY OF WATER CONTENT DETERMINATIONS

### ASTM D 2216-10

| | |
|---|---|
| PROJECT NUMBER | 1403861 (2000) |
| PROJECT NAME | Stone / Testing / 14-037 |
| DATE TESTED | July, 2014 |

| Sample No. | Water Content (%) | Atterberg Limits LL, PL, PI |
|---|---|---|
| 200-SB-5-35.10-35.60-PHY (A) | 0.6% | |
| 200-SB-5-35.10-35.60-PHY (B) | 0.5% | |
| 200-SB-5-59.50-60.00-PHY (A) | 7.4% | |
| 200-SB-5-59.50-60.00-PHY (B) | 5.0% | |
| 200-SB-5-76.50-77.00-PHY (A) | 3.6% | |
| 200-SB-5-76.50-77.00-PHY (B) | 4.3% | |
| 200-SB-5-96.30-96.80-PHY (A) | 0.8% | |
| 200-SB-5-96.30-96.80-PHY (B) | 0.3% | |
| 200-SB-5-116.40-117.00-PHY (A) | 1.9% | |
| 200-SB-5-116.40-117.00-PHY (B) | 1.9% | |
| 200-SB-5-136.80-137.30-PHY (A) | 2.5% | |
| 200-SB-5-136.80-137.30-PHY (B) | 2.9% | |
| 200-SB-5-160.70-161.20-PHY (A) | 2.8% | |
| 200-SB-5-160.70-161.20-PHY (B) | 3.1% | |
| 200-SB-5-187.80-188.30-PHY (A) | 0.8% | |
| 200-SB-5-187.80-188.30-PHY (B) | 0.2% | |
| 200-SB-7-73.80-74.35-PHY (A) | 2.9% | |
| 200-SB-7-73.80-74.35-PHY (B) | 1.6% | |
| 200-SB-7-102.70-103.40-PHY (A) | 2.1% | |
| 200-SB-7-102.70-103.40-PHY (B) | 1.0% | |
| 200-SB-7-116.30-117.00-PHY (A) | 6.4% | |
| 200-SB-7-116.30-117.00-PHY (B) | 7.0% | |
| 200-SB-7-136.00-136.50-PHY (A) | 0.8% | |
| 200-SB-7-136.00-136.50-PHY (B) | 0.8% | |
| 200-SB-7-151.30-152.00-PHY (A) | 1.0% | |
| 200-SB-7-151.30-152.00-PHY (B) | 0.3% | |
| 200-SB-7-167.00-167.50-PHY (A) | 0.9% | |
| 200-SB-7-167.00-167.50-PHY (B) | 0.7% | |
| 200-SB-7-196.50-197.00-PHY (A) | 0.4% | |
| 200-SB-7-196.50-197.00-PHY (B) | 0.2% | |

Checked By: MM

**Golder Associates**

# SPECIFIC GRAVITY TEST RESULTS

## ASTM D 854-06 TEST METHOD A

| | |
|---|---|
| PROJECT NUMBER | 1403861 (2000) |
| PROJECT NAME | Stone / Testing / 14-037 |
| DATE TESTED | July, 2014 |

| Sample No. | Specific Gravity |
|---|---|
| 200-SB-5-35.10-35.60-PHY | 2.76 |
| 200-SB-5-59.50-60.00-PHY | 2.78 |
| 200-SB-5-76.50-77.00-PHY | 2.75 |
| 200-SB-5-96.30-96.80-PHY | 2.79 |
| 200-SB-5-116.40-117.00-PHY | 2.75 |
| 200-SB-5-136.80-137.30-PHY | 2.76 |
| 200-SB-5-160.70-161.20-PHY | 2.73 |
| 200-SB-5-187.80-188.30-PHY | 2.74 |
| 200-SB-7-73.80-74.35-PHY | 2.82 |
| 200-SB-7-102.70-103.40-PHY | 2.73 |
| 200-SB-7-116.30-117.00-PHY | 2.72 |
| 200-SB-7-136.00-136.50-PHY | 2.72 |
| 200-SB-7-151.30-152.00-PHY | 2.71 |
| 200-SB-7-167.00-167.50-PHY | 2.72 |
| 200-SB-7-196.50-197.00-PHY | 2.72 |

Note: Test carried out on crushed rock particles <0.075mm using distilled water.

Checked By: 

**Golder Associates**

# TOTAL ORGANIC CARBON CONTENT (TOC)

| | |
|---|---|
| PROJECT NUMBER | 1403861 (2000) |
| PROJECT NAME | Stone / Testing / 14-037 |
| DATE TESTED | July, 2014 |

| Sample No. | Soil Passing 0.6mm (%) | Grain Size Distribution Passing Gravel (%) | Sand (%) | Silt (%) | Clay (%) | TOC <0.6mm (%) | TOC* Whole Soil (%) |
|---|---|---|---|---|---|---|---|
| 200-SB-5-35.10-35.60-PHY | - | - | - | - | - | 0.11 | 0.00 |
| 200-SB-5-35.10-35.60-PHY (Repeat) | - | - | - | - | - | 0.07 | 0.00 |
| 200-SB-5-59.50-60.00-PHY | - | - | - | - | - | 0.07 | 0.00 |
| 200-SB-5-76.50-77.00-PHY | - | - | - | - | - | 0.02 | 0.00 |
| 200-SB-5-76.50-77.00-PHY (Repeat) | - | - | - | - | - | <0.01 | 0.00 |
| 200-SB-5-96.30-96.80-PHY | - | - | - | - | - | 0.11 | 0.00 |
| 200-SB-5-116.40-117.00-PHY | - | - | - | - | - | 0.13 | 0.00 |
| 200-SB-5-136.80-137.30-PHY | - | - | - | - | - | 0.33 | 0.00 |
| 200-SB-5-160.70-161.20-PHY | - | - | - | - | - | 0.27 | 0.00 |
| 200-SB-5-187.80-188.30-PHY | - | - | - | - | - | 0.74 | 0.00 |
| 200-SB-7-73.80-74.35-PHY | - | - | - | - | - | 0.13 | 0.00 |
| 200-SB-7-102.70-103.40-PHY | - | - | - | - | - | <0.01 | 0.00 |
| 200-SB-7-116.30-117.00-PHY | - | - | - | - | - | 0.20 | 0.00 |
| 200-SB-7-136.00-136.50-PHY | - | - | - | - | - | <0.01 | 0.00 |
| 200-SB-7-151.30-152.00-PHY | - | - | - | - | - | <0.01 | 0.00 |
| 200-SB-7-167.00-167.50-PHY | - | - | - | - | - | 0.04 | 0.00 |
| 200-SB-7-196.50-197.00-PHY | - | - | - | - | - | 0.14 | 0.00 |

Notes:

1. Samples dried at 110 degree centigrade prior to testing.
2. Test performed on minus 600 micron soil fraction, using the method of Walkley and Black (Walkley, 1946)

Checked By: MM

**Golder Associates**

# Appendix C
# Well Completion Diagrams

# WELL CONSTRUCTION DIAGRAM 200-SV-05

**Well Construction Date:** 06/15/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft): N** 552379.73 **E** 1532167.37
**Ground Elevation (ft AMSL):** 4884.49
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

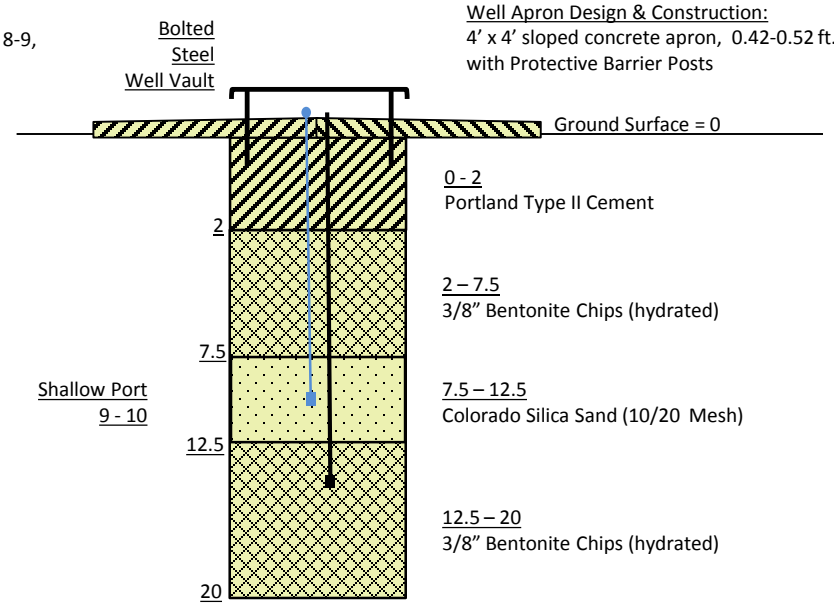
**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 20'
**Field Representatives:** J. Pearson, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

-Diagram not to scale.
-Soil sample collection: chemical from 8-9, geotechnical from 9-10.
-No water added during ARCH drilling.

Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

Santa Fe Group Alluvium 0 -18
Limestone Bedrock 18 - 20




Borehole Depth: 20

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

# WELL CONSTRUCTION DIAGRAM - 200-LV-150

**Well Construction Date:** 06/26-27/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552449.47 **E** 1532202.74
**Ground Elevation (ft. AMSL):** 4884.69
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** Soil Boring, 20', Rock Coring 202' **Well Depth:** 175'
**Field Representatives:** J. Hennessey, J. Pearson, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted. Well installed within boring 200-SV-06.

## Notes:

-Diagram not to scale.
-Soil sample collection: chemical from 10.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -18.5
Limestone Bedrock 18.5 - 202

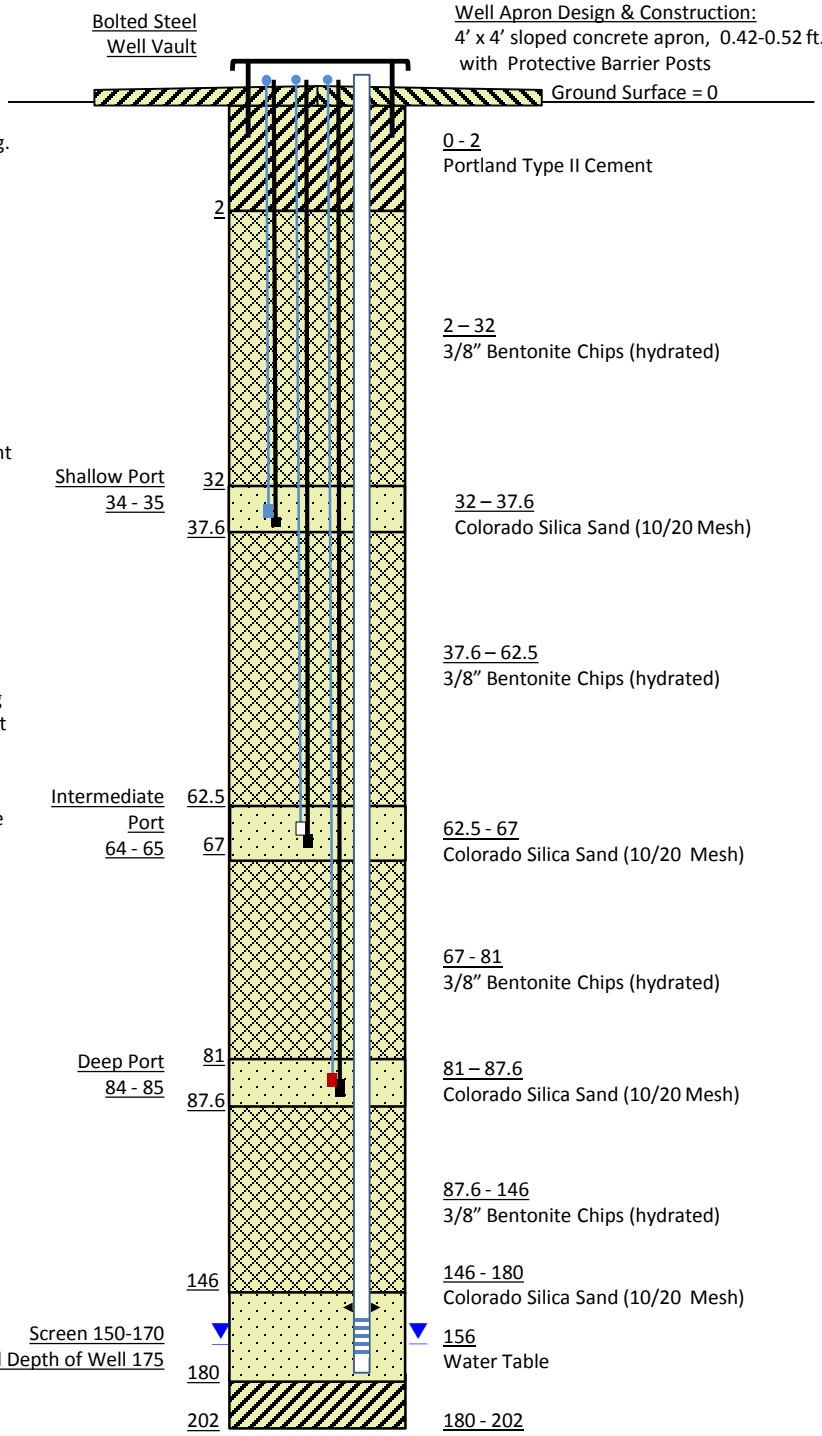
Soil Vapor Well Material:

- ¼" stainless steel tubing
- AMS ½ " x 12" soil vapor implant filter (Part #21014) comprising woven 0.0057" mesh screen attached to stainless steel tubing using a Swagelok® ¼ " fitting. Color indicates filter depth: blue (shallow), white (intermediate), and red (deep).
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

Groundwater Monitoring Well Material:

- 1 ½" diameter Sch. 40 PVC Casing
- 1 ½" diameter Sch. 80 PVC slotted screen
- Bolted stainless steel centralizers
- Water table



# WELL CONSTRUCTION DIAGRAM - 200-KV-150

**Well Construction Date:** 06/23-25/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552302.42 **E** 1532479.38
**Ground Elevation (ft. AMSL):** 4885.83
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** Soil Boring, 55', Rock Coring 202' **Well Depth:** 175'
**Field Representatives:** J. Hennessey, J. Pearson, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted. Well installed within boring 200-SV-07.

## Notes:

-Diagram not to scale.
-Soil sample collection: chemical from 8-10, 18-21, 38-40, geotechnical from 47-49.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -53
Limestone Bedrock 53 - 202

Soil Vapor Well Material:

¼" stainless steel tubing

AMS ½ " x 12" soil vapor implant filter (Part #21014) comprising woven 0.0057" mesh screen attached to stainless steel tubing using a Swagelok® ¼ " fitting. Color indicates filter depth: blue (shallow), white (intermediate), and red (deep).

Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded to provide respective depths

5/16" stainless steel guide line

¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

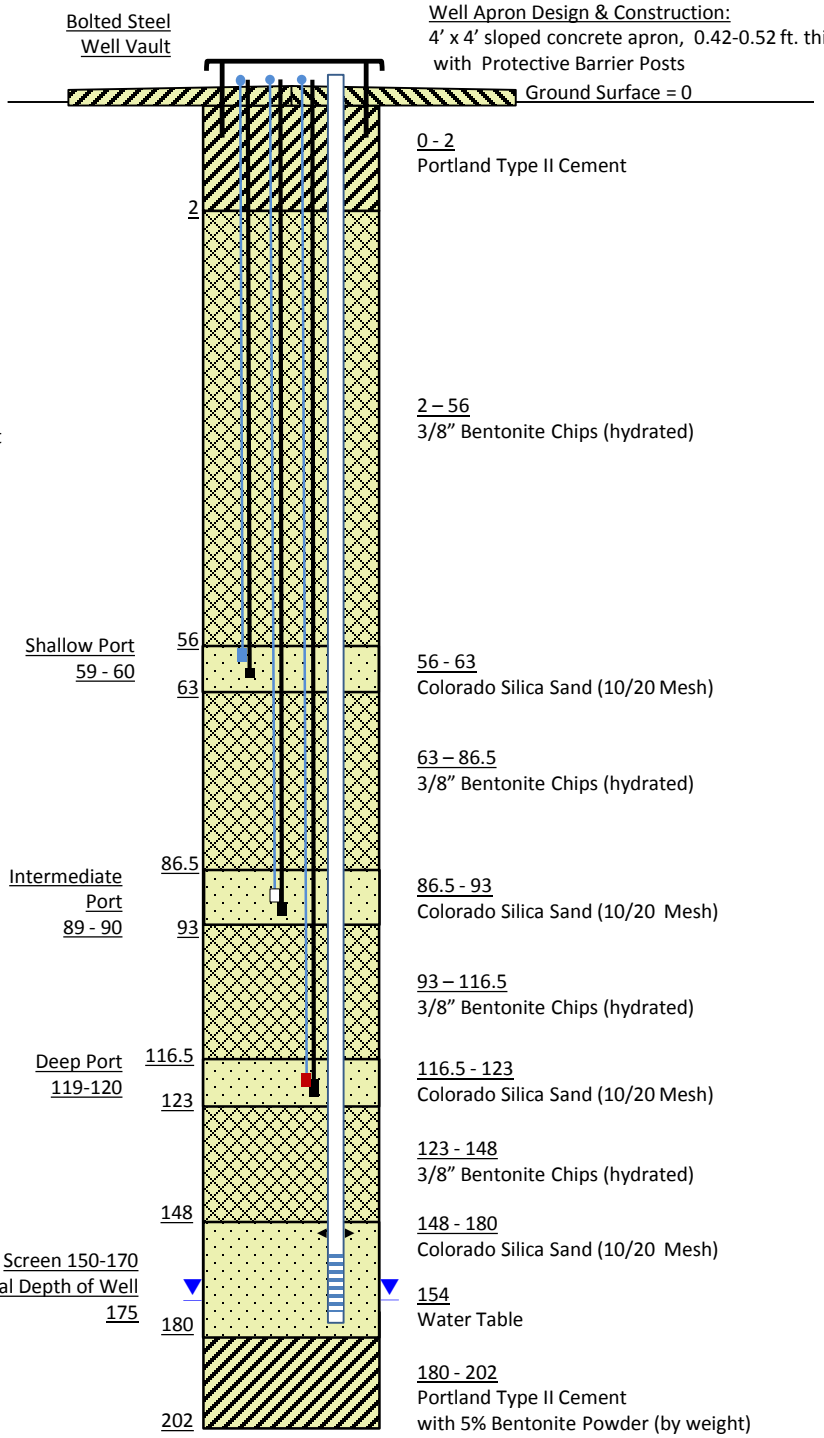
Groundwater Monitoring Well Material:

1 ½" diameter Sch. 40 PVC Casing

1 ½" diameter Sch. 80 PVC slotted screen

Bolted stainless steel centralizers

Water table




Borehole Depth: 202

# WELL CONSTRUCTION DIAGRAM 200-SV-08

**Well Construction Date:** 06/13-14/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552278.57 **E** 1532482.84
**Ground Elevation (ft. AMSL):** 4885.88
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 57'
**Field Representatives:** G. Giles, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

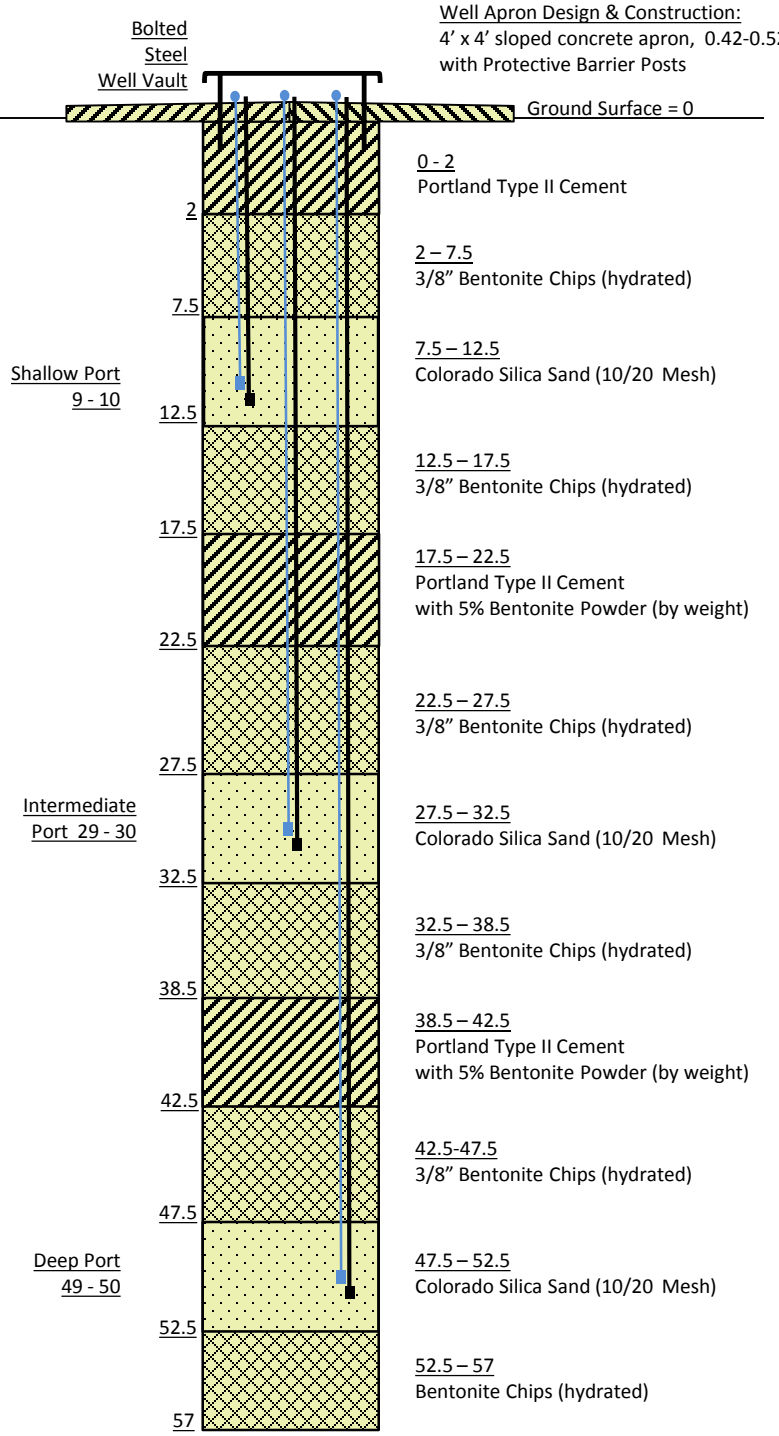
-Diagram not to scale.
-Soil sample collection : chemical from 8-10, 28-30, and 43-45.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -56
Limestone Bedrock 56 - 57

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 7.5
3/8" Bentonite Chips (hydrated)

7.5 – 12.5
Colorado Silica Sand (10/20 Mesh)

12.5 – 17.5
3/8" Bentonite Chips (hydrated)

17.5 – 22.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

22.5 – 27.5
3/8" Bentonite Chips (hydrated)

27.5 – 32.5
Colorado Silica Sand (10/20 Mesh)

32.5 – 38.5
3/8" Bentonite Chips (hydrated)

38.5 – 42.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

42.5-47.5
3/8" Bentonite Chips (hydrated)

47.5 – 52.5
Colorado Silica Sand (10/20 Mesh)

52.5 – 57
Bentonite Chips (hydrated)

Borehole Depth: 57

# WELL CONSTRUCTION DIAGRAM 200-SV-09

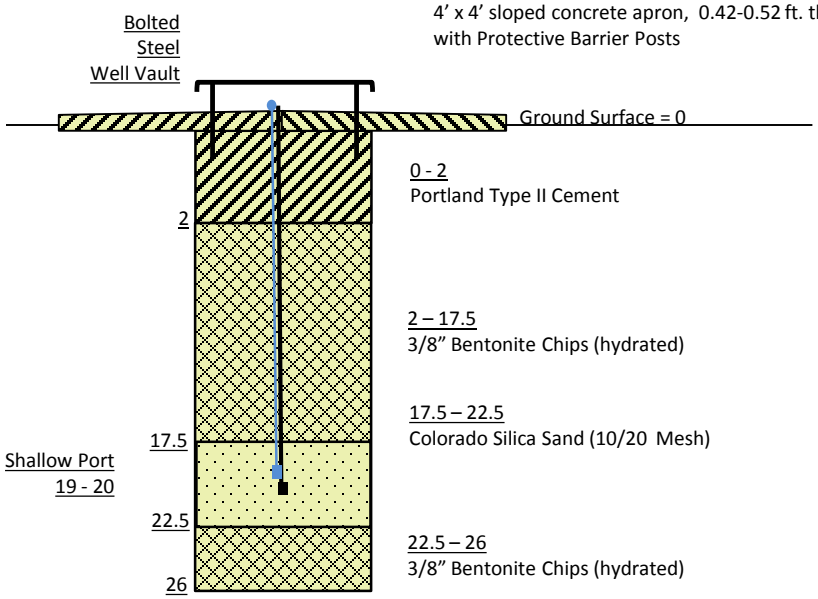
**Well Construction Date:** 07/01/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552530.27 **E** 1532182.89
**Ground Elevation (ft. AMSL):** 4885.56
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 26'
**Field Representatives:** J. Lawrence, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

-Diagram not to scale.
-Soil sample collection: chemical and geotechnical from 8-10.
-No water added during ARCH drilling.

Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts




Borehole Depth: 26

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

# WELL CONSTRUCTION DIAGRAM 200-SV-10

**Well Construction Date:** 06/29/14
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552344.34 **E** 1532517.86
**Ground Elevation (ft. AMSL):** 4884.45
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 60'
**Field Representatives:** G. Giles, P. Egan, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

-Diagram not to scale.
-Soil sample collection: chemical and geotechnical from 16-18, chemical from 26-28, 36-38.
-No water added during ARCH drilling.

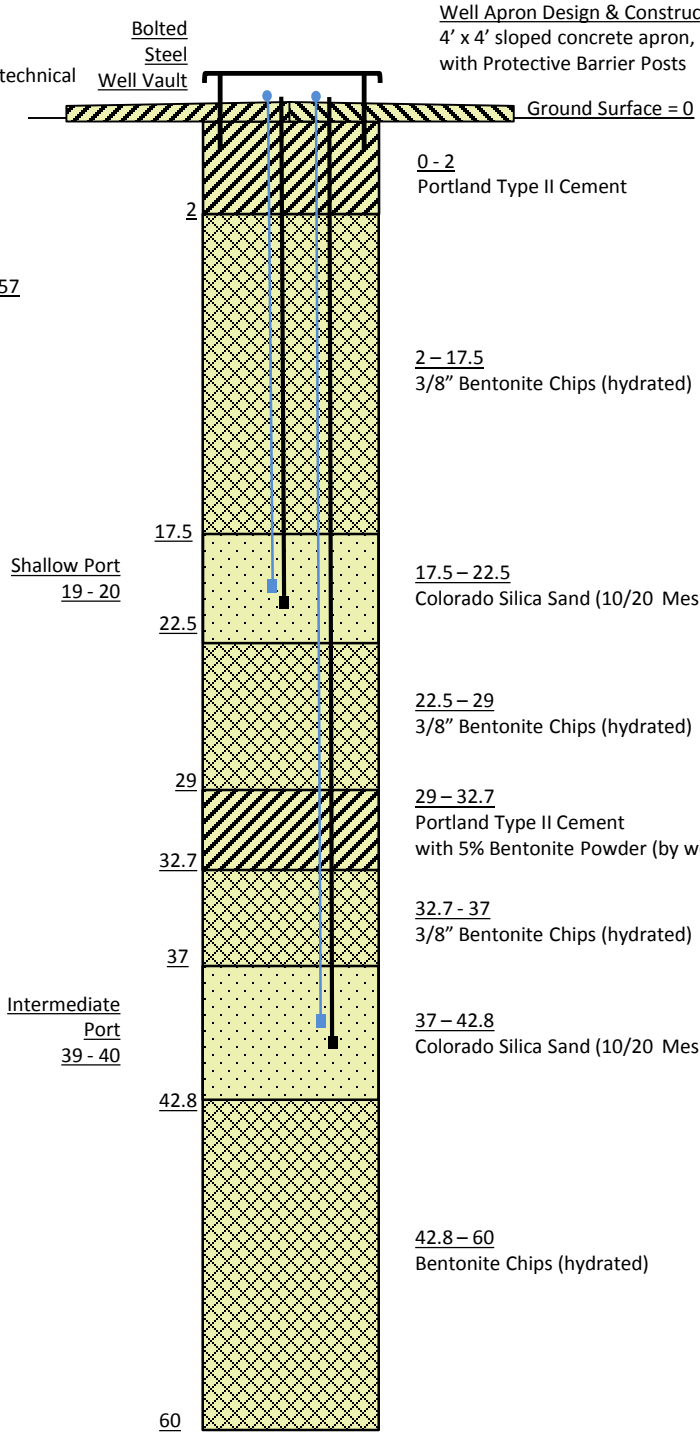
Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

Santa Fe Group Alluvium 0 -57
Limestone Bedrock 57-60

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Borehole Depth: 60

# WELL CONSTRUCTION DIAGRAM 200-SV-11

**Well Construction Date:** 07/02/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 55198.41 **E** 1532396.87
**Ground Elevation (ft. AMSL):** 4869.40
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 46'
**Field Representatives:** G. Giles, J. Lawrence, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

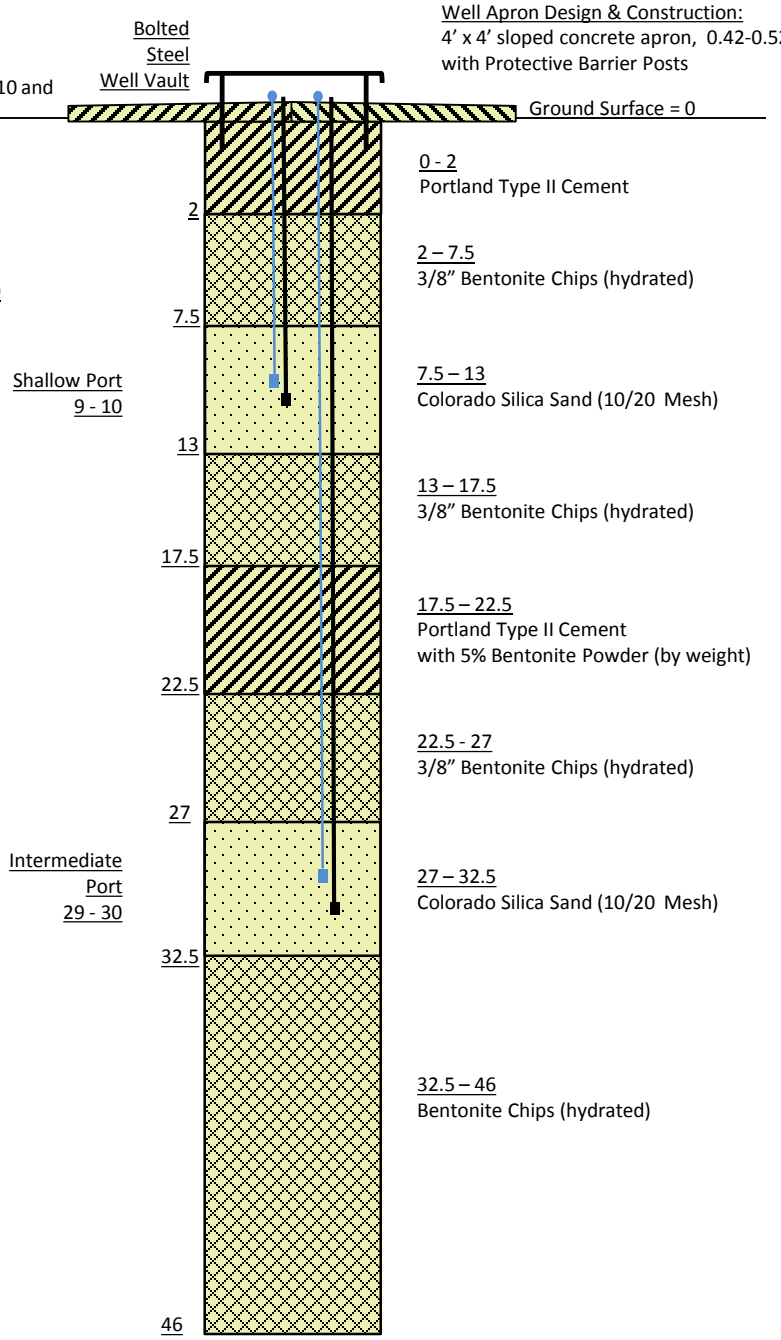
-Diagram not to scale.
-Soil sample collection: chemical from 8-10 and 28-30, Geotechnical from 8-10.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 - 40
Limestone Bedrock 40 - 46

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 7.5
3/8" Bentonite Chips (hydrated)

7.5 – 13
Colorado Silica Sand (10/20 Mesh)

13 – 17.5
3/8" Bentonite Chips (hydrated)

17.5 – 22.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

22.5 - 27
3/8" Bentonite Chips (hydrated)

27 – 32.5
Colorado Silica Sand (10/20 Mesh)

32.5 – 46
Bentonite Chips (hydrated)

Borehole Depth: 46

# WELL CONSTRUCTION DIAGRAM 200-SV-12

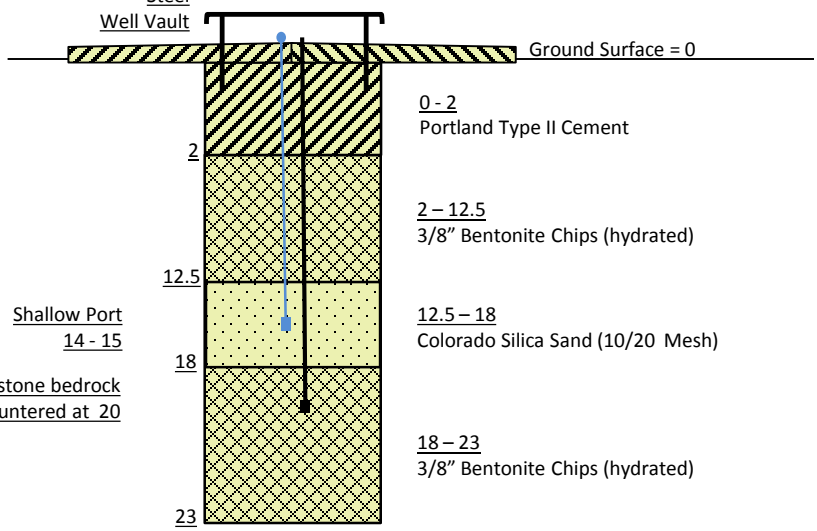
**Well Construction Date:** 07/18/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 551930.58 **E** 1532196.04
**Ground Elevation (ft. AMSL):** 4865.80
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 23'
**Field Representatives:** J. Lawrence, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

-Diagram not to scale.
-Soil sample collection: geotechnical only from 8-10'. Poor sample recovery.
-No water added during ARCH drilling.

Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts




Borehole Depth: 23

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

# WELL CONSTRUCTION DIAGRAM 200-SV-13

**Well Construction Date:** 06/17/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552017.11 **E** 1531856.95
**Ground Elevation (ft. AMSL):** 4867.02
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 48'
**Field Representatives:** J. Hennessey, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

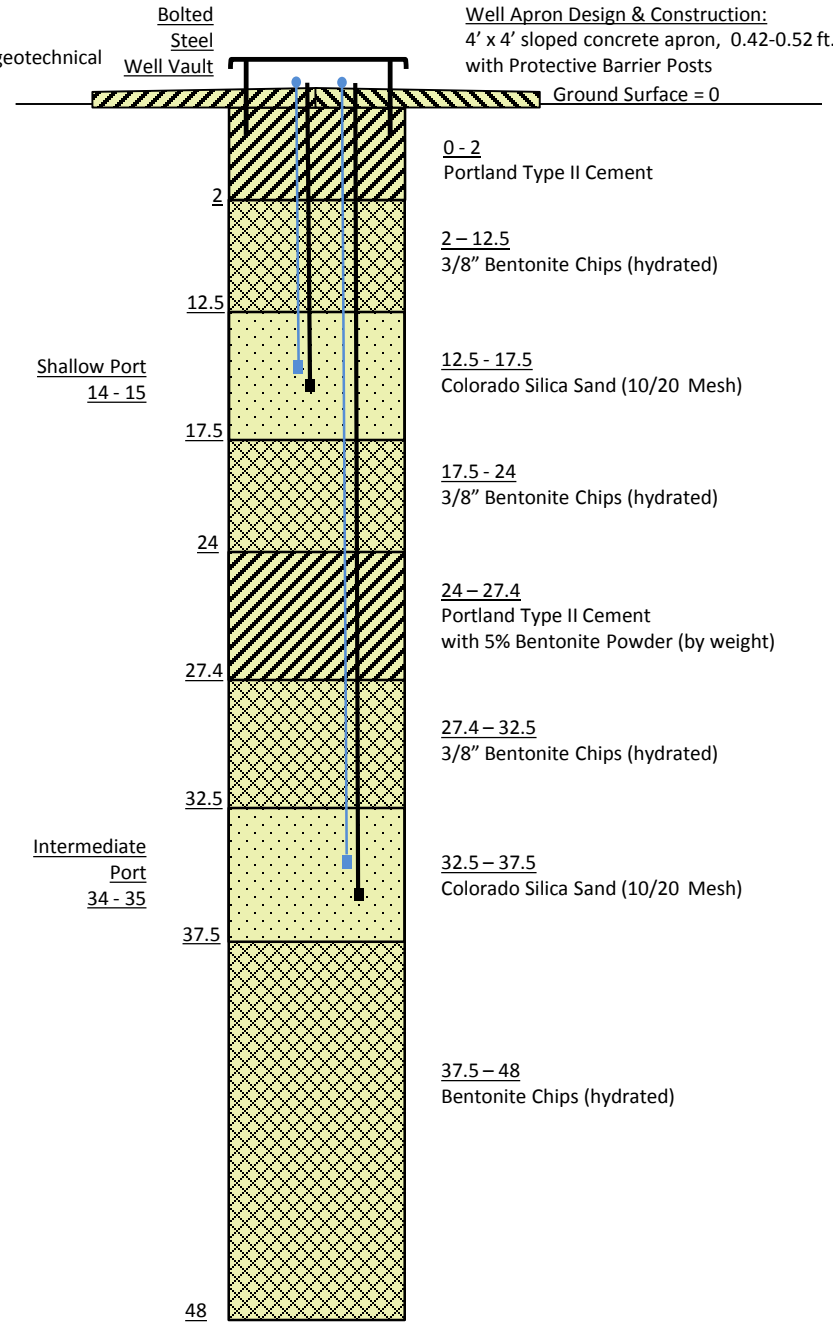
-Diagram not to scale.
-Soil sample collection: chemical and geotechnical from 10, geotechnical from 30-32.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 - 48
Limestone Bedrock 48

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 12.5
3/8" Bentonite Chips (hydrated)

12.5 - 17.5
Colorado Silica Sand (10/20 Mesh)

17.5 - 24
3/8" Bentonite Chips (hydrated)

24 – 27.4
Portland Type II Cement
with 5% Bentonite Powder (by weight)

27.4 – 32.5
3/8" Bentonite Chips (hydrated)

32.5 – 37.5
Colorado Silica Sand (10/20 Mesh)

37.5 – 48
Bentonite Chips (hydrated)

Borehole Depth: 48

# WELL CONSTRUCTION DIAGRAM 200-SV-14

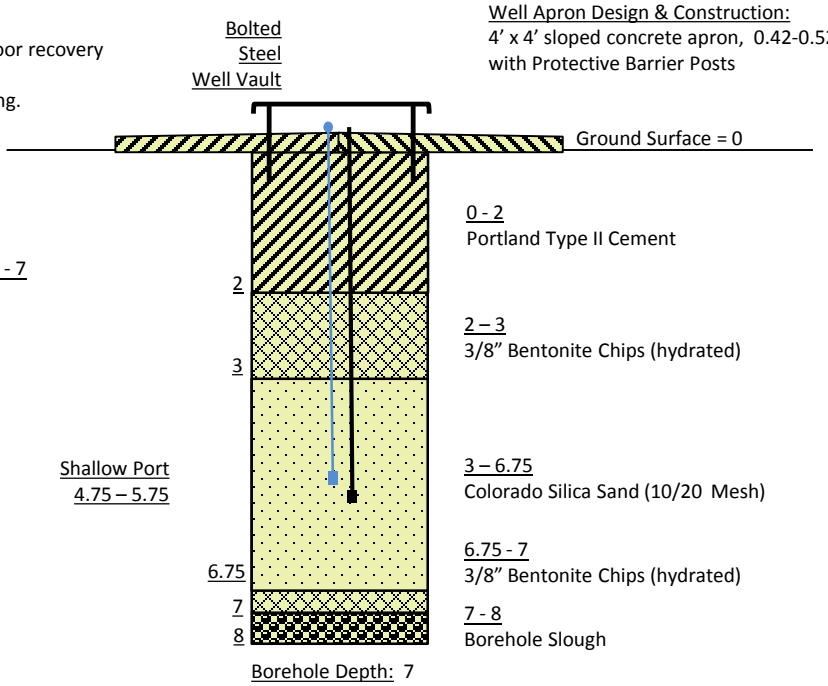
**Well Construction Date:** 06/18/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 550471.70 **E** 1530990.38
**Ground Elevation (ft. AMSL):** 4798.44
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 7'
**Field Representatives:** P. Egan, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

-Diagram not to scale.
-NO soil sample collection due to poor recovery and shallow depth to bedrock.
-No water added during ARCH drilling.

Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts




Soil Vapor Well Material:

- | ¼" stainless steel tubing
- ■ ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- ● Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- | 5/16" stainless steel guide line
- ■ ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

# WELL CONSTRUCTION DIAGRAM 200-SV-15

**Well Construction Date:** 07/30 – 8/1/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 551205.48 **E** 1530710.23
**Ground Elevation (ft. AMSL):** 4812.07
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 127'
**Field Representatives:** G. Giles, J. Lawrence, P. Egan, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

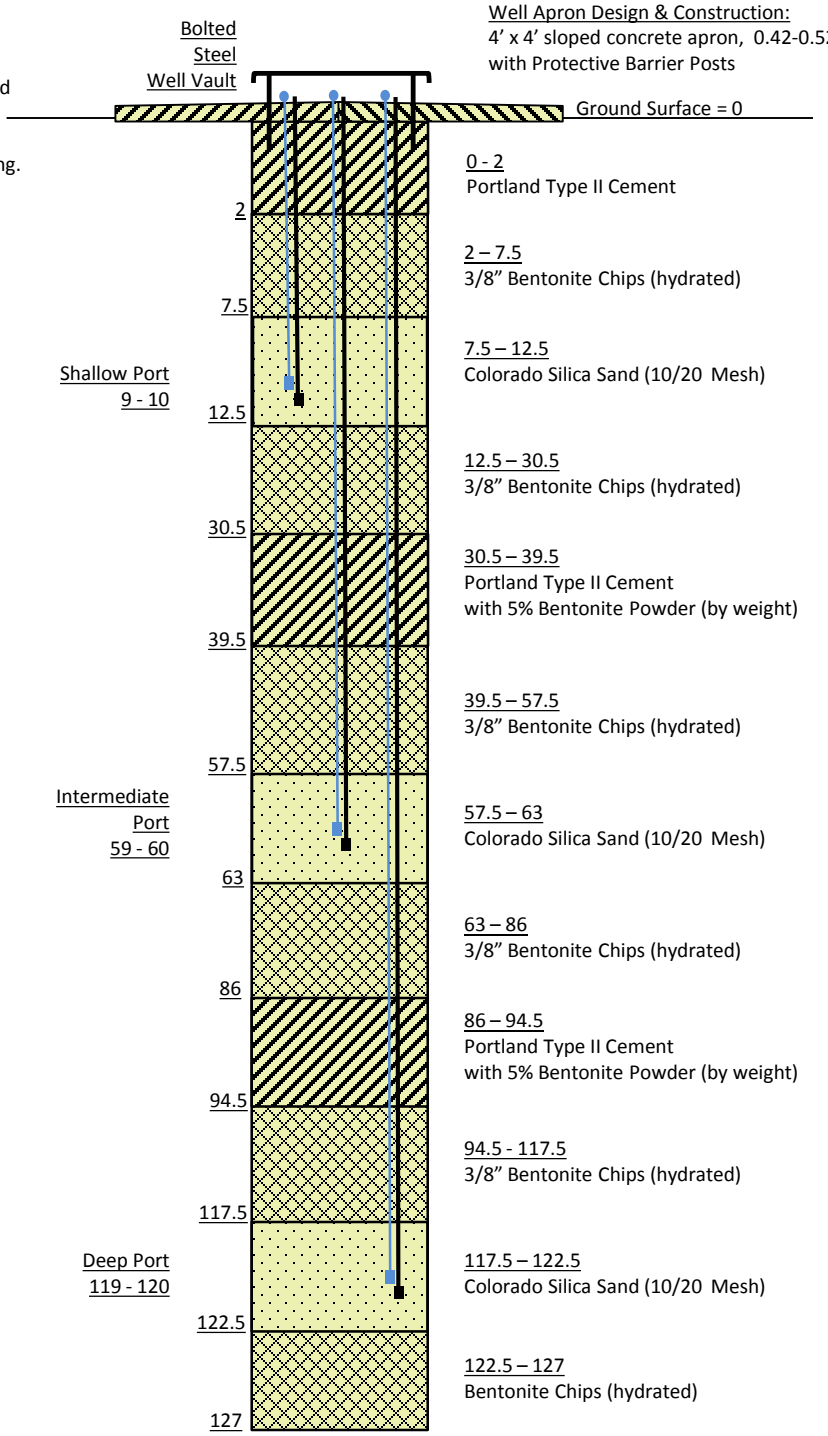
-Diagram not to scale.
-Soil sample collection: chemical and geotechnical from 8-10, chemical 98-100.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -127
Limestone Bedrock 127

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 7.5
3/8" Bentonite Chips (hydrated)

7.5 – 12.5
Colorado Silica Sand (10/20 Mesh)

12.5 – 30.5
3/8" Bentonite Chips (hydrated)

30.5 – 39.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

39.5 – 57.5
3/8" Bentonite Chips (hydrated)

57.5 – 63
Colorado Silica Sand (10/20 Mesh)

63 – 86
3/8" Bentonite Chips (hydrated)

86 – 94.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

94.5 - 117.5
3/8" Bentonite Chips (hydrated)

117.5 – 122.5
Colorado Silica Sand (10/20 Mesh)

122.5 – 127
Bentonite Chips (hydrated)

Borehole Depth: 127

# WELL CONSTRUCTION DIAGRAM 200-SV-16

**Well Construction Date:** 07/23-24/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 551228.40 **E** 1530326.78
**Ground Elevation (ft. AMSL):** 4811.84
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 123'
**Field Representatives:** G. Giles, J. Lawrence, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

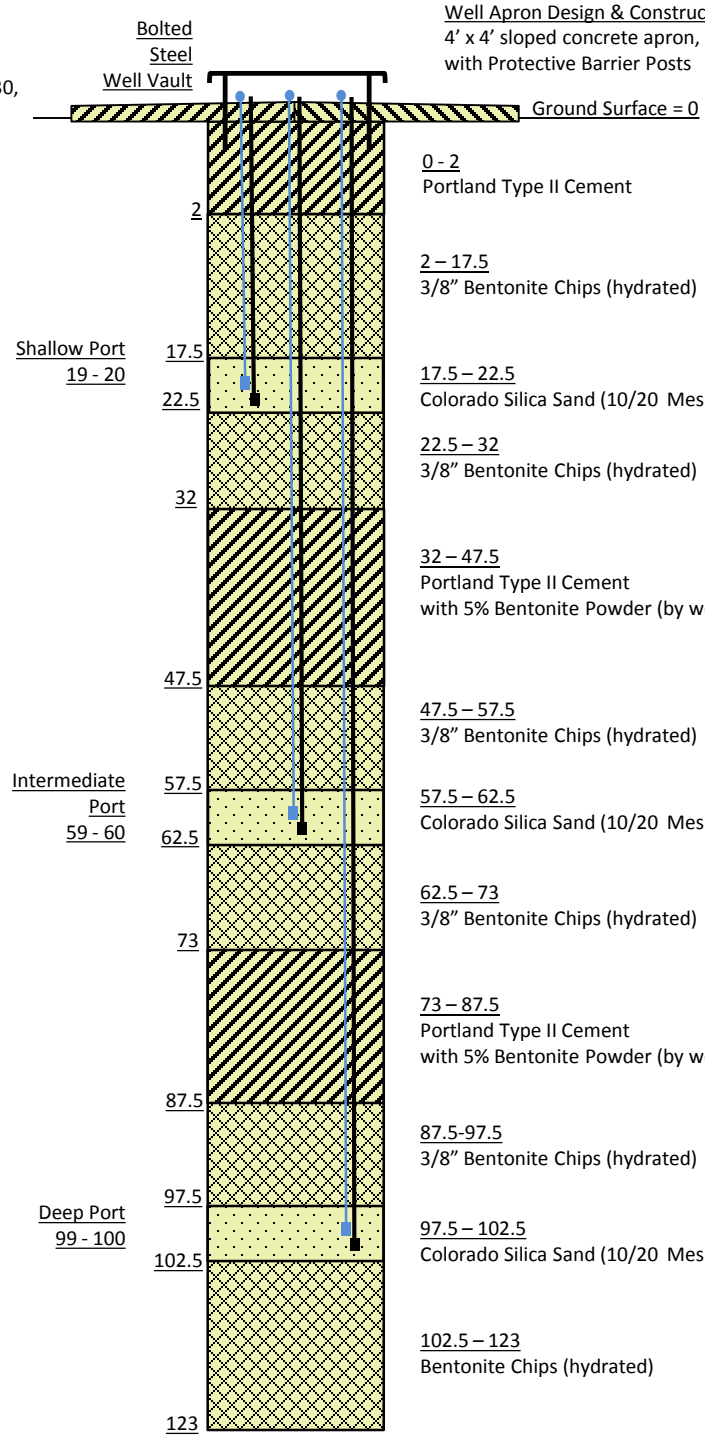
-Diagram not to scale.
-Soil sample collection: chemical at 20, 30, 50 and 60, geotechnical at 20 and 60.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -123
Limestone Bedrock 123

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded to provide respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 17.5
3/8" Bentonite Chips (hydrated)

17.5 – 22.5
Colorado Silica Sand (10/20 Mesh)

22.5 – 32
3/8" Bentonite Chips (hydrated)

32 – 47.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

47.5 – 57.5
3/8" Bentonite Chips (hydrated)

57.5 – 62.5
Colorado Silica Sand (10/20 Mesh)

62.5 – 73
3/8" Bentonite Chips (hydrated)

73 – 87.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

87.5-97.5
3/8" Bentonite Chips (hydrated)

97.5 – 102.5
Colorado Silica Sand (10/20 Mesh)

102.5 – 123
Bentonite Chips (hydrated)

Borehole Depth: 123

# WELL CONSTRUCTION DIAGRAM 200-SV-17

**Well Construction Date:** 08/04-05/14
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552089.14 **E** 1530496.92
**Ground Elevation (ft. AMSL):** 4820.90
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 147'
**Field Representatives:** J. Hennessey, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

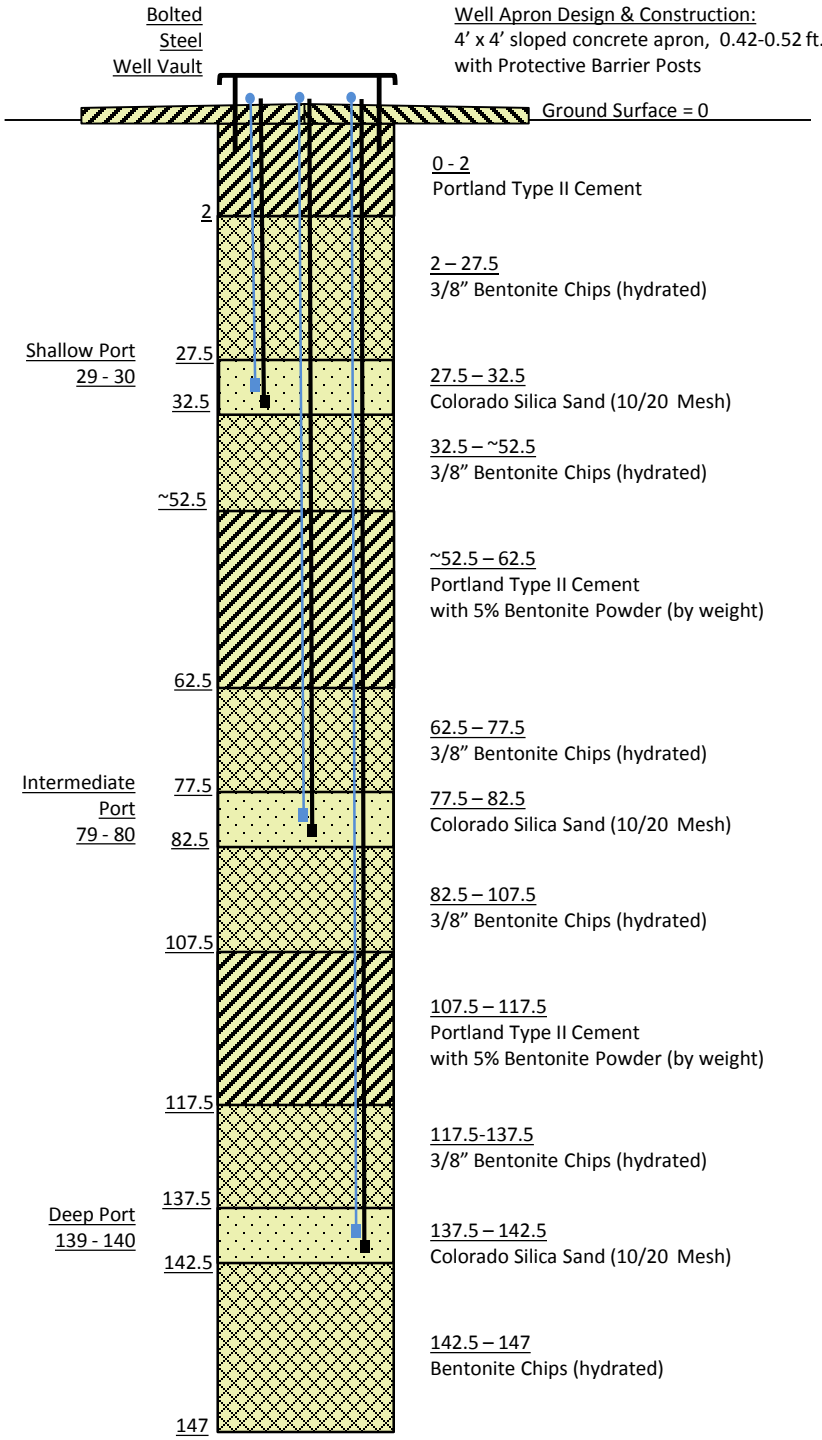
-Diagram not to scale.
-Soil sample collection: chemical and geotechnical from 8-12, geotechnical from 48-50 and 88-90.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -146
Limestone Bedrock 146 - 147

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at the surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 27.5
3/8" Bentonite Chips (hydrated)

27.5 – 32.5
Colorado Silica Sand (10/20 Mesh)

32.5 – ~52.5
3/8" Bentonite Chips (hydrated)

~52.5 – 62.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

62.5 – 77.5
3/8" Bentonite Chips (hydrated)

77.5 – 82.5
Colorado Silica Sand (10/20 Mesh)

82.5 – 107.5
3/8" Bentonite Chips (hydrated)

107.5 – 117.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

117.5-137.5
3/8" Bentonite Chips (hydrated)

137.5 – 142.5
Colorado Silica Sand (10/20 Mesh)

142.5 – 147
Bentonite Chips (hydrated)

Borehole Depth: 147

# WELL CONSTRUCTION DIAGRAM 200-SV-18

**Well Construction Date:** 07/10-11/2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 551587.96 **E** 1531093.83
**Ground Elevation (ft. AMSL):** 4837.01
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 98'
**Field Representatives:** G. Giles, S. Maestas, J. Lawrence
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

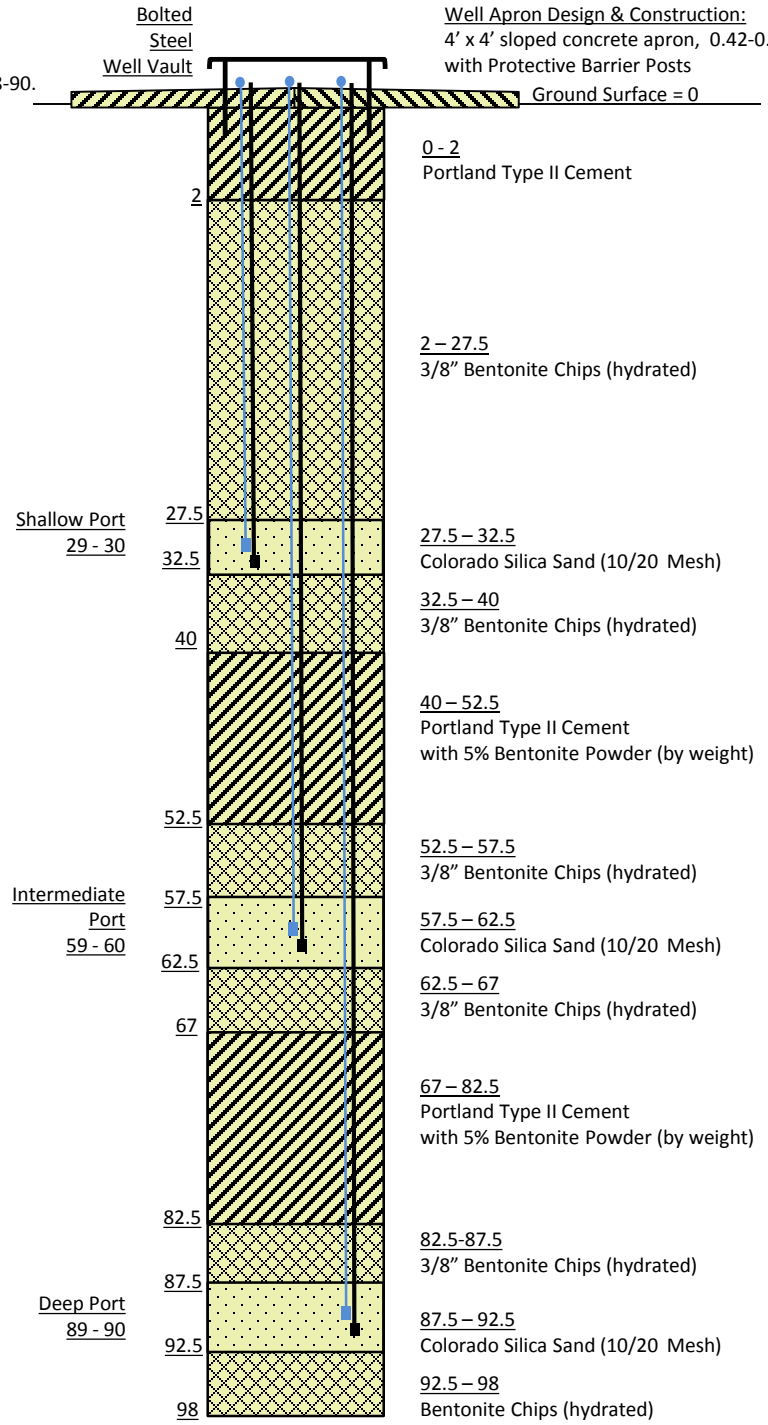
-Diagram not to scale.
-Soil sample collection: chemical from 88-90.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -96
Limestone Bedrock 96-98

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Borehole Depth: 98

# WELL CONSTRUCTION DIAGRAM 200-SV-19

**Well Construction Date:** 07/20-21/14
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 551218.08 **E** 1531204.41
**Ground Elevation (ft. AMSL):** 4819.70
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 48'
**Field Representatives:** G. Giles, S. Maestas, J. Hennessey
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

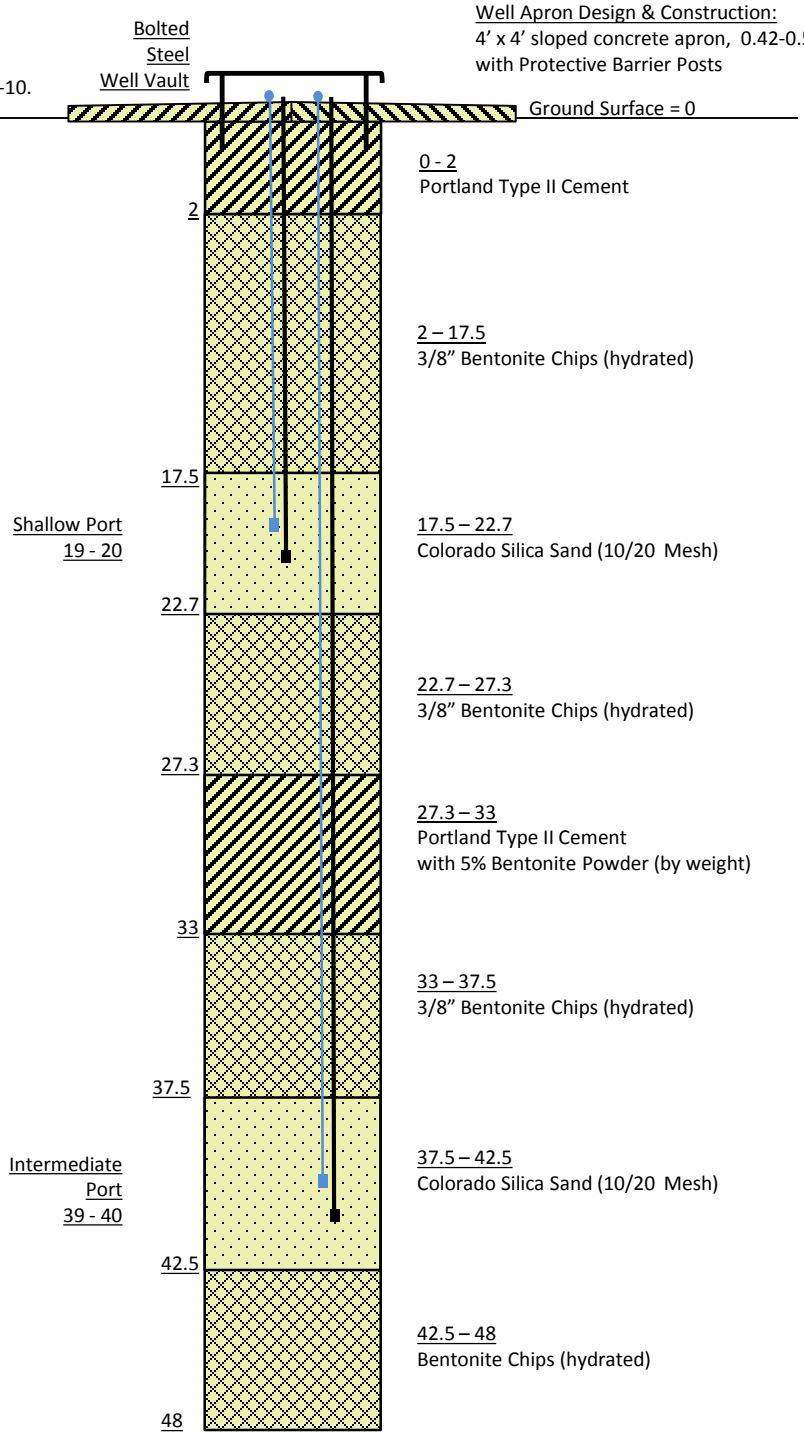
-Diagram not to scale.
-Soil sample collection: chemical from 8-10.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -46
Limestone Bedrock 46-48

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 17.5
3/8" Bentonite Chips (hydrated)

17.5 – 22.7
Colorado Silica Sand (10/20 Mesh)

22.7 – 27.3
3/8" Bentonite Chips (hydrated)

27.3 – 33
Portland Type II Cement
with 5% Bentonite Powder (by weight)

33 – 37.5
3/8" Bentonite Chips (hydrated)

37.5 – 42.5
Colorado Silica Sand (10/20 Mesh)

42.5 – 48
Bentonite Chips (hydrated)

Borehole Depth: 48

# WELL CONSTRUCTION DIAGRAM 200-SV-20

**Well Construction Date:** 06/05-06/14
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 552947.50 **E** 1532434.69
**Ground Elevation (ft. AMSL):** 4900.23
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 60'
**Field Representatives:** J. Lawrence, S. Maestas, P. Egan
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

-Diagram not to scale.
-Soil sample collection: chemical samples taken at 10, 30, and 50.
-No water added during ARCH drilling.

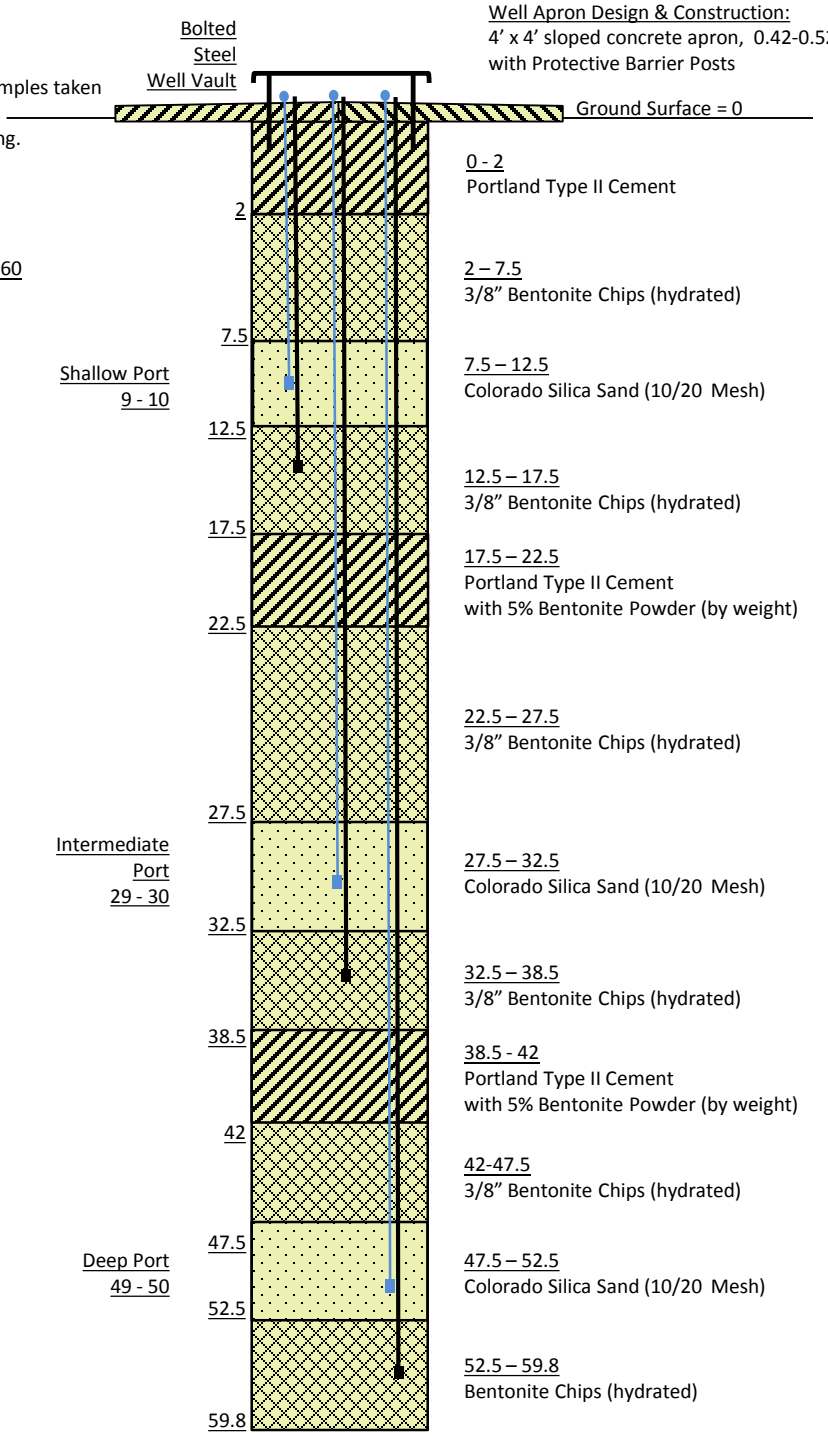
Santa Fe Group Alluvium 0 -60
Limestone Bedrock 60

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'

Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts




Borehole Depth: 60

# WELL CONSTRUCTION DIAGRAM 200-SV-21

**Well Construction Date:** 06/10 /2014
**State:** New Mexico **County:** Doña Ana
**Site Coordinates (ft.):** **N** 553208.93 **E** 1532847.08
**Ground Elevation (ft. AMSL):** 4914.67
**Drilling Contractor:** National EWP, (Del Leavitt – Driller)

**Drilling Method:** Air Rotary Casing Hammer (ARCH)
**Borehole Diameter:** 9 5/8"
**Borehole Depth:** 45'
**Field Representatives:** J. Lawrence, S. Maestas
**Comments:** All measurements in ft-bgs unless otherwise noted.

## Notes:

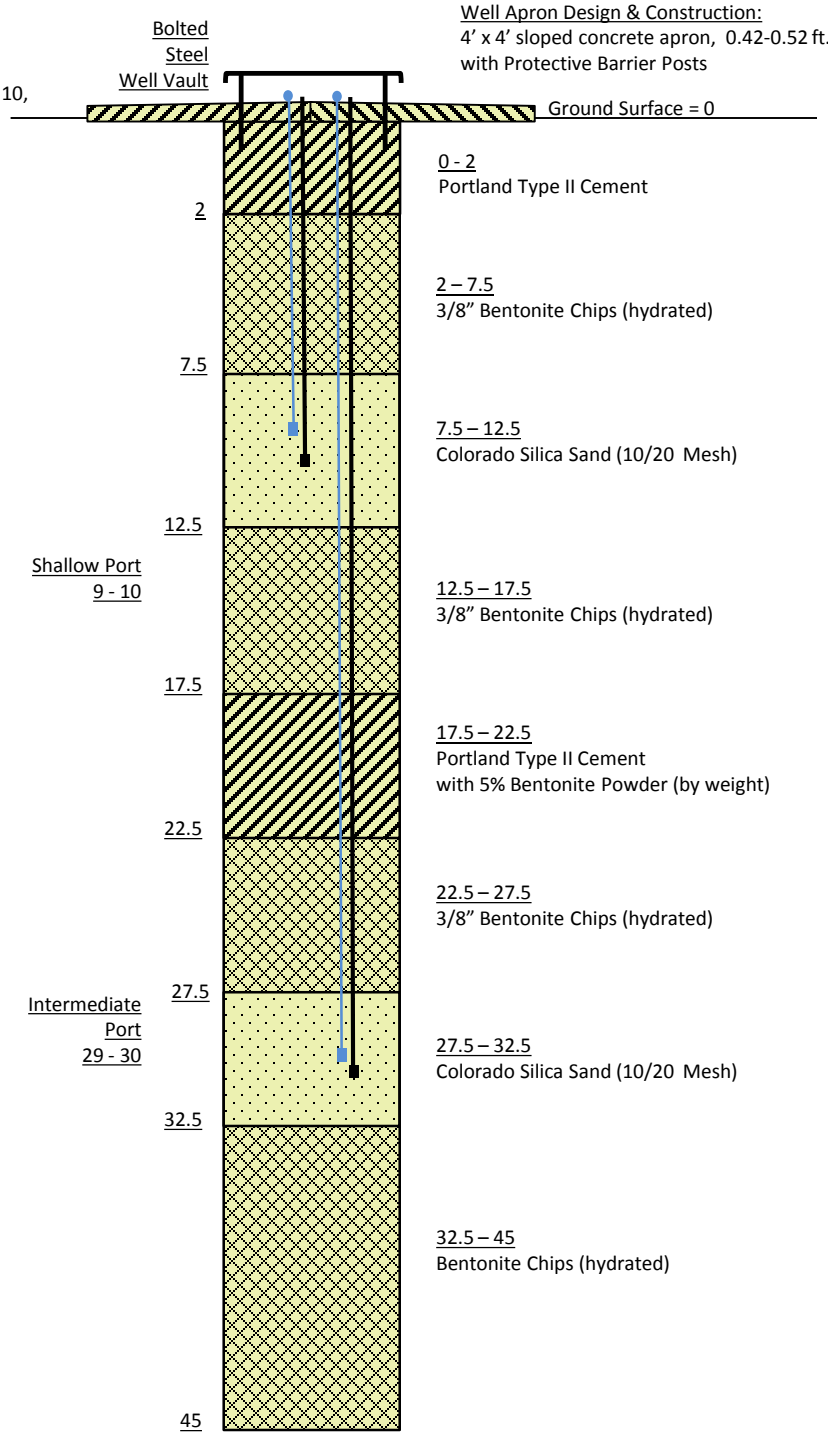
-Diagram not to scale.
-Soil sample collection: chemical from 10, 20, and 30, geotechnical from 32-33.
-No water added during ARCH drilling.

Santa Fe Group Alluvium 0 -45
Limestone Bedrock 45

Soil Vapor Well Material:

- ¼" stainless steel tubing
- ½ " x 12" soil vapor port attached to stainless steel tubing using Swagelok ® ¼ " fitting
- Swagelok ® fitting #SS-QC4-D-400 for attachment of sampling equipment. Each soil vapor port color-coded at surface to identify respective depths
- 5/16" stainless steel guide line
- ¾ " x 24" steel weight attached bottom of stainless steel guideline

Note: tubing is clamped to guideline every 5'




Well Apron Design & Construction:
4' x 4' sloped concrete apron, 0.42-0.52 ft. thick with Protective Barrier Posts

0 - 2
Portland Type II Cement

2 – 7.5
3/8" Bentonite Chips (hydrated)

7.5 – 12.5
Colorado Silica Sand (10/20 Mesh)

12.5 – 17.5
3/8" Bentonite Chips (hydrated)

17.5 – 22.5
Portland Type II Cement
with 5% Bentonite Powder (by weight)

22.5 – 27.5
3/8" Bentonite Chips (hydrated)

27.5 – 32.5
Colorado Silica Sand (10/20 Mesh)

32.5 – 45
Bentonite Chips (hydrated)

Borehole Depth: 45

# Appendix D
# Sample Chain-of-Custody Forms

# WSTF CHAIN OF CUSTODY RECORD

Date 6-5-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Method / Analytes | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406040816 | 200-SB-20 | 1 | X | | X | | | | | | | |
| ~~1406040817~~ | " | 1 | X | | | X | | | | | | |
| 1406040818 | " | 1 | X | | | | | X | | | | |
| 1406040819 | " | 1 | X | | | | X | | X | | | |
| 1406040814 | " | 1 | X | | | | | | | X | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John W. Minnick | 6-5-14 / 1100 HRS. | [illegible] | 6/6/14 1020 |
| | | | |
| | | | |

R1404273 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-5-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other_____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406041206 | 200-SB-20 30' | 1 | X | | X | | X | X | X | | | |
| 1406041725 | " 50' | 1 | X | | X | | X | X | X | | | |
| 1406041204 | 200-SB-20 30' | 1 | X | | | | | | | X | | |
| 1406041723 | " 50' | 1 | X | | | | | | | X | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 6-5-14 / 1100 HRS | [signature] | 6/6/14 1000 |
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R1404273 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-5-14



Laboratory / PO # 13EC003B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

Analysis Requirements

| Sample No. | Sample Location | # of Containers | Sample Type (F) | Total Metals | Anions/Anz | TDS SM2540C | $NO_2/NO_3$ 353.2 | SVOA 8270 | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406031016C | ST-3-586 | 1 | X | X | | | | | | | | |
| 1406031018C | " | 2 | X | | X | | | | | | | |
| 1406031020C | " | 1 | X | | | X | | | | | | |
| 1406031022C | " | 1 | X | | | | X | | | | | |
| 1406040856C | ST-3-486 | 1 | X | X | | | | | | | | |
| 1406040813 | 200-SB-20 | 2 | X | | | | | X | | | | |
| 1406050918C | ST-3-666 | 1 | X | X | | | | | | | | |
| 1406050919C | " | 1 | X | X | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-5-14 / 1100 HRS. | Gerry Lujo | 6/6/14 1000 |

R1404274 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-5-14

Page 1 of 1

Laboratory / PO # 13EC004B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes: VOA (Method 8260) | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406031009C | ST-3-586 | 3 | X | X | | | | | | | | |
| 1406031010C | " | 3 | X | X | | | | | | | | |
| 1406031012C | " | 3 | X | X | | | | | | | | |
| 1406040640C | ST-3-486 | 3 | X | X | | | | | | | | |
| 1406040852C | " | 3 | X | X | | | | | | | | |
| 1406040730 | 200-SB-20 | 3 | X | X | | | | | | | | |
| 1406040810 | " | 3 | X | X | | | | | | | | |
| 1406050915C | ST-3-666 | 3 | X | X | | | | | | | | |
| 1406050916C | " | 3 | X | X | | | | | | | | |
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R1404275 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-5-14 / 1100 HRS. | [illegible] | 6/6/14 1000 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-6-14



Laboratory / PO # **14EC01**

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes | VOC | SVOC | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406040940 | 200-SB-20 9-10' | 2 | X | | X | | | | | | | |
| 1406041200 | " 30' | 2 | X | | X | | | | | | | |
| 1406041720 | 50' | 2 | X | | X | | | | | | | |
| 1406041204 | 200-SB-20 30' | 1 | X | | | X | | | | | | |
| 1406041723 | " 50' | 1 | X | | | X | | | | | | |

R1404316 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [illegible] | 6-5-14 1100 HRS. | [illegible] | 6/6/14 1000 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14

Page 1 of 1

Laboratory / PO # 13EC0036

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: SVOC / 8270 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406090814 | 200-SB-21 | 2 | X | X | | | | | | | | |
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R1404418 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-10-14 / 1100 HRS. | Chris Wright | 6/11/14 1010 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14

Page ____ of ____

Laboratory / PO # 13EC004B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes: VOA (Method 8260) | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406090810 | 200-SB-21 | 3 | X | X | | | | | | | | |
| 1406090811 | " | 3 | X | X | | | | | | | | |
| ~~1406100930X~~ | ~~WW 4-594~~ | | | | | | | | | | | |
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R1404420 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnich | 6-10-14 / 1100 Hrs. | Chris Wright | 6/11/14 1010 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | ~~Hex. Chromium~~ | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1406090817 | 200-SB-21 | 1 | X | X | | | | | | |
| 1406090815 | " | 1 | X | | | | | | X | |
| 1406090818 | " | 1 | X | | | | X | | | |
| 1406090819 | " | 1 | X | | | X | | X | | |

R1404421 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-10-14 1100 Hrs. | Chris Wright | 6/11/14 1010 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | ~~Hex. Chromium~~ | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406091138 | 200-SB-21 7.5-10' | 1 | X | | | | | | X | | |
| 1406091613 | 200-SB-21 | 1 | X | | | | | | X | | |
| 1406091748 | 200-SB-21 | 1 | X | | | | | | X | | |
| 1406091140 | 200-SB-21 7.5/10' | 1 | X | | X | | X | X | X | | |
| 1406091615 | 200-SB-21 | 1 | X | | X | | X | X | X | | |
| 1406091750 | 200-SB-21 | 1 | X | | X | | X | X | X | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-10-14 /1100 HRS. | Chris Wright | 6/14/14 1010 |

R1404421 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14



Laboratory / PO # **14EC01**

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes: VOC 8260 | SVOC | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406091135 | 200-SB-21 7.5-10' | 2 | X | X | | | | | | | |
| 1406091610 | 200-SB-21 | 2 | X | X | | | | | | | |
| 1406091745 | 200-SB-21 | 2 | X | X | | | | | | | |
| 1406091138 | 200-SB-21 7.5-10' | 1 | X | | X | | | | | | |
| 1406091613 | 200-SB-21 | 1 | X | | X | | | | | | |
| 1406091748 | 200-SB-21 | 1 | X | | X | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-10-14 / 1100 HRS. | Chris Wright | 6/11/14 1010 |
| | | | |
| | | | |

R1404425 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-12-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1406111441 | 200-SB-7 | 1 | X | X | | | | | | |
| 1406111442 | " | 1 | X | | X | | | | | |
| 1406111444 | " | 1 | X | | | X | | X | | |
| 1406111443 | " | 1 | X | | | | X | | | |
| 1406111439 | " | 1 | X | | | | | | X | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-12-14 / 1100 HRS | [illegible] ACS 6/13/14 1020 | |
| | | | |
| | | | |

R1404507 5

NASA/WSTF/Navarro White Sands Test Facility

WSTF 381B (03/13)

Date 6-12-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406111505 | 200-SB-7 8-10' | 1 | X | | X | X | X | X | X | | | |
| 1406111506 | " | 1 | X | | X | X | X | X | X | | | *Matrix Spike for #1406111505 |
| 1406111635 | 200-SB-7 18-21' | 1 | X | | X | X | X | X | X | | | |
| 1406120935 | 200-SB-7 38-40' | 1 | X | | X | X | X | X | X | | | |
| 1406111501 | 200-SB-7 8-10' | 1 | X | | | | | | | X | | |
| 1406111502 | " | 1 | X | | | | | | | X | | *Matrix Spike for #1406111501 |
| 1406111633 | 200-SB-7 18-21' | 1 | X | | | | | | | X | | |
| 1406120933 | 200-SB-7 38-40' | 1 | X | | | | | | | X | | |
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R1404507 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: |
|---|---|---|
| Lori Minnick | 6-12-14 / 1100 HRS. | [illegible] 6/12/14 1020 |
| | | |
| | | |

# WSTF CHAIN OF CUSTODY RECORD

Date 6-12-14



Laboratory / PO # 13EC003B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analyses / Method: Total Metals | Analyses / Method: SVOC 8270 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406110918A | BW-7-211 | 1 | X | X | | | | | | | | |
| 1406111438 | 200-SB-7 | 2 | X | | X | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-12-14 / 1100 HRS | [signature] ACS 6/12/14 1032 | |
| | | | |

R1404509 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-12-14



Laboratory / PO # **14EC01**

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes: VOC | SVOC | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406111501 | 200-SB-7 8-10' | 1 | X | | X | | | | | | |
| 1406111502 | " " | 1 | X | | X | | | | | | *MATRIX SPIKE FOR # 1406111501 |
| 1406111633 | " 18-21' | 1 | X | | X | | | | | | |
| 1406120933 | " 38-40' | 1 | X | | X | | | | | | |
| 1406111455 | " 8-10' | 2 | X | X | | | | | | | |
| 1406111456 | " " | 2 | X | X | | | | | | | *MATRIX SPIKE FOR # 1406111455 |
| 1406111630 | " 18-21' | 2 | X | X | | | | | | | |
| 1406120930 | " 38-40' | 2 | X | X | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-12-14 /1100 HRS. | [signature] MS 6/13/14 1020 | |
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R1404510 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-12-14

Page 1 of 1

Laboratory / PO # 13EC004B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: VOA 8260 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406110915A | BW-7-211 | 3 | X | X | | | | | | | | |
| 1406110916A | " | 3 | X | X | | | | | | | | (BUBBLES) |
| 1406110800 | B650-INF-1 | 3 | X | X | | | | | | | | (BUBBLES) |
| 1406111002 | " | 3 | X | X | | | | | | | | |
| 1406111003 | " | 3 | X | X | | | | | | | | (BUBBLES) |
| 1406111330 | 200-SB-7 | 3 | X | X | | | | | | | | (BUBBLES) |
| 1406111435 | 200-SB-7 | 3 | X | X | | | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-12-14 / 1100 HRS. | ACS 6/13/14 1320 | |

R1404534 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 6-16-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130726 | 200-SB-8 | 1 | X | X | | | | | | | |
| 1406130727 | " | 1 | X | | X | | | | | | |
| 1406130729 | " | 1 | X | | | X | | X | | | |
| 1406130728 | " | 1 | X | | | | X | | | | |
| 1406130724 | " | 1 | X | | | | | | X | | |
| 1406141656 | 200-SB-6 | 1 | X | X | | | | | | | |
| 1406141657 | " | 1 | X | | X | | | | | | |
| 1406141658 | " | 1 | X | | | | X | | | | |
| 1406141659 | " | 1 | X | | | X | | X | | | |
| 1406141654 | " | 1 | X | | | | | | X | | |
| 1406151116 | 200-SB-5 | 1 | X | X | | | | | | | |
| 1406151117 | " | 1 | X | | X | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-16-14 / 1100 HRS | [illegible] ACS | 6/17/14 0920 |
| | | | |
| | | | |

R1404589 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 6-16-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406151118 | 200-SB-5 | 1 | X | | | | X | | | | |
| 1406151119 | " | 1 | X | | | X | | X | | | |
| 1406151114 | " | 1 | X | | | | | | X | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-16-14 / 1100HRS. | ACS | 6/17/14 0720 |
| | | | |
| | | | |

R1404589 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 6-16-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130805 | 200-SB-8 8/10' | 1 | X | | X | X | X | X | X | | | |
| 1406130815 | " " | 1 | X | | X | X | X | X | X | | | |
| 1406130803 | " " | 1 | X | | | | | | | X | | |
| 1406130813 | " " | 1 | X | | | | | | | X | | |
| 1406130943 | " 28/30' | 1 | X | | | | | | | X | | |
| 1406131303 | " 43/45' | 1 | X | | | | | | | X | | |
| 1406141703 | 200-SB-6 8/10' | 1 | X | | | | | | | X | | |
| 1406151128 | 200-SB-5 8/10' | 1 | X | | | | | | | X | | |
| 1406151144 | " 8/10' | 1 | X | | | | | | | X | | |
| 1406130945 | 200-SB-8 28/30' | 1 | X | | X | X | X | X | X | | | |
| 1406131305 | " 43/45' | 1 | X | | X | X | X | X | X | | | |
| 1406141705 | 200-SB-6 8/10' | 1 | X | | X | X | X | X | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-16-14 /1100 HRS. | [illegible] MCS | 6/17/14 0920 |
| | | | |
| | | | R1404589 |

WSTF 381B (03/13)

Date 6-16-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406151130 | 200-SB-5 8/10' | 1 | X | X | X | X | X | X | | | | |
| 1406151146 | " " | 1 | X | X | X | X | X | X | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-16-14 1100 HRS. | John Minnick ACS | 6/17/14 0920 |
| | | | R1404589 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-16-14



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Method

Analytes: Pb

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Pb | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406041207 | 200-SB-20 30' | 1 | X | X | | | | | | | | |
| 1406041726 | " 50' | 1 | X | X | | | | | | | | |
| 1406091141 | 200-SB-21 7.5/10' | 1 | X | X | | | | | | | | |
| 1406091616 | " | 1 | X | X | | | | | | | | |
| 1406091751 | " | 1 | X | X | | | | | | | | |
| 1406111507 | 200-SB-7 8-10' | 1 | X | X | | | | | | | | |
| 1406111508 | " " | 1 | X | X | | | | | | | | *MATRIX SPIKE FOR #1406111507 |
| 1406111636 | 200-SB-7 18/21' | 1 | X | X | | | | | | | | |
| 1406120936 | " 38/40' | 1 | X | X | | | | | | | | |
| 1406130806 | 200-SB-8 8/10' | 1 | X | X | | | | | | | | |
| 1406130816 | " " " | 1 | X | X | | | | | | | | |
| 1406130946 | " 28/30' | 1 | X | X | | | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-16-14 / 1100HRS. | [illegible] NCS | 6/17/14 0920 |
| | | | |
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R1404590 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-16-14



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Method 8260 Analytes VOA | Method 8270 Analytes SVOC | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130800 | 200-SB-8 8'/10' | 2 | X | X | | | | | | | | |
| 1406130810 | " " | 2 | X | X | | | | | | | | |
| 1406130803 | " " | 1 | X | | X | | | | | | | |
| 1406130813 | " " | 1 | X | | X | | | | | | | |
| 1406131306 | " 43'/45' | 1 | X | | | X | | | | | | |
| 1406141706 | 200-SB-6 8'/10' | 1 | X | | | X | | | | | | |
| 1406151131 | 200-SB-5 8'/10' | 1 | X | | | X | | | | | | |
| 1406151147 | " 8'/10' | 1 | X | | | X | | | | | | |
| 1406130943 | 200-SB-8 28'/30' | 1 | X | | X | | | | | | | |
| 1406131303 | " 43'/45' | 1 | X | | X | | | | | | | |
| 1406141703 | 200-SB-6 8'/10' | 1 | X | | X | | | | | | | |
| 1406151128 | 200-SB-5 8'/10' | 1 | X | | X | | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-16-14 / 1100 1425 | ACS | 6/17/14 0920 |

R1404590 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-16-14



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: VOA 8260 | SVOC 8270 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406151144 | 200-SB-5 8/10' | 1 | X | | X | | | | | | | |
| 1406130940 | 200-SB-8 28/30' | 2 | X | X | | | | | | | | |
| 1406131300 | " 43/45' | 2 | X | X | | | | | | | | |
| 1406141700 | 200-SB-6 8/10' | 2 | X | X | | | | | | | | |
| 1406151125 | 200-SB-5 8/10' | 2 | X | X | | | | | | | | |
| 1406151141 | " " | 2 | X | X | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-16-14 / 1100 hrs. | ALS | 6/17/14 0920 |
| | | | R1404590 |

# WSTF CHAIN OF CUSTODY RECORD

Date 6-16-14

Page 4 of 4

Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (4) | Analytes / Method: VOA 8260 | SVOC 8270 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130700 | 200-SB-8 | 3 | X | X | | | | | | | | |
| 1406130720 | " | 3 | X | X | | | | | | | | |
| 1406130723 | " | 2 | X | | X | | | | | | | |
| 1406141200 | 200-SB-6 | 3 | X | X | | | | | | | | |
| 1406141650 | " | 3 | X | X | | | | | | | | (Bubbles) |
| 1406141653 | " | 2 | X | | X | | | | | | | |
| 1406151050 | 200-SB-5 | 3 | X | X | | | | | | | | (Bubbles) |
| 1406151110 | " | 3 | X | X | | | | | | | | (Bubbles) |
| 1406151113 | " | 2 | X | | X | | | | | | | |
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| Relinquished By | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 6-16-14 / 1100 HRS. | [illegible] MS | 6/17/14 0920 |
| | | | R404590 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-17-14



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A: Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: SVOC 8270 | VOA 8260 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406161343 | 200-SB-13 | 2 | X | X | | | | | | | | |
| 1406160730 | " | 3 | X | | X | | | | | | | |
| 1406161340 | " | 3 | X | | X | | | | | | | (BUBBLES) |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-17-14 / 1100 HRS. | [signature] ACS 6/19/14 0935 | |

R1404617 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-17-14



Laboratory / PO # ~~[illegible]~~ 14EC009B

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes | VOC | SVOC | pH | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406161400 | 200-SB-13 8/10' | 2 | X | | X | | | | | | | |
| 1406161403 | " | 1 | X | | | X | | | | | | |
| 1406161540 | " 28-30/32' | 2 | X | | X | | | | | | | |
| 1406161541 | " " | 2 | X | | X | | | | | | | *MATRIX SPIKE FOR #1406161540 |
| 1406161546 | " " | 1 | X | | | X | | | | | | |
| 1406161547 | " " | 1 | X | | | X | | | | | | *MATRIX SPIKE FOR #1406161546 |
| 1406161406 | 200-SB-13 8/10' | 1 | X | | | | X | | | | | |
| 1406161552 | " 28-30/32' | 1 | X | | | | X | | | | | |
| 1406161553 | " " | 1 | X | | | | X | | | | | *MATRIX SPIKE FOR #1406161552 |
| | | | | | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-17-14 / 1100 HRS. | [illegible] ACS 6/19/14 0935 | |
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R1404618 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 6-17-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406161346 | 200-SB-13 | 1 | X | X | | | | | | | |
| 1406161347 | " | 1 | X | | | | X | | | | |
| 1406161348 | " | 1 | X | | | X | | X | | | |
| 1406161344 | " | 1 | X | | | | | | X | | |
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| Relinquished By | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 6-17-14 / 1100 Hrs. | [signature] MS 6/19/14 0925 | |
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R1404622 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-17-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406161403 | 200-SB-13 8/10' | 1 | X | | | | | | X | | |
| 1406161546 | " 28-30/32' | 1 | X | | | | | | X | | |
| 1406161547 | " " | 1 | X | | | | | | X | | *MATRIX SPIKE FOR #1406161546 |
| 1406161405 | 200-SB-13 8/10' | 1 | X | X | | X | X | X | | | |
| 1406161550 | " 28-30/32' | 1 | X | X | | X | X | X | | | |
| 1406161551 | " " | 1 | X | X | | X | X | X | | | *MATRIX SPIKE FOR #1406161550. |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 6-17-14 / 1100 HRS | [signature] ARS | 6/18/14 0935 |

R1404622 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-18-14



Laboratory / PO # ~~14EC00~~ 14EC011B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: Dioxins / Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406041206 | 200-SB-20 30' | 1 | X | X | | | | | | | | |
| 1406041724 | " 50' | 1 | X | X | | | | | | | | |
| 1406091139 | 200-SB-21 7.5/10' | 1 | X | X | | | | | | | | |
| 1406091614 | " | 1 | X | X | | | | | | | | |
| 1406091749 | " | 1 | X | X | | | | | | | | |
| 1406111503 | 200-SB-7 8/10' | 1 | X | X | | | | | | | | |
| 1406111504 | " " | 1 | X | X | | | | | | | | *Matrix Spike for # 1406111503 |
| 1406111634 | " 18/21' | 1 | X | X | | | | | | | | |
| 1406120934 | " 38/40' | 1 | X | X | | | | | | | | |
| 1406130804 | 200-SB-8 8/10' | 1 | X | X | | | | | | | | |
| 1406130814 | " " | 1 | X | X | | | | | | | | |
| 1406130944 | " 28/30' | 1 | X | X | | | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 6-18-14 / 1100 HRS. | [signature] ALS 6/18/14 0935 | |
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R1404651 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-18-14



Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406131304 | 200-SB-8 43/45' | 1 | X | X | | | | | | | | |
| 1406141704 | 200-SB-6 8/10' | 1 | X | X | | | | | | | | |
| 1406151129 | 200-SB-5 8/10' | 1 | X | X | | | | | | | | |
| 1406151145 | " " | 1 | X | X | | | | | | | | |
| 1406161404 | 200-SB-13 8/10' | 1 | X | X | | | | | | | | |
| 1406161548 | " 28-30/32' | 1 | X | X | | | | | | | | |
| 1406161549 | " " | 1 | X | X | | | | | | | | *Matrix Spike for #1406161548 |
| | | | | | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-18-14 / 1100 HRS. | [signature] ACS 6/19/14 0935 | |
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R1404651 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-18-14

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406040815 | 200-SB-20 | 2 | X | X | | | | | | | | |
| 1406090816 | 200-SB-21 | 2 | X | X | | | | | | | | |
| 1406111440 | 200-SB-7 | 2 | X | X | | | | | | | | |
| 1406130725 | 200-SB-8 | 2 | X | X | | | | | | | | |
| 1406141655 | 200-SB-6 | 2 | X | X | | | | | | | | |
| 1406151115 | 200-SB-5 | 2 | X | X | | | | | | | | |
| 1406161345 | 200-SB-13 | 2 | X | X | | | | | | | | |
| | | | | | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-18-14 / 1100 HRS | [illegible] 6/19/14 0935 | |
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R1404652 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO # ACS

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analysis Requirements: Method / Analytes 8260C | 8270C | PERCHLORATE | DIOXINS/FURANS | TOTAL METALS | TOTAL CYANIDE | ANIONS | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406280630 | 200-SB-10 | 3 | A | X | | | | | | | | |
| 0940 QNE | | 3 | | X | | | | | | | | |
| 0943 | | 2 | | | X | | | | | | | |
| 0944 | | 1 | | | | X | | | | | | |
| 0945 | | 2 | | | | | X | | | | | |
| 0946 | | 1 | | | | | | X | | | | |
| 0947 | | 1 | | | | | | | X | | | |
| 0948 | | 1 | | | | | | | | X | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Matthew Eglen | 7/1/14 1315 | Paul Gilliam | 7/1/14 1317 |
| | | KRS 7/2/14 1000 | |

R1405027 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO # ALS

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

Analysis Requirements

| Sample No. | Sample Location | # of Containers | Sample Type | Method / Analytes: 8260C | SVOC | PERCHLORATE | DIOXINS/FURANS | METALS | HEX CHROME | CYANIDE | ANIONS | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406301500 | 200-SB-9 | 3 | A | X | | | | | | | | | | |
| 1525 | | 3 | | X | | | | | | | | | | |
| ~~1526~~ | ~~NE~~ | ~~1~~ | | | | | | | | | | | | |
| ~~1527~~ | ~~NE~~ | ~~1~~ | | | | | | | | | | | | |
| 1528 | | 2 | | | X | | | | | | | | | |
| 1529 | | 1 | | | | X | | | | | | | | |
| 1530 | | 2 | | | | | X | | | | | | | |
| 1531 | | 1 | | | | | | X | | | | | | |
| 1532 | | 1 | | | | | | | X | | | | | |
| 1533 | | 1 | | | | | | | | X | | | | |
| 1534 | | 1 | | | | | | | | | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Matthew Eglen | 7/1/14 1315 | [signature] | 7/1/14 1317 |
| | | [signature] ms | 7/2/14 1000 |

WSTF 381B (03/13)

R1405027

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO # ACS

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: 8260C | 8270C | PERCHLORATE | DIOXINS/FURANS | TOTAL METALS | TOTAL CYANIDE | ANIONS | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406280630 | 200-SB-10 | 3 | A | X | | | | | | | | |
| 0940 ME | | 3 | | X | | | | | | | | |
| 0943 | | 2 | | | X | | | | | | | |
| 0944 | | 1 | | | | X | | | | | | |
| 0945 | | 2 | | | | | X | | | | | |
| 0946 | | 1 | | | | | | X | | | | |
| 0947 | | 1 | | | | | | | X | | | |
| 0948 | | 1 | | | | | | | | X | | |
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R1405029 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Matthew Eglen | 7/1/14 1315 | Paul Gutierrez | 7/1/14 1317 |
| | | KCS 7/2/14 1000 | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO # ALS

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analysis Requirements: Method / Analytes 8260C | SVOC | PERCHLORATE | DIOXINS/FURANS | METALS | HEX CHROME | CYANIDE | ANIONS | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406301500 | 200-SB-9 | 3 | A | X | | | | | | | | | | |
| 1525 | | 3 | | X | | | | | | | | | | |
| ~~1526~~ | ~~NE~~ | ~~1~~ | | | | | | | | | | | | |
| ~~1527~~ | ~~NE~~ | ~~1~~ | | | | | | | | | | | | |
| 1528 | | 2 | | | X | | | | | | | | | |
| 1529 | | 1 | | | | X | | | | | | | | |
| 1530 | | 2 | | | | | X | | | | | | | |
| 1531 | | 1 | | | | | | X | | | | | | |
| 1532 | | 1 | | | | | | | X | | | | | |
| 1533 | | 1 | | | | | | | | X | | | | |
| 1534 | | 1 | | | | | | | | | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Matthew Eglen | 7/1/14 1315 | [signature] | 7/1/14 1317 |
| | | [signature] MS | 7/2/14 1000 |

WSTF 381B (03/13)

R1405029 5

NASA/WSTF/Navarro
White Sands Test Facility

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14

Page 1 of 2

Laboratory / PO #

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

Analysis Requirements

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: 8260C | UDMH/Biomass 15mL | 8270C/Perchlorate | Dioxins/Furans | Total Metals, Anions + total Cyanide | Soil pH | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140628 1018 | 200-SB-10 (16'-18') | 3 | S | X | | | | | | | | |
| ~~1020~~ | | 1 | | | | | | | | | | |
| 1021 | | 1 | | | | X | | | | | | |
| 1022 | | 1 | | | | | X | | | | | |
| 1023 | | 1 | | | | | | X | | | | |
| 1024 | | 1 | | | | | | | X | | | |
| 140628 1505 | 200-SB-10 (36'-38') | 3 | S | X | | | | | | | | |
| 1508 | | 1 | | | | X | | | | | | |
| 1509 | | 1 | | | | | X | | | | | |
| 1510 | | 1 | | | | | | X | | | | |
| 1511 | | 1 | | | | | | | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] Eglen | 7/1/14 1315 | [signature] | 7/1/14 1310 |
| | | [signature] MS | 7/2/14 1000 |
| | | | |

R1405032 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO #

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

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Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analysis Requirements: Method / Analytes: 8260C | 8270C/Perchlorate | Dioxins/Furans | Total Metals, Anions | Total Cyanide | Soil pH | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406281200 | 200-SB-10 (26'-28') | 3 | S | X | | | | | | | | | |
| 1203 | | 1 | | | X | | | | | | | | |
| 1204 | | 1 | | | | X | | | | | | | |
| 1205 | | 1 | | | | | X | | | | | | |
| 1206 | | 1 | | | | | | X | | | | | |
| 1406301545 | 200-SB-09 | 3 | S | X | | | | | | | | | |
| 1548 | | 1 | | | X | | | | | | | | |
| 1549 | | 1 | | | | X | | | | | | | |
| 1550 | | 1 | | | | | X | | | | | | |
| 1551 | | 1 | | | | | | X | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7/1/14 1315 | [signature] | 7/1/14 1318 |
| | | [signature] pcs | 7/2/14 1002 |

R1405032 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO #

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

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Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

Analysis Requirements

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: 8260C | UDMH/Biomass ISM | 8270C/Perchlorate | Dioxins/Furans | Total Metals, Anions, total Cyanide | Soil pH | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140628 1018 | 200-SB-10 (16'-18') | 3 | S | X | | | | | | | | |
| ~~1020~~ | | 1 | | | | | | | | | | |
| 1021 | | 1 | | | | X | | | | | | |
| 1022 | | 1 | | | | | X | | | | | |
| 1023 | | 1 | | | | | | X | | | | |
| 1024 | | 1 | | | | | | | X | | | |
| 140628 1505 | 200-SB-10 (36'-38') | 3 | S | X | | | | | | | | |
| 1508 | | 1 | | | | X | | | | | | |
| 1509 | | 1 | | | | | X | | | | | |
| 1510 | | 1 | | | | | | X | | | | |
| 1511 | | 1 | | | | | | | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [illegible] Eglen | 7/1/14 1315 | [illegible] | 7/1/14 1310 |
| | | [illegible] MS | 7/2/14 1000 |

WSTF 381B (03/13)

R1405035 5

NASA/WSTF/Navarro
White Sands Test Facility

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14



Laboratory / PO #

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: 8260C | 8270C/Perchlorate | Dioxins/Furans | Total Metals, Anions Total Cyanide | Soil pH | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406281200 | 200-SB-10 (26'-28') | 3 | S | X | | | | | | | | |
| 1203 | | 1 | | | X | | | | | | | |
| 1204 | | 1 | | | | X | | | | | | |
| 1205 | | 1 | | | | | X | | | | | |
| 1206 | | 1 | | | | | | X | | | | |
| 1406301545 | 200-SB-09 | 3 | S | X | | | | | | | | |
| 1548 | | 1 | | | X | | | | | | | |
| 1549 | | 1 | | | | X | | | | | | |
| 1550 | | 1 | | | | | X | | | | | |
| 1551 | | 1 | | | | | | X | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7/1/14 1315 | [signature] | 7/1/14 1318 |
| | | [signature] MCS | 7/2/14 1003 |

R1405035

NASA/WSTF/Navarro
White Sands Test Facility



WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-7-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Method / Analytes | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407011359 | 200-SB-11 | 1 | X | | | | | | | X | | |
| 1407011401 | " | 1 | X | | X | | | | | | | |
| 1407011402 | " | 1 | X | | | | | X | | | | |
| 1407011403 | " | 1 | X | | | | X | | X | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-7-14 / 1100 HRS | [signature] ACS | 7/8/14 0920 |
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| | | | |

R1405135 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 7-7-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other_____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407011413 | 200-SB-11 8/10' | 1 | X | | | | | | X | | |
| 1407011606 | " | 1 | X | | | | | | X | | |
| 1407011415 | " 8-10' | 1 | X | X | | X | X | X | | | |
| 1407011604 | " | 1 | X | X | | X | X | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-7-14 /1100HRS. | [signature] ARS | 7/8/14 0920 |

R1405135 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-7-14

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road, Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: Dioxin/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407011400 | 200-SB-11 | 2 | A | X | | | | | | | | |
| 1407011414 | " 8-10' | 1 | S | X | | | | | | | | |
| 1407011603 | " | 1 | S | X | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-7-14 / 1100 MLS | [signature] ALS | 7/8/14 0920 |
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R1405136 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-7-14



Laboratory / PO # ~~[illegible]~~ 14EC009B

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ~~(COC)~~ | Analytes / Method: VOC | SVOC | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407011240 | 200-SB-11 | 3 | A | X | | | | | | | | |
| 1407011355 | " | 3 | A | X | | | | | | | | |
| 1407011410 | " 8-10' | 3 | S | X | | | | | | | | |
| 1407011600 | " | 3 | S | X | | | | | | | | |
| 1407011358 | " | 2 | A | | X | | | | | | | |
| 1407011416 | " 8-10' | 1 | S | | ~~X~~ | X | | | | | | |
| 1407011605 | " | 1 | S | | ~~X~~ | X | | | | | | |
| 1407011413 | " 8-10' | 1 | S | | X | | | | | | | |
| 1407011606 | " | 1 | S | | X | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-7-14 / 1100HRS | [signature] | 7/8/14 0920 |
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R1405137 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-9-14



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: SVOA 8270 | VOA 8260 | pH 9045D | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407071403 | 200-SB-18 | 2 | A | X | | | | | | | | |
| 1407071250 | " | 3 | A | | X | | | | | | | 3 vials w/ Bubbles LS |
| 1407071400 | " | 3 | A | | X | | | | | | | 3 vials w/ Bubbles. LS |

R1405275 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-9-14 / 1100 hrs. | [illegible] ALS | 7/10/14 0920 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-9-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407071406 | 200-SB-18 | 1 | X | X | | | | | | | |
| 1407071408 | " | 1 | X | | | X | | X | | | |
| 1407071407 | " | 1 | X | | | | X | | | | |
| 1407071404 | " | 1 | X | | | | | | X | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
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| Lori Minnick | 7-9-14 1100 HRS | [signature] ARS | 7/10/14 0920 |
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R1405276 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-10-14



Laboratory / PO # [redacted] 14EC009B

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Analytes / Method: VOC | SVOC | pH | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407091135 | 200-SB-18 88'/90' | 3 | X | X | | | | | | | |
| 1407091138 | " | 1 | X | | X | | | | | | |
| 1407091141 | " | 1 | X | | | X | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-10-14 /1100 Hrs. | J Sewell AZS | 7/11/14 0940 |

R1405347 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 7-10-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407091138 | 200-SB-18 88'/90' | 1 | X | | | | | | X | | |
| 1407091140 | " " | 1 | X | X | | X | X | X | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-10-14 / 1100 Hrs. | [signature] J. Sevard ACS | 7/11/14 0940 |
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R1405348 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-10-14

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407091139 | 200-SB-18 88'/90' | 1 | X | X | | | | | | | | |
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R1405350 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-10-14 / 1100 hrs. | J. Sawyer ms | 7/11/14 0940 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-14-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Method / Analytes | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407111346 | 200-SB-15 | 1 | A | | X | | | | | | | |
| 1407111347 | " | 1 | A | | | | | X | | | | |
| 1407111348 | " | 1 | A | | | | X | | X | | | |
| 1407111344 | " | 1 | A | | | | | | | X | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-14-14 / 1100 HRS. | [illegible] | 7/15/14 1050 |
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R1405420 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-14-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407111420 | 200-SB-15 8'/10' | 1 | S | X | | X | X | X | | | |
| 1407111421 | " " | 1 | S | X | | X | X | X | | | * Matrix Spike for #1407111420 |
| 1407111416 | " " | 1 | S | | | | | | X | | |
| 1407111417 | | 1 | S | | | | | | X | | * Matrix Spike for #1407111416 |

| Relinquished By | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-14-14 / 1100 HRS | [illegible] | 7/15/14 1050 |

R1405420 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-14-14



Laboratory / PO # [redacted] 14EC009B

Address shipping questions to:

Attn: ✓Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Method / Analytes | VOC | SVOC | pH | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407111300 | 200-SB-15 | 3 | A | | X | | | | | | | (Bubbles) |
| 1407111340 | " | 3 | A | | X | | | | | | | |
| 1407111343 | " | 2 | A | | | X | | | | | | |
| 1407111416 | " 8/10' | 1 | S | | | X | | | | | | |
| 1407111417 | " " | 1 | S | | | X | | | | | | * Matrix Spike for #1407111416 |
| 1407111410 | " " | 3 | S | | X | | | | | | | |
| 1407111411 | " " | 3 | S | | X | | | | | | | * Matrix Spike for #1407111410 |
| 1407111422 | " " | 1 | S | | | | X | | | | | |
| 1407111423 | " " | 1 | S | | | | X | | | | | * Matrix Spike for #1407111422 |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 7-14-14 / 1100 HRS. | Sergio Tafoya | 7/15/14 1050 |
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R1405421 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-14-14

Page 1 of 1

Laboratory / PO # 14ECO11B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A, S, W) | Analytes: Dioxins/Furans Method 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407111345 | 200-SB-15 | 2 | A | X | | | | | | | | |
| 1407111418 | " 8'/10' | 1 | S | X | | | | | | | | |
| 1407111419 | " " | 1 | S | X | | | | | | | | * Matrix Spike for # 1407111418 |

R1405422 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-14-14 / 1100 Hrs | [illegible] | 7/15/14 1050 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-17-14

Page 1 of 1

Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: VOA 8260 | Analytes / Method: SVOC 8270 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407161200 | 200-SB-15 98/100' | 3 | X | X | | | | | | | | |
| 1407161203 | " " | 1 | X | | X | | | | | | | |
| ~~1407~~ | | | | | | | | | | | | |
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R1405541 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-17-14 / 1100HRS | [illegible] | 7/18/14 0925 |
| | | | |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-17-14

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407161204 | 200-SB-15 98'/100' | 1 | X | X | | | | | | | | |
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R1405543 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 7-17-14 1100 HRS | Sergio Tapia | 7/18/14 0925 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-17-14

Page 1 of 1

Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407161205 | 200-SB-15 98/100' | 1 | X | X | | X | X | X | | | |
| 1407161203 | " " | 1 | X | | | | | | X | | |
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R1405544 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-17-14 / 1100 HRS. | [signature] | 7/18/14 0925 |
| | | | |
| | | | |

WSTF 381B (03/13)

Date 7-21-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407200800 | 200-SB-19 | 1 | X | | | | | | X | | |
| 1407200802 | " | 1 | X | X | | | | | | | |
| 1407200803 | " | 1 | X | | | | X | | | | |
| 1407200804 | " | 1 | X | | | X | | X | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-21-14 / 1100 HRS | [signature] Scanned AS 7/22/14 1000 | |
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R1405582 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-21-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1407200853 | 200-SB-19 8/10' | 1 | X | | | | | | X | |
| 1407200854 | " " | 1 | X | | | | | | X | |
| 1407200857 | " " | 1 | X | X | | X | X | X | | |
| 1407200858 | " " | 1 | X | X | | X | X | X | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-21-14 / 1100 HRS. | [illegible] RCS 7/22/14 1000 | |
| | | | |
| | | | R1405582 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-21-14

Page 1 of 1

Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A/S) | Analysis Requirements: Analytes / Method: VOA 8260 | SVOA 8270 | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407200630 | 200-SB-19 | 3 | A | X | | | | | | | | 3 vials w/ Bubbles. |
| 1407200755 | " | 3 | A | X | | | | | | | | |
| 1407200759 | " | 2 | A | | X | | | | | | | |
| 1407200845 | " 8'/10' | 3 | S | X | | | | | | | | |
| 1407200846 | " " | 3 | S | X | | | | | | | | |
| 1407200853 | " " | 1 | S | | X | | | | | | | |
| 1407200854 | " " | 1 | S | | X | | | | | | | |
| 1407200859 | " " | 1 | S | | | X | | | | | | |
| 1407200900 | " " | 1 | S | | | X | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-21-14 / 1100 HRS. | [illegible] NAS 7/22/14 1000 | |
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R1405586 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-21-14



Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (C) | Analytes / Method: Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407200801 | 200-SB-19 | 2 | A | X | | | | | | | | |
| 1407200855 | " 8/10' | 1 | S | X | | | | | | | | |
| 1407200856 | " " | 1 | S | X | | | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-21-14 / 1100 HRS. | [illegible] 7/22/14 1000 | |
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R1405588 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-22-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Analysis Requirements: Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407211256 | 200-SB-16 | 1 | X | X | | | | | | | |
| 1407211254 | " | 1 | X | | | | | | X | | |
| 1407211257 | " | 1 | X | | | | X | | | | |
| 1407211258 | " | 1 | X | | | X | | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-22-14 / 1100 HRS. | [illegible] | 7/23/14 0900 |

R1405626 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-22-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1407220804 | 200-SB-16 18'/20' | 1 | X | | | | | | X | |
| 1407220806 | " " | 1 | X | X | | X | X | X | | |
| 1407220944 | " 28'/30' | 1 | X | | | | | | X | |
| 1407220946 | " " | 1 | X | X | | X | X | X | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-22-14 / 1100HRS | [signature] | 7/23/14 0950 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-22-14

Page 1 of 1

Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: VOA 8260 | SVOA 8270 | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407211030 | 200-SB-16 | 3 | A | X | | | | | | | | (Bubbles) |
| 1407211250 | " | 3 | A | X | | | | | | | | (Bubbles) |
| 1407211253 | " | 2 | A | | X | | | | | | | |
| 1407220800 | 200-SB-16 18/20' | 3 | S | X | | | | | | | | |
| 1407220804 | " " | 1 | S | | X | | | | | | | |
| 1407220807 | " " | 1 | S | | | X | | | | | | |
| 1407220940 | " 28/30' | 3 | S | X | | | | | | | | |
| 1407220944 | " " | 1 | S | | X | | | | | | | |
| 1407220947 | " " | 1 | S | | | X | | | | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-22-14 / 1100 HRS. | [signature] | 7/23/14 0900 |
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R1405630 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-22-14

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: DIOXINS/FURANS 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407211255 | 200-SB-16 | 2 | S | X | | | | | | | | |
| 1407220805 | 200-SB-16 18'/20' | 1 | S | X | | | | | | | | |
| 1407220945 | " 28'/30' | 1 | S | X | | | | | | | | |

R1405633 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-22-14 / 1100 HRS | Lenny Lujo | 7/23/14 0900 |

WSTF 381B (03/13)

Date 7-23-14

# WSTF CHAIN OF CUSTODY RECORD

Page 1 of 1

Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1407221139 | 200-SB-16 48/50' | 1 | X | | | | | | X | |
| 1407230754 | " 58/60 | 1 | X | | | | | | X | |
| 1407221141 | " 48/50' | 1 | X | X | | X | X | X | | |
| 1407230756 | " 58/60 | 1 | X | X | | X | X | X | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-23-14 / 1100 HRS. | [signature] AES 7/24/14 0925 | |
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R1405661 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 7-23-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: VOA 8260 | SVOA 8270 | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407221135 | 200-SB-16 48'/50' | 3 | S | X | | | | | | | | |
| 1407230750 | " 58'/60' | 3 | S | X | | | | | | | | |
| 1407221139 | " 48'/50' | 1 | S | | X | | | | | | | |
| 1407230754 | " 58'/60' | 1 | S | | X | | | | | | | |
| 1407221142 | " 48'/50' | 1 | S | | | X | | | | | | |
| 1407230757 | " 58'/60' | 1 | S | | | X | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-23-14 / 1100 HRS. | [signature] ALS 7/24/14 0925 | |

R1405662 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-23-14

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407221140 | 200-SB-16 48'/50' | 1 | S | X | | | | | | | | |
| 1407230755 | " 58'/60' | 1 | S | X | | | | | | | | |
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R1405663 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-23-14 / 1100 HRS. | [illegible] NRS 7/24/14 | 0925 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8-31-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (WATER) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408020906 | 200-SB-17 | 1 | X | X | | | | | | | |
| 1408020904 | " | 1 | X | | | | | | X | | |
| 1408020907 | " | 1 | X | | | | X | | | | |
| 1408020908 | " | 1 | X | | | X | | X | | | |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [illegible] | 8-31-14 / 1100 HRS. | [illegible] | 8/5 0730 |
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| | | | |

R1405948 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8-31-14



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408020923 | 200-SB-17 8'/12' | 1 | X | | | | | | X | | |
| 1408020924 | " " | 1 | X | | | | | | X | | |
| 1408020927 | " " | 1 | X | X | | X | X | X | | | |
| 1408020928 | " " | 1 | X | X | | X | X | X | | | |
| 1408030851 | " 48'/50' | 1 | X | X | | X | X | X | | | |
| 1408031321 | " 88'/90' | 1 | X | X | | X | X | X | | | |
| 1407311644 | 200-SB-6 | 1 | X | | | | | | X | | |
| 1407311656 | " | 1 | X | | | | | | X | | |
| 1407311657 | " | 1 | X | | | | | | X | | |
| 1407311646 | 200-SB-6 | 1 | X | X | X | X | X | X | | | |
| 1407311700 | " | 1 | X | X | X | X | X | X | | | |
| 1407311701 | " | 1 | X | X | X | X | X | X | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Munch | 8-31-14 / 1100 HRS | [illegible] | |
| | | | |
| | | | |

R1405948

WSTF 381B (03/13)

Date 8-31-14

# WSTF CHAIN OF CUSTODY RECORD

Page 1 of 1

Laboratory / PO # 14EC011B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A/S) | Analytes / Method: DIOXINS/FURANS 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408020905 | 200-SB-17 | 2 | A | X | | | | | | | | |
| 1408020925 | 200-SB-17 8'/12' | 1 | S | X | | | | | | | | |
| 1408020926 | " " | 1 | S | X | | | | | | | | |
| 1408030850 | " 48'/50' | 1 | S | X | | | | | | | | |
| 1408031320 | " 88'/90' | 1 | S | X | | | | | | | | |
| 1407311645 | 200-SB-6 | 1 | S | X | | | | | | | | |
| 1407311658 | " | 1 | S | X | | | | | | | | |
| 1407311659 | " | 1 | S | X | | | | | | | | |
| 1408040820 | 200-SB-7 | 1 | S | X | | | | | | | | |
| 1408040821 | " | 1 | S | X | | | | | | | | |
| 1408040822 | " | 1 | S | X | | | | | | | | *Matrix Spike for #1408040820 |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 8-31-14 1100 Hrs. | ACS 8/5/14 1435 | |

R1405950 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 8-31-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A/S) | Analytes / Method: VOA 8260 | SVOA 8270 | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408020903 | 200-SB-17 | 2 | A | | X | | | | | | | |
| 1408020700 | " | 3 | A | X | | | | | | | | |
| 1408020900 | " | 3 | A | X | | | | | | | | |
| 1408030843 | 200-SB-17 48'/50' | 3 | S | X | | | | | | | | |
| 1408031315 | " 88'/90' | 3 | S | X | | | | | | | | |
| 1408020915 | " 8'/12' | 3 | S | X | | | | | | | | |
| 1408020916 | " " | 3 | S | X | | | | | | | | |
| 1408020929 | " " | 1 | S | | | X | | | | | | |
| 1408020930 | " " | 1 | S | | | X | | | | | | |
| 1408020923 | " " | 1 | S | | X | | | | | | | |
| 1408020924 | " " | 1 | S | | X | | | | | | | |
| 1408030852 | " 48'/50' | 1 | S | | | X | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 8-31-14 / 1100 HRS | [signature] ACS 8/5/14 | 0935 |
| | | | |
| | | | |

R1405951 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 8-4-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: VOA 8260 | SVOA 8270 | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408031322 | 200-SB-17 88'/90' | 1 | S | | | X | | | | | | |
| 1408030849 | " 48'/50' | 1 | S | | X | | | | | | | |
| 1408031319 | " 88'/90' | 1 | S | | X | | | | | | | |
| 1407311640 | 200-SB-6 | 3 | S | X | | | | | | | | |
| 1407311648 | " | 3 | S | X | | | | | | | | |
| 1407311649 | " | 3 | S | X | | | | | | | | |
| 1408040805 | 200-SB-7 | 3 | S | X | | | | | | | | |
| 1408040806 | " | 3 | S | X | | | | | | | | |
| 1408040807 | " | 3 | S | X | | | | | | | | * Matrix Spike for # 1408040805 |
| ~~1408~~ 1407311647 | 200-SB-6 | 1 | S | | | X | | | | | | |
| 1407311702 | " | 1 | S | | | X | | | | | | |
| 1407311703 | " | 1 | S | | | X | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John M Trunch | 8-4-14 / 1100 HRS. | ALS | 8/5/14 0935 |
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| | | | |

R1405951 5
NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

Date 8-4-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # 14EC009B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: VOA 8260 | SVOA 8270 | pH | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407311644 | 200-SB-6 | 1 | S | | X | | | | | | | |
| 1407311656 | " | 1 | S | | X | | | | | | | |
| 1407311657 | " | 1 | S | | X | | | | | | | |
| 1408040817 | 200-SB-7 | 1 | S | | X | | | | | | | |
| 1408040818 | " | 1 | S | | X | | | | | | | |
| 1408040819 | " | 1 | S | | X | | | | | | | *Matrix Spike For # 1408040817 |
| 1408040826 | " | 1 | S | | | X | | | | | | |
| 1408040827 | " | 1 | S | | | X | | | | | | |
| 1408040828 | " | 1 | S | | | X | | | | | | *Matrix Spike For # 1408040826 |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 8-4-14 / 1100 HRS. | [signature] ARS 8/5/14 0935 | R1405951 |

WSTF 381B (03/13)

Date 8-4-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # **13ECO59B**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Total Metals | Hex. Chromium | Chloride | Cyanide | Nitrate/Nitrite | Perchlorate | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408040817 | 200-SB-7 | 1 | X | | | | | | X | | |
| 1408040818 | " | 1 | X | | | | | | X | | |
| 1408040819 | " | 1 | X | | | | | | X | | *Matrix Spike for #1408040817 |
| 1408040823 | " | 1 | X | X | X | X | X | X | | | |
| 1408040824 | " | 1 | X | X | X | X | X | X | | | |
| 1408040825 | " | 1 | X | X | X | X | X | X | | | *Matrix Spike for #1408040823 |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 8-4-14 / 1100 Hrs | | |
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R1405986 5

NASA/WSTF/Navarro
White Sands Test Facility

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8/13/14

Page ____ of ____

Laboratory / PO # 14ECO09B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (Soil) | Analytes / Method: pH, Soil | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140812 1331 IDW | 200-SB-14 | 1 | X | X | | | | | | | | |
| 140812 1332 IDW | 200-SB-14 | 1 | X | X | | | | | | | | |
| 140812 1333 IDW | 200-SB-14 | 1 | X | X | | | | | | | | Matrix Spike |
| 140812 1411 IDW | 200-SB-12 | 1 | X | X | | | | | | | | |
| 140812 1412 IDW | 200-SB-12 | 1 | X | X | | | | | | | | |
| 140812 1413 IDW | 200-SB-12 | 1 | X | X | | | | | | | | Matrix Spike |
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R1406304 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Nicole Padilla | 8/13/14 1035 | Chris Wright | 8/14/14 0930 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8/13/14

Page ____ of ____

Laboratory / PO #13ECO59B

Return Address for Analytical Reports:

Carlyn Tufts, Carlyn.a.tufts@nasa.gov

NASA/WSTF Environmental Department

12600 NASA Road

Las Cruces, NM 88012

Attn: ☒ Carlyn Tufts

Special Instructions

Return coolers and reusable packaging materials as soon as possible

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Patrick Padilla

| Sample No. | Sample Location | # of Containers | Soil | Total Metals | Hex. Chromium 7199 | Chloride 9056A | Cyanide 9012B | Nitrate/Nitrite 353.2M | Perchlorate 6850 | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408121328 IDW | 200-SB-14 | 1 | X | X | | X | X | X | | | | |
| 1408121329 IDW | 200-SB-14 | 1 | X | X | | X | X | X | | | | |
| 1408121330 IDW | 200-SB-14 | 1 | X | X | | X | X | X | | | | Matrix Spike |
| 1408121408 IDW | 200-SB-12 | 1 | X | X | | X | X | X | | | | |
| 1408121409 IDW | 200-SB-12 | 1 | X | X | | X | X | X | | | | |
| 1408121410 IDW | 200-SB-12 | 1 | X | X | | X | X | X | | | | Matrix Spike |
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R1406305 -- 5 --
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Patrick Padilla | 8/13/14 1023 | Chris Wright | 8/14/14 0930 |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8/13/14



Laboratory / PO #[redacted] 14EC011B

Return Address for Analytical Reports:

Carlyn Tufts, Carlyn.a.tufts@nasa.gov

NASA/WSTF Environmental Department

12600 NASA Road

Las Cruces, NM 88012

Attn: ☒ Carlyn Tufts, 575-524-5452

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials as soon as possible

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Patrick Padilla

| Sample No. | Sample Location | # of Containers | Soil | Dioxins/Furans 8290 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408121325 IDW | 200-SB-14 | 1 | X | X | | | | | | | | |
| 1408121326 IDW | 200-SB-14 | 1 | X | X | | | | | | | | |
| 1408121327 IDW | 200-SB-14 | 1 | X | X | | | | | | | | Matrix Spike |
| 1408121405 IDW | 200-SB-12 | 1 | X | X | | | | | | | | |
| 1408121406 IDW | 200-SB-12 | 1 | X | X | | | | | | | | |
| 1408121407 IDW | 200-SB-12 | 1 | X | X | | | | | | | | Matrix Spike |
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R1406306 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Patrick Padilla | 8/13/14 1022 | Chris Wright | 8/14/14 0936 |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

R1406307 5
NASA/WSTF/Navarro
White Sands Test Facility

Date 8/13/14

Laboratory / PO # [redacted] 14EC009B

Return Address for Analytical Reports:
Carlyn Tufts, Carlyn.a.tufts@nasa.gov
NASA/WSTF Environmental Department
12600 NASA Road
Las Cruces, NM 88012

Attn: ☒ Carlyn Tufts

Special Instructions

Return coolers and reusable packaging materials as soon as possible

12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Patrick Padilla

| Sample No. | Sample Location | # of Containers | Soil | VOC 8260 | SVOC 8270 / Perchlorate | perchlorate reported on | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408121322IDW | 200-SB-14 | 1 | X | | X | | | | | | | |
| 1408121323 IDW | 200-SB-14 | 1 | X | | X | | | | | | | |
| 1408121324 IDW | 200-SB-14 | 1 | X | | X | | | | | | | Matrix Spike |
| 1408121402 IDW | 200-SB-12 | 1 | X | | X | | | | | | | |
| 1408121403 IDW | 200-SB-12 | 1 | X | | X | | | | | | | |
| 1408121404 IDW | 200-SB-12 | 1 | X | | X | | | | | | | Matrix Spike |
| 1408121310 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121311 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121312 IDW | 200-SB-12 | 3 | X | X | | | | | | | | Matrix Spike |
| 1408121350 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121351 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121352 IDW | 200-SB-12 | 3 | X | X | | | | | | | | Matrix Spike |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Patrick Padilla | 8/13/14 1022 | Chris Wright | 8/14/14 0930 |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8/13/14

R1406332 5
NASA/WSTF/Navarro
White Sands Test Facility

Laboratory / PO # [redacted] 14EC009B

Return Address for Analytical Reports:
Carlyn Tufts, Carlyn.a.tufts@nasa.gov
NASA/WSTF Environmental Department
12600 NASA Road
Las Cruces, NM 88012

Attn: ☒ Carlyn Tufts

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials as soon as possible

12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Patrick Padilla

| Sample No. | Sample Location | # of Containers | Soil | VOC 8260 | SVOC 8270 / Perchlorate | 8270 reported on 8/14/14 | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408121322IDW | 200-SB-14 | 1 | X | | X | | | | | | | |
| 1408121323 IDW | 200-SB-14 | 1 | X | | X | | | | | | | |
| 1408121324 IDW | 200-SB-14 | 1 | X | | X | | | | | | | Matrix Spike |
| 1408121402 IDW | 200-SB-12 | 1 | X | | X | | | | | | | |
| 1408121403 IDW | 200-SB-12 | 1 | X | | X | | | | | | | |
| 1408121404 IDW | 200-SB-12 | 1 | X | | X | | | | | | | Matrix Spike |
| 1408121310 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121311 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121312 IDW | 200-SB-12 | 3 | X | X | | | | | | | | Matrix Spike |
| 1408121350 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121351 IDW | 200-SB-12 | 3 | X | X | | | | | | | | |
| 1408121352 IDW | 200-SB-12 | 3 | X | X | | | | | | | | Matrix Spike |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Patrick Padilla | 8/13/14 1022 | Chris Wright | 8/14/14 0930 |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 9-2-14

Page 1 of 1

Laboratory / PO # 13EC108B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Method / Analytes PCDA | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408220830 | 200 GOX | 1 | A | X | | | | | | | | |
| 1408220850 | " 5'-7' | 1 | S | X | | | | | | | | |
| 1408220900 | " 10'-12' | 1 | S | X | | | | | | | | |
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R1406832 5
NASA/WSTF/Navarro
White Sands Test Facility

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 9-2-14 / 1230 HRS. | [signature] ALS 9/3/14 | 0950 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-13-14 Page _____ of _____

Sample Location: 200-SB-20

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Analytical Requirement: Hydrazin | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140604 0811 | 1 | A | X | | | | | | | | | | |
| — 0911 | 1 | S | X | | | | | | | | | | |
| — 1202 | 1 | S | X | | | | | | | | | | |
| — 1721 | 1 | S | X | | | | | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 6-13-14 | [signature] | 6/13/14 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-13-14 Page _____ of _____

Sample Location: 200 - SB - 21

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Analytical Requirement: Hydrazine |
|---|---|---|---|
| 1406090812 | 1 | A | |
| ——— 1136 | 1 | S | |
| ——— 1611 | 1 | S | |
| ——— ~~1346~~ 1746 | 1 | S | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [illegible] | 6-13-14 | [illegible] | 6/13/14 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-13-14 Page _____ of _____

Sample Location: 200-SB-7

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Analytical Requirement | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140611 1436 | 1 | A | | | | | | | | | | | |
| — 1457 | 1 | S | | | | | | | | | | | |
| — 1458 (MS) | 1 | S | | | | | | | | | | | |
| — 1631 | 1 | S | | | | | | | | | | | |
| 140612 0931 | 1 | S | | | | | | | | | | | |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
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| [illegible] | 6-13-14 | [illegible] | 6/13/14 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-13-14 Page _____ of _____

Sample Location: 200-SB-8

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Analytical Requirement: Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130721 | 1 | A | | | | | | | | | | | |
| — 0801 | 1 | S | | | | | | | | | | | |
| — 0811 | 1 | S | | | | | | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 6-13-14 | [signature] | 6/13/14 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-19-14 Page _____ of _____

Sample Location: 200-SB-8

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Analytical Requirement | | | | | | | | | | |
| 1406130941 28-30 | 1 | S | ✓ | | | | | | | | | ✓ | |
| 1301 43-45 | 1 | S | ✓ | | | | | | | | | ✓ | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 6-19-14 | T. MARTINEZ | 6/19/14 0840 |
| | | | |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-19-SB-6

Page _____ of _____

Sample Location:

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Analytical Requirement: Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140614/651 | 1 | A | X | | | | | | | | | | 1 |
| —— 1701 8-10 | 1 | S | X | | | | | | | | | | 1 |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
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| [illegible] | 6-19-14 | T. MARTINEZ | 6/19/14 0840 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-19-14 Page _____ of _____

Sample Location: 200-SB-5

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140615 1111 | 1 | A | X | | | | | | | | | | |
| 1126 8-10 | 1 | S | X | | | | 2.0008 gr | | | | | 729737 | |
| 1142 (Dupl.) 8-10 | 1 | S | X | | | | 2.0002 gr | | | | | | |
| " " DUP | | | | | | | 2.0004 gr | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 6-19-14 | T. MARTINEZ | 6/19/14 0840 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-19-14 Page _____ of _____

Sample Location: 200-SB-13

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140616 1341 | 1 | A | X | | | | | | | | | | |
| — 1401 8-10 | 1 | S | X | | | | 2.0006 GR | | | | 729737 | | |
| — 1542 28-32 | 1 | S | X | | | | 2.0000 GR | | | | | | |
| — 1543 (MS) 28-32 | 1 | S | X | | | | 2.0004 GR | | | | | | |
| " " M.S. | | | | | | | 2.0004 GR | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 6-19-14 | T. MARTINEZ | 6/19/14 0840 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-30-14 Page _____ of _____

Sample Location: 200-SB-10

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406280941 | 1 | A | | | | | | | | | | | |
| — 1019 16-18 | 1 | S | | | | | | | 1.9999 GR | | | | |
| — 1201 26-28 | 1 | S | | | | | | | 1.9999 GR | | | | |
| — 1506 36-38 | 1 | S | | | | | | | 1.9998 GR | | | | |
| + 1406280941 DUP - SR | | | | | | | | | | | | | |
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Analytical Requirement

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [illegible] | 6-30-14 | T. MARTINEZ | 6/30/14 1310 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-11-14 Page _____ of _____

Sample Location: 200-SB-09

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Analytical Requirement: Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406301526 | 1 | A | X | | | | | | | | | | |
| — 1546 8-10 | 1 | S | X | | | | 2.0008 GR | | | | | | |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
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| [illegible] | 7-11-14 | T. MARTINEZ | 7/11/14 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-11-14 Page _____ of _____

Sample Location: 200 · SB - 11

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407013356 | 1 | A | X | | | | | | | | | | |
| → 1601 28-29 | 1 | S | X | | | | 2.0006 GR | | | | | | |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
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| [illegible] | 7-11-14 | T. MARTINEZ | 7/11/14 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-11-14 Page _____ of _____

Sample Location: 200-SB-18

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140707 1401 | 1 | A | X | | | | | | | | | | |
| 140709 1136 88-90 | 1 | S | X | | | | | | 2.0005 gr | | | | |
| 140707 1401 DUP | | | | | | | | | | | | | |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
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| [signature] | 7-11-14 | T. MARTINEZ | 7/11/14 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-15-14 Page _____ of _____

Sample Location: 200-SB-15

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407111341 | 1 | A | X | | | | | | | | | | |
| — 1412 8-10 | 1 | S | X | | | | | 2.0000 | GR | | | | |
| — 1413 8-10 (MS) | 1 | S | X | | | | | 2.0004 | GR | | | | |
| " " " DUP M.S. | | | | | | | | 2.0005 | GR | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| Tom E | 7-15-14 | | 7-15-14 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-22-14 Page _____ of _____

Sample Location: 200-SB-15

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Analytical Requirement: Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140716 1201 98-100 | 1 | S | X | | | 2.0008 GL | | | | | | | |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
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| [signature] | 7-22-14 | T. MARTINEZ | 7/22/14 1030 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-22-14 Page _____ of _____

Sample Location: 200-SB-19

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazin | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Analytical Requirement | | | | | | | | | | |
| 1907200756 | 1 | A | X | | | | | | | | | | |
| — 0847 8-10 | 1 | S | X | | | | 2.0007 GR | | | | | | |
| — 0848 (Dup) 8-10 | 1 | S | X | | | | 2.0006 GR | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 7-22-14 | T. MARTINEZ | 7/22/14 10 30 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-22-14 Page _____ of _____

Sample Location: 200-SB-16

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140721 1251 | 1 | A | X | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 140722 ~~0944~~ TS 0801 18-20 | 1 | S | X | | | | | 2.0006 GR | | | | | |
| — 0941 28-30 | 1 | S | X | | | | | 2.0004 GR | | | | | |
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| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 7-22-14 | T. MARTINEZ | 7/22/14 1030 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-28-14

Page ____ of ____

Laboratory / PO #

Address shipping questions to:

~~Attn: ☐ Lori Minnick~~ ☐ Other _____

~~(575) 524-5119~~ (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: Hydrazines | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407221136 4850 | 200-SB-16 | 1 | | X | | | | | | | | 2.0005 GR |
| | | | | | | | | | | | | |
| 1407230751 5860 | 200-SB-16 | 1 | | X | | | | | | | | 2.0002 GR |
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| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-28-14 | [signature] | 7/28/14 |
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WSTF 381B (03/13)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-4-2014 Page _____ of _____

Sample Location: 200-SB-6 6104

| Pertinent Notes (if any) / Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407311641 | 1 | S | X | | | 2.0022 | GR | | | | | | |
| 1650 (Dupl) | 1 | | X | | | 2.0030 | GR | | | | | | |
| 1651 (MS) | 1 | | X | | | 2.0026 | GR | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 8-4-14 | T. MARTINEZ | 8/4/14 1345 |
| | | | |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-4-2014 Page _____ of _____

Sample Location: 200-S8-17

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Hydrazine | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408020901 | 1 | A | X | | | | | | | | | | |
| —— 0917 8-12 | 1 | S | X | | | | 1.9998 | GR | | | | | |
| —— 0918 (DUP) 8-12 | 1 | S | X | | | | 1.9997 | GR | | | | | |
| 1408030844 48-50 | 1 | S | X | | | | 1.9994 | GR | | | | | |
| —— 1316 88-90 | 1 | S | X | | | | 2.0008 | GR | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 8-4-14 | T. MARTINEZ | 8/4/14 1345 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-4-14 Page _____ of _____

Sample Location: 200-SB-7 6072

Pertinent Notes (if any)

| Sample Number | # of Containers | Sample Matrix* | Hyd Hexane | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140804 0808 | 1 | S | X | | | | 2.0002 GR | | | | | | |
| — 0809 (Dupl) | 1 | | X | | | | 1.9872 GR | | | | | | |
| — 0810 (MS) | 1 | | X | | | | 1.9511 GR | | | | | | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| [signature] | 8-4-14 | T. MARTINEZ | 8/4/14 1345 |
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* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/13/14

Page 1 of 1

Sample Location: 200-SB-12 + 200-SB-14

Pertinent Notes (if any)
Contact: Patrick Padilla
Results to patrick.l.padilla@nasa.gov

| Sample Number | # of Containers | Sample Matrix* | Hydrazines | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408121356 IDW | 1 | soil | X | | | | | | | | 1.9999 | g | |
| 1408121357 IDW (4 oz) | 1 | soil | X | | SB-12 | | | | | | 2.0004 | g | |
| 1408121358 IDW | 1 | soil | X | | Matrix | Spike | | | | | 2.0007 | gr | |
| 1408121316 IDW | 1 | soil | X | | | | | | | | 2.0001 | gr | |
| 1408121317 IDW (4 oz) | 1 | soil | X | | SB-14 | | | | | | 2.0002 | gr | |
| 1408121318 IDW | 1 | soil | X | | Matrix | Spike | | | | | 2.0005 | gr | |
| 1408121353 IDW (1 cooler) | 1 | soil | X | | | | | | | | 2.0003 | gr | |
| 1408121354 IDW | 1 | soil | X | | SB12 | | | | | | 2.0002 | gr | |
| 1408121355 IDW | 1 | soil | X | | Matrix | Spike | | | | | 2.0006 | gr | |
| 1408121313 IDW (1 cooler) | 1 | soil | X | | | | | | | | 2.0005 | gr | |
| 1408121314 IDW | 1 | soil | X | | SB-14 | | | | | | 2.0006 | gr | |
| 1408121315 IDW | 1 | soil | X | | Matrix | Spike | | | | | 2.0004 | gr | |

| Relinquished by: | Date / Time: | Accepted by: | Date / Time: |
|---|---|---|---|
| T. [illegible] | 8-13-14/1000 | T MARTINEZ | 8/13/14 1030 |
| | | | |
| | | | |

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-5-14

010005 Page 1 of 1

Laboratory / PO # **PO 14EC002**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓ (575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes: NDMA and Bromacil | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406040942 | 200-SB-20 9'/10' | 1 | X | X | | | | | | | |
| 1406041203 | " 30' | 1 | X | X | | | | | | | |
| 1406041722 | " 50' | 1 | X | X | | | | | | | |

Client: Navarro
SRR #53283
Project # 16988.01.10X
Case: 14EC002
VTSR: 06/06/14
Sample(s) Received: Intact
Temperature: 0.2 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-5-14 / 1100 Hrs. | [signature] | 6/6/14 0900 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14

010008 Page 1 of 1

Laboratory / PO # **PO 14EC002**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓ (575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes: 607 NDMA and Bromacil | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406091137 | 7.5-10' 200-SB-21 | 1 | X | | X | | | | | | | |
| 1406091612 | 200-SB-21 | 1 | X | | X | | | | | | | |
| 1406091747 | 200-SB-21 | 1 | X | | X | | | | | | | |

Client: Navarro
SRR #53306
Project # 16988.01.10X
Case: 14EC002
VTSR: 06/11/14
Sample(s) Received: Intact
Temperature: 2.1 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-10-14 / 1100 HRS | [signature] | 6/11/14 0830 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-12-14

010011 Page 1 of 1

Laboratory / PO # **PO 14EC002**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓ (575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes: 607 NDMA and Bromacil | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406111459 | 200-SB-7 8-10' | 1 | X | X | | | | | | | |
| 1406111500 | " " | 1 | X | X | | | | | | | *Matrix Spike for #1406111459 |
| 1406111632 | " 18-21' | 1 | X | X | | | | | | | |
| 1406120932 | " 38-40' | 1 | X | X | | | | | | | |

Client: Navarro
SRR #53327
Project # 16988.01.10X
Case: 14EC002
VTSR: 06/13/14
Sample(s) Received: Intact
Temperature: 1.0 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-12-14 / 1100 HRS. | [signature] | 6/13/14 0850 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-5-14

Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010005

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406031014C | ST-3-586 | 1 | X | X | | | | | | | | |
| 1406040854C | ST-3-486 | 1 | X | X | | | | | | | | |
| 1406040812 | 200-SB-20 | 1 | X | X | | | | | | | | |
| 1406050917C | ST-3-666 | 1 | X | X | | | | | | | | |

Client: Navarro
SRR #53280
Project # 16988.01.10X
Case: 13EC005B
VTSR: 06/06/14
Sample(s) Received: Intact
Temperature: 0.2 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-5-14 / 1100 HRS | [signature] | 6/6/14 0900 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-9-14

Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

010008

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406051416C | ST-3-735 | 1 | X | X | | | | | | | | |
| 1406060807C | WW-2-489 | 1 | X | X | | | | | | | | |
| 1406060808C | " | 1 | X | X | | | | | | | | *MATRIX SPIKE FOR # 1406060807C |
| 1406060820A | BLM-27-270 | 1 | X | X | | | | | | | | |
| 1406060913X | WW-5-814 | 1 | X | X | | | | | | | | |
| 1406061037C | WW-2-664 | 1 | X | X | | | | | | | | |
| 1406070852A | ST-4-481 | 1 | X | X | | | | | | | | |
| 1406070936X | WW-5-912 | 1 | X | X | | | | | | | | |
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Client:Navarro
SRR #53299
Project #16988.01.10X
Case:13EC005B
VTSR: 06/10/14 0830
Sample(s) Received Intact
Temperature: 0.5°C/ S/N# 18439

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-9-14 / 1100 HRS. | [illegible] | 06/10/14 0830 |
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| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-10-14

Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

010011

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes: NDMA/DMN/BBOMACIL; Method: 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406090813 | 200-SB-21 | 1 | X | X | | | | | | | | |
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Client: Navarro
SRR #53305
Project # 16988.01.10X
Case: 13EC005B
VTSR: 06/11/14
Sample(s) Received: Intact
Temperature: 2.1 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-10-14 / 1100 HRS. | [signature] | 6/11/14 0030 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-12-14



Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

010014

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406110917A | BW-7-211 | 1 | X | X | | | | | | | | |
| 1406110955 | B650-EFF-1 | 1 | X | X | | | | | | | | |
| 1406111004 | B650-INF-1 | 1 | X | X | | | | | | | | |
| 1406111437 | 200-SB-7 | 1 | X | X | | | | | | | | |

Client: Navarro
SRR #53326
Project # 16988.01.10X
Case: 13EC005B
VTSR: 06/13/14
Sample(s) Received: Intact
Temperature: 1.0 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-12-14 / 1100 HRS. | [signature] | 6/13/14 0850 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-16-14

010005 Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130853A | 100-E-261 | 1 | X | X | | | | | | | | |
| 1406130722 | 200-SB-8 | 1 | X | X | | | | | | | | |
| 1406141652 | 200-SB-6 | 1 | X | X | | | | | | | | |
| 1406151112 | 200-SB-5 | 1 | X | X | | | | | | | | |

Client: Navarro
SRR #53354
Project # 19641.01.00X
Case: 13EC005B
VTSR: 06/17/14
Sample(s) Received: Intac
Temperature: 4.2 °C/ SN#: 18440

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-16-14 / 1100 hrs. | [signature] | 6/17/14 1730 |

WSTF 381B (03/13)

Date 6-16-14

# WSTF CHAIN OF CUSTODY RECORD

CT 6/19/2014

010008 Page 1 of 1

Laboratory / PO # ~~PO 14EC002~~ PO 14EC012B

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓ (575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Analyte / Method: NDMA and Bromacil 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406130802 | 200-SB-8 8/10' | 1 | X | X | | | | | | | | |
| 1406130812 | " " | 1 | X | X | | | | | | | | |
| 1406130942 | 200-SB-8 28/30' | 1 | X | X | | | | | | | | |
| 1406131302 | " 43/45' | 1 | X | X | | | | | | | | |
| 1406141702 | 200-SB-6 8/10' | 1 | X | X | | | | | | | | |
| 1406151127 | 200-SB-5 8/10' | 1 | X | X | | | | | | | | |
| 1406151143 | " " | 1 | X | X | | | | | | | | |

Client: Navarro
SRR #53355
Project # 16988.01.f0X
Case: 14EC002
VTSR: 06/17/14
Sample(s) Received: Intact
Temperature: 4.4 °C/ SN#: 18439

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John V Minnick | 6-16-14 / 1100 HRS | [signature] | 6/17/14 1730 |
| | | | |
| | | | |

ST-381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-17-14

010011 Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Mirnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: NDMA/DMN/BBOMACL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406160847A | Blm-15-306 | 1 | X | X | | | | | | | | |
| 1406161061A | " | 1 | X | X | | | | | | | | |
| 1406160907 | B655-EFF-2 | 1 | X | X | | | | | | | | |
| 1406160927 | B655-INF-2 | 1 | X | X | | | | | | | | |
| 1406161342 | 200-SB-13 | 1 | X | X | | | | | | | | |

Client: Navarro
SRR #53368
Project #16988.01.10X
Case: 13EC005B
VTSR: 06/19/14
Sample(s) Received: Intact
Temperature: 8.1 °C/ SN#: 18439

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-17-14 / 1100 Hrs. | | 6/19/14 0830 |

WSTF 381B (03/13)

Date 6-17-14

# WSTF CHAIN OF CUSTODY RECORD

010016 Page 1 of 1

Laboratory / PO # **PO 14EC002**

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓ (575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@rasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Analytes / Method: NDMA and Bromacil (607) | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406161402 | 200-SB-13 8-10' | 1 | X | | X | | | | | | |
| 1406161544 | 200-SB-13 28-30/32' | 1 | X | | X | | | | | | |
| 1406161545 | " | 1 | X | | X | | | | | | *Matrix Spike for #1406161544 |

Client: Navarro
SRR #53369
Project # 16988.01.10X
Case: 14EC002
VTSR: 06/19/14
Sample(s) Received Intact
Temperature: 8.1 °C, SN#: 18439

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 6-17-14 / 1100 hrs. | [signature] | 6/19/14 0830 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 6-23-14

010020 Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406191014C | Bim-40-517 | 1 | X | X | | | | | | | | |
| 1406191015C | " | 1 | X | X | | | | | | | | |

Client: Navarro
SRR #53386
Project # 16988.01.10X
Case: 13EC005B
VTSR: 06/24/14
Sample(s) Received: Intact
Temperature: 2.1 °C/ SN#: W01003226

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 6-23-14 / 1100HRS | [signature] | 6/24/14 0830 |

WSTF 581B (03/15)

# WSTF CHAIN OF CUSTODY RECORD

Date 7/1/14 Red #SMR2



Laboratory / PO #

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120 010005

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: NDMA / Bromacil | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1406281020 | 200-SB-10 (16'-18') | 1 | S | X | | | | | | | | |
| 1406281507 | 200-SB-10 (36'-38') | 1 | S | X | | | | | | | | |
| 1406301526 | 200-SB-9 | 1 | A | X | | | | | | | | |
| ~~140630~~ ME | | | | | | | | | | | | |
| 1406280942 | 200-SB-10 | 1 | A | X | | | | | | | | |
| 1406281202 | 200-SB-10 (26'-28') | 1 | S | X | | | | | | | | |
| 1406361547 | 200-SB-09 | 1 | S | X | | | | | | | | |

Client: Navarro
SRR #53433
Project # 16988.01.10X
Case: 14EC01213
VTSR: 07/02/14
Sample(s) Received: Intact
Temperature: 2.1 °C/ SN#: W01003226

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Nathan Egler | 7/1/14 1313 | [signature] | 7/1/14 1314 |
| FedEX | 7/2/14 1120 | | 7/2/14 1120 |

# WSTF CHAIN OF CUSTODY RECORD

Date 7-7-14

Page 1 of 1

Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010008

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407011357 | 200-SB-11 | 1 | A | X | | | | | | | | |
| 1407011412 | " 8-10' | 1 | S | X | | | | | | | | |
| 1407011602 | " | 1 | S | X | | | | | | | | |
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Client: Navarro
SRR #53457
Project #16988.01.10X
Case: 14EC012B
VTSR: 07/08/14 0923
Sample(s) Received Intact
Temperature: 2.5 C/ S/N# 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-7-14 / 1100 HRS. | [illegible] | 07/08/14 0923 |
| | | | |
| | | | |

WSTF 381B (03/13)

Date 7-9-14

# WSTF CHAIN OF CUSTODY RECORD

010011

Page 1 of 1

Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407071402 | 200-SB-18 | 1 | A | X | | | | | | | | |
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Client: Navarro
SRR #53479
Project # 16988.01.10X
Case: 14EC012B
VTSR: 07/10/14
Sample(s) Received: Intact
Temperature: 2.6 °C/ SN#: W01003226

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-9-14 / 1100 Hrs. | [signature] | 7/10/14 0900 |
| | | | |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-10-14



Laboratory / PO # [redacted] 14EC012B

Address shipping questions to:

Attn: ✓ Lori Minnick ☐ Other _____

✓ (575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ✓ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010014

| Sample No. | Sample Location | # of Containers | Sample Type (SOIL) | Method / Analytes: NDMA and Bromacil | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407091137 | 200-SB-18 88'/90' | 1 | X | | X | | | | | | | |
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Client: Navarro
SRR #53482
Project # 16988.01.10X
Case: 14EC012B
VTSR: 07/11/14
Sample(s) Received: Intact
Temperature: 2.6 °C/ SN#: W01003226

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-10-14 / 1100 Hrs. | [signature] | 7/11/14 0900 |
| | | | |
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# WSTF CHAIN OF CUSTODY RECORD

Date 7-10-14

Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010017

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407101027C | Blm-40-595 | 1 | X | X | | | | | | | | |
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Client: Navarro
SRR #53483
Project # 16988.01.10X
Case: 13EC005B
VTSR: 07/11/14
Sample(s) Received: Intact
Temperature: 2.6 °C/ SN#: W01003226

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-10-14 / 1100 HRS. | [signature] | 7/11/14 0900 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-14-14

010005 Page 1 of 1

Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407111342 | 200-SB-15 | 1 | A | X | | | | | | | | |
| 1407111414 | " 8/10' | 1 | S | X | | | | | | | | |
| 1407111415 | " " | 1 | S | X | | | | | | | | *MATRIX SPIKE FOR #1407111414 |
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Client:Navarro
SRR #53503
Project #16988.01.10X
Case:14EC012B
VTSR: 07/15/14 0830
Sample(s) Received Intact
Temperature: 2.5 C/ S/N# 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 7-14-14 / 1100 HRS. | [illegible] | 07/15/14 0830 |
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| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-17-14

010008

Page 1 of 1

Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (S) | Analytes / Method: NDMA/DMN 607 / BROMACIL | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407161202 | 200-SB-15 98/100' | 1 | X | X | | | | | | | | |
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Client:Navarro
SRR #53536
Project #16988.01.10X
Case:14EC012B
VTSR: 07/18/14 0835
Sample(s) Received Intact
Temperature: 2.5°C/ S/N# 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Tom Munch | 7-17-14 / 1100HRS | [illegible] | 7/18/14 0835 |
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WSTF 381B (03/13)

Date 7-21-14

# WSTF CHAIN OF CUSTODY RECORD

010011 Page 1 of 1

Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 1607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407200758 | 200-SB-19 | 1 | A | X | | | | | | | | |
| 1407200851 | " 8/10' | 1 | S | X | | | | | | | | |
| 1407200852 | " " | 1 | S | X | | | | | | | | |

Client:Navarro
SRR #53555
Project #16988.01.10X
Case:14EC012B
VTSR: 07/22/14 0810
Sample(s) Received Intact
Temperature: 2.5°C/ S/N# 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-21-14 / 1100 HRS. | [signature] | 07/22/14 0810 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-24-14

010014 Page 1 of 1

Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407211252 | 200-SB-16 | 1 | A | X | | | | | | | | |
| 1407220803 | 200-SB-16 18'/20' | 1 | S | X | | | | | | | | |
| 1407220943 | " 28'/30' | 1 | S | X | | | | | | | | |
| 1407221138 | " 48'/50' | 1 | S | X | | | | | | | | |
| 1407230753 | " 58'/60' | 1 | S | X | | | | | | | | |
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Client: Navarro
SRR #53575
Project # 16988.01.10X
Case: 14EC012B
VTSR: 07/25/14
Sample(s) Received: Intact
Temperature: 3.5 °C/ ID#: 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-24-14 / 1100 hrs | [signature] | 7/25/14 0817 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-25-14

010017 Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NaOMA/OMN/BROMACIL 607 | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407221006X | PL-5-715 | 1 | X | X | | | | | | | |
| 1407230951X | PL-5-595 | 1 | X | X | | | | | | | |
| 1407231015X | " | 1 | X | X | | | | | | | |
| 1407240936C | Blm-41-420 | 1 | X | X | | | | | | | |

Client: Navarro
SRR #53576
Project # 16988.01.10X
Case: 13EC005B
VTSR: 07/25/14
Sample(s) Received: Intact
Temperature: 3.5 °C/ ID#: 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-25-14 / 1100 HRS. | [illegible] | 7/25/14 0817 |
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WSTF 381B (03/13)

Date 7-28-14

# WSTF CHAIN OF CUSTODY RECORD

010020

Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov _____

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Method 607 Analytes NDMA/DMN/BROMACIL | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407241340X | PL-5-795 | 1 | X | X | | | | | | | | |
| 1407241427C | Blm-41-670 | 1 | X | X | | | | | | | | |
| 1407250905C | PL-2-504 | 1 | X | X | | | | | | | | |
| 1407250906C | " | 1 | X | X | | | | | | | | |
| 1407250953A | JP-3-689 | 1 | X | X | | | | | | | | |
| 1407251036X | PL-5-895 | 1 | X | X | | | | | | | | |
| 1407251101X | PL-5-985 | 1 | X | X | | | | | | | | |
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Client: Navarro
SRR #53591
Project # 16988.01.10X
Case: 13EC005B
VTSR: 07/29/14
Sample(s) Received: Intact
Temperature: 2.8 °C/ ID#: 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 7-28-14 / 1100 HRS | [signature] | 7/29/14 0820 |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-30-14

010023 Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407280940C | 700-E-468 | 1 | X | X | | | | | | | | |
| 140728134 6X | PL-5-985 | 1 | X | X | | | | | | | | |
| 1407291301X | PL-5-495 | 1 | X | X | | | | | | | | |
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Client: Navarro
SRR #53611
Project # 16988.01.10X
Case: 13EC005B
VTSR: 07/31/14
Sample(s) Received: Intact
Temperature: 2.3 °C/ SN #: 010209

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 7-30-14 / 1100 HRS. | [illegible] | 7/31/14 0830 |
| | | | |
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WSTF 381B (03/13)

Date 7-31-14

# WSTF CHAIN OF CUSTODY RECORD

010005



Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407301342 C | B655-EFF-2 | 1 | X | X | | | | | | | | |
| 1407301401 C | B655-INF-2 | 1 | X | X | | | | | | | | |
| 1407301416 | B650-EFF-1 | 1 | X | X | | | | | | | | |
| 1407301438 | B650-INF-1 | 1 | X | X | | | | | | | | |
| 1407301439 | " | 1 | X | X | | | | | | | | |
| 1407310932 A | BLM-40-688 | 1 | X | X | | | | | | | | |
| 1407310837 | PFE-1 | 1 | X | X | | | | | | | | |
| 1407310906 | PFE-3 | 1 | X | X | | | | | | | | |
| 1407310958 | PFE-7 | 1 | X | X | | | | | | | | |
| 1407311027 | PFE-4A | 1 | X | X | | | | | | | | |
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Client:Navarro
SRR #53618
Project #16988.01.10X
Case:13EC005B
VTSR: 08/01/14 0835
Sample(s) Received Intact
Temperature: 3.6°C/ S/N#021055

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| John Minnick | 7-31-14 / 1100 HRS. | [illegible] | 08/01/14 0835 |
| | | | |
| | | | |

WSTF 381B (03/13)

Date 8-31-14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # 14EC012B

Address shipping questions to:

Attn: ☐ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☐ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010008

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408020902 | 200-SB-17 | 1 | A | X | | | | | | | | |
| 1408020921 | 200-SB-17 8'/12' | 1 | S | X | | | | | | | | |
| 1408020922 | " " | 1 | S | X | | | | | | | | MISSING |
| 1408030846 | " 48'/50' | 1 | S | X | | | | | | | | |
| 1408031318 | " 88'/90' | 1 | S | X | | | | | | | | |
| 1407311643 | 200-SB-6 | 1 | S | X | | | | | | | | |
| 1407311654 | " | 1 | S | X | | | | | | | | |
| 1407311655 | " | 1 | S | X | | | | | | | | |
| 1408040814 | 200-SB-7 | 1 | S | X | | | | | | | | |
| 1408040815 | " | 1 | S | X | | | | | | | | |
| 1408040816 | " | 1 | S | X | | | | | | | | * MATRIX SPIKE FOR # 1408040814 |
| | | | | | | | | | | | | |

Client:Navarro
SRR #53630
Project #16988.01.10X
Case:14EC012B
VTSR: 08/05/14 0840
Sample(s) Received Intact
Temperature: 2.0°C/ S/N#021055

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 8-31-14 / 1100 HRS | [signature] 08/05/14 0840 | 08/05/14 0840 |
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# WSTF CHAIN OF CUSTODY RECORD

Date 8-4-14



Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010012

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407311402C | MPE-11 | 1 | X | X | | | | | | | | |
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Client:Navarro
SRR #53632
Project #16988.01.10X
Case:13EC005B
VTSR: 08/05/14 0840
Sample(s) Received Intact
Temperature: 2.0°C/ S/N#021055

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 8-4-14 / 1100 HRS | [illegible] | 08/05/14 0840 |
| | | | |
| | | | |

# WSTF CHAIN OF CUSTODY RECORD

Date 8-7-14



Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010015

| Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: NDMA/DMN/BROMACIL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408061356C | ST-1-541 | 1 | X | X | | | | | | | | |
| 1408061357C | " | 1 | X | X | | | | | | | | |
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Client: Navarro
SRR #53663
Project # 16988.01.10X
Case: 13EC005B
VTSR: 08/08/14
Sample(s) Received: Intact
Temperature: 3.2 °C/ SN #: 021055

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Lori Minnick | 8-7-14 / 1100 HRS | [signature] | 8/8/14 0830 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 8-11-14

Page 1 of 1

Laboratory / PO # 13EC005B

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☐ Other _____

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

010018

| Sample No. | Sample Location | # of Containers | Sample Type (A) | Analytes / Method: NDMA/DMN/BDMPCL 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408071407C | Blm-17-493 | 1 | X | X | | | | | | | | |
| 1408080946C | Blm-17-550 | 1 | X | X | | | | | | | | |
| 1408080947C | " | 1 | X | X | | | | | | | | |
| 1408081028X | WB-14-520 | 1 | X | X | | | | | | | | |

Client:Navarro
SRR #53674
Project #16988.01.10X
Case:13EC005B
VTSR: 08/12/14 0830
Sample(s) Received Intact
Temperature: 3.5°C/ S/N#021055

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 8-11-14 / 1100 HRS | [signature] | 08/12/14 0830 |

WSTF 381B (03/13)

Date 8/13/14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO #14ECO12B

Return Address for Analytical Reports:
Carlyn Tufts, Carlyn.a.tufts@nasa.gov
NASA/WSTF Environmental Department
12600 NASA Road
Las Cruces, NM 88012

Attn: ☒ Carlyn Tufts

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials as soon as possible

010021

12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Patrick Padilla

| Sample No. | Sample Location | # of Containers | Soil | NDMA and Bromacil 607 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1408121319 IDW | 200-SB-14 | 1 | X | X | | | | | | | | |
| 1408121320 IDW | 200-SB-14 | 1 | X | X | | | | | | | | |
| 1408121321 IDW | 200-SB-14 | 1 | X | X | | | | | | | | Matrix Spike |
| 1408121359 IDW | 200-SB-12 | 1 | X | X | | | | | | | | |
| 1408121400 IDW | 200-SB-12 | 1 | X | X | | | | | | | | |
| 1408121401 IDW | 200-SB-12 | 1 | X | X | | | | | | | | Matrix Spike |
| | | | | | | | | | | | | |
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Client: Navarro
SRR #53693
Project # 16988.01.10X
Case: 14EC012B
VTSR: 08/14/14
Sample(s) Received: Intact
Temperature: 2.2 °C/ SN #: 021056

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Patrick Padilla | 8/13/14 1024 | | 8/14/14 0930 |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-28-14

14 G 0404

Page 1 of 1

Laboratory / PO # 14EC0226

Address shipping questions to:

Attn: ☒ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☒ Carlyn A. Tufts ☒ Other T. WIEBE

carlyn.a.tufts@nasa.gov 524-5202

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. | Sample Location | # of Containers | Sample Type | Analytes / Method: HYDRAZINES | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1407221137 | 200-SB-16 48'/50' | 1 | S | X | | | | | | | | |
| 1407230752 | 200-SB-16 58'/60' | 1 | S | X | | | | | | | | |

ALERT !!
Level III QC

PLEASE RETURN BLUE ICE PACKETS W/ COOLERS.

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Jon Hernandez | 7-28-14 / 1100 HRS. | [illegible] | 7/29/14 9:50 |

F 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 7-28-14

14 G 0404

Page 1 of 1

Laboratory / PO # 14EC022B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☑ Other T. Wiebe

carlyn.a.tufts@nasa.gov 524-5202

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| | Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: HYDRAZINES | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1407221137 | 200-SB-16 48'/50' | 1 | S | X | | | | | | | | |
| 2 | 1407230752 | 200-SB-16 58'/60' | 1 | S | X | | | | | | | | |

ALERT !!
Level III QC

PLEASE RETURN BLUE ICE PACKETS W/ COOLERS.

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Jon Hernandez | 7-28-14 / 1100 HRS. | [illegible] | 7/29/14 9:50 |
| | | | |
| | | | |

WSTF 381B (03/13)

Date 8-4-14

# WSTF CHAIN OF CUSTODY RECORD

14H0028

Page 1 of 1

Laboratory / PO # 14EC022B

Address shipping questions to:

Attn: ☑ Lori Minnick ☐ Other _____

(575) 524-5119 (575) 524-_____

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☑ Other T. WIEBE

carlyn.a.tufts@nasa.gov 524-5202

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| | Sample No. | Sample Location | # of Containers | Sample Type ( ) | Analytes / Method: HYDRAZINES | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1408020919 | 200-SB-17 8'/12' | 1 | S | X | | | | | | | | |
| 2 | 1408020920 | " " | 1 | S | X | | | | | | | | |
| 3 | 1408031317 | " 88'/90' | 1 | S | X | | | | | | | | |
| 4 | 1408030845 | " 48'/50' | 1 | S | X | | | | | | | | |
| 5 | 1407311642 | 200-SB-6 | 1 | S | X | | | | | | | | ALERT !! |
| 6 | 1407311652 | " | 1 | S | X | | | | | | | | Level III QC |
| 7 | 1407311653 | " | 1 | S | X | | | | | | | | |
| 8 | 1408040811 | 200-SB-7 | 1 | S | X | | | | | | | | |
| 9 | 1408040812 | " | 1 | S | X | | | | | | | | |
| 10 | 1408040813 | " | 1 | S | X | | | | | | | | *MATRIX SPIKE FOR # 1408040811 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| Jon Munch | 8-4-14 / 1100 HRS. | Linda TLE | 8-5-14 10:10 |
| | | | |
| | | | |

WSTF 381B (03/13)

Date 10/14/14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # ALS ENVIRONMENTAL / 13EC028B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524-5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / CAN NO. | Sample Location | # of Containers | Sample Type (SOIL VAPOR) | Analytes: VOC'S Method: TO-15 | Comments |
|---|---|---|---|---|---|
| 1410071035/003536 ✓ | 200-SV-15-9 | 1 | SV | X | #1SC00357 ✓ / END PRESS = -18 PSI |
| 1410071052/8643 ✓ | 200-SV-15-59 | 1 | SV | X | #1SC01067 ✓ / END PRESS = -3 PSI |
| 1410071124/004683 ✓ | 200-SV-15-119 | 1 | SV | X | #1SC00906 ✓ / END PRESS = -3 PSI |
| 1410071300/2127 ✓ | 200-SV-16-19 | 1 | SV | X | #1SC01274 ✓ / END PRESS = -3 PSI |
| 1410071312/2124 ✓ | 200-SV-16-59 | 1 | SV | X | #1SC01271 ✓ / END PRESS = -2 PSI |
| 1410071320/04458 ✓ | 200-SV-16-99 | 1 | SV | X | #1SC00787 ✓ / END PRESS = -3 PSI |
| 1410071331/2049 ✓ | 200-SV-18-29 | 1 | SV | X | #1SS00116 ✓ / END PRESS = 5 PSI |
| 1410071347/004633 ✓ | 200-SV-18-59 | 1 | SV | X | #1SC00886 ✓ / END PRESS = 3 PSI |
| 1410071400/2033 ✓ | 200-SV-18-89 | 1 | SV | X | #1SC01232 ✓ / END PRESS = 3 PSI |
| 1410071410/8701 ✓ | 200-SV-13-14 | 1 | SV | X | #1SC01130 ✓ / END PRESS = 0 PSI |
| 1410071419/2030 ✓ | 200-SV-13-34 | 1 | SV | X | #1SC01221 ✓ / END PRESS = 1 PSI |
| 1410071440/1851 ✓ | 200-SV-12-14 | 1 | SV | X | #1SS00062 ✓ / END PRESS = 0 PSI |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 10/15/14 0830 | D. V | 10-15-14 8:32 |
| | | | |

WSTF 381B (03/13)

Date 10/14/14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # ALS ENVIRONMENTAL / 13EC028B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524- 5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No./CAN NO. | Sample Location | # of Containers | Sample Type SV (SOIL VAPOR) | Analytes VOCs Method TO-15 | Comments |
|---|---|---|---|---|---|
| 1410071447/8645 | 200-SV-11-9 | 1 | SV | X | #1SC01084 / END PRESS = 0 PSI |
| 1410071500/2500 | 200-SV-11-29 | 1 | SV | X | #1SC01220 / |
| 1410071500/2004 | 200-SV-11-29D | 1 | SV | X | #1SC01212 / |
| 1410071509/1857 | 200-SV-08-9 | 1 | SV | X | #1SS00071 / END PRESS = 0 PSI |
| 1410071514/2129 | 200-SV-08-29 | 1 | SV | X | #1SS00142 / |
| 1410071521/004526 | 200-SV-08-49 | 1 | SV | X | #1SC00855 / END PRESS = 3 PSI |
| 1410071525/8479 | 200-KV-150-59 / 200-SV-07-59 | 1 | SV | X | #1SC01043 / END PRESS = -3 PSI |
| 1410071535/8100 | 200-KV-150-119 / 200-SV-07-119 | 1 | SV | X | #1SS00025 / END PRESS = 0 PSI |
| 1410071540/8489 | 200-SV-07-FB | 1 | SV | X | #1SC01013 / END PRESS = 0 PSI |
| 1410080737/8625 | 200-SV-10-19 | 1 | SV | X | #1SC01082 / END PRESS = 0 PSI |
| 1410080745/005020 | 200-SV-10-39 | 1 | SV | X | #1SC00980 / END PRESS = 0 PSI |
| 1410080800/003610 | 200-LV-150-64 / 200-SV-06-64 | 1 | SV | X | #1SC00403 / END PRESS = -1 PSI |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 10/15/14 0830 | D. D | 10-15-14 8:32 |
| | | | |

STF 381B (03/13)

Date 10/14/14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # ALS ENVIRONMENTAL/13EC028B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524-5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / CAN NO. | Sample Location | # of Containers | Sample Type SV (SOIL VAPOR) | Analytes: VOC's Method: TO-15 | Comments |
|---|---|---|---|---|---|
| 1410080805 / 003827 | (200-LV-150-84) 200-SV-06-84 | 1 | SV | X | # 1SC00484 / |
| 1410080825 / 1747 | 200-SV-09-19 | 1 | SV | X | # 1SC01177 / END PRESS = 0 PSI |
| 1410080837 / 003942 | 200-SV-21-9 | 1 | SV | X | # 1SC00587 / END PRESS = -2 PSI |
| 1410080842 / 2122 | 200-SV-21-29 | 1 | SV | X | # 1SC01269 / END PRESS = -2 PSI |
| 1410080905 / 2130 | 200-SV-17-29 | 1 | SV | X | # 1SS00143 / END PRESS = -2 PSI |
| 1410080910 / 2120 | 200-SV-17-79 | 1 | SV | X | # 1SC01267 / END PRESS = 0 PSI |
| 1410080915 / 003943 | 200-SV-17-139 | 1 | SV | X | # 1SC00588 / END PRESS = -2 PSI |
| 1410080943 / 004187 | 200-SV-19-19 | 1 | SV | X | # 1SC00734 / END PRESS = 0 PSI |
| 1410080947 / 003075 | 200-SV-19-39 | 1 | SV | X | # 1SC00152 / END PRESS = 0 PSI |
| 1410081005 / 2035 | 200-SV-14-4.75 | 1 | SV | X | # 1SC01233 / END PRESS = -2 PSI |
| 1410081019 / 003945 | 200-SG-2-30 | 1 | SV | X | # 1SC00590 / END PRESS = -1 PSI |
| 1410081030 / 003368 | 200-SG-2-60 | 1 | SV | X | # 1SC00310 / |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 10/15/14 0830 | D.V | 10-15-14 8:32 |

WSTF 381B (03/13)

Date 10/14/14

# WSTF CHAIN OF CUSTODY RECORD



Laboratory / PO # ALS ENVIRONMENTAL/13EC028B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524-5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / CANS No. | Sample Location | # of Containers | Sample Type SV SOIL VAPOR | Analytes: VOC's Method: TO-15 | Comments |
|---|---|---|---|---|---|
| 1410081040/002975 | 200-SG-3-30 | 1 | SV | X | #15C00082 / END PRESS = 0 PSI |
| 1410081046/8103 | 200-SG-3-60 | 1 | SV | X | #15S00027 / END PRESS = -2 PSI |
| 1410081052/8614 | 200-SG-3-90 | 1 | SV | X | #15C01060 / END PRESS = 0 PSI |
| 1410081102/004142 | 200-SG-3-154 | 1 | SV | X | #15C00694 / END PRESS = 0 PSI |
| 1410081103/2132 | 200-SG-3-154D | 1 | SV | X | #15S00145 / END PRESS = 0 PSI |
| 1410081113/1663 | 200-SV-20-9 | 1 | SV | X | #15C01146 / END PRESS = 0 PSI |
| 1410081117/2026 | 200-SV-20-29 | 1 | SV | X | #15C01224 / END PRESS = 0 PSI |
| 1410081125/1834 | 200-SV-20-49 | 1 | SV | X | #15S00053 / END PRESS = 0 PSI |
| 1410081300/2128 | 200-SG-1-30 | 1 | SV | X | #15S00141 / END PRESS = -1 PSI |
| 1410081305/1659 | 200-SG-1-90 | 1 | SV | X | #15C01142 / END PRESS = -5 PSI |
| 1410081305/2118 | 200-SG-1-90D | 1 | SV | X | #15C01265 / END PRESS = -5 PSI |
| 1410081314/004578 | 200-SG-1-122 | 1 | SV | X | #15C00847 / END PRESS = -2 PSI |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 10/15/14 0830 | D.Y | 10-15-14 8:32 |
| | | | |
| | | | |

STF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 10/14/14



Laboratory / PO # ALS ENVIRONMENTAL / 13ECD28B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524-5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / CAN NO. | Sample Location | # of Containers | Sample Type SV ~~SOIL VAPOR~~ | Analytes: VOC'S Method: TO-15 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1410081330/004589 | 200-SV-05-9 | 1 | SV | X | | | | | | | | #15C00869 / END PRESS = -1 PSI |
| 1410081348/003471 | 200-JG-110-10 | 1 | SV | X | | | | | | | | #15C00319 / END PRESS = 0 PSI |
| 1410081353/004437 | 200-JG-110-40 | 1 | SV | X | | | | | | | | #15C00766 / END PRESS = 0 PSI |
| 1410081357/003950 | 200-JG-110-80 | 1 | SV | X | | | | | | | | #15C00595 / END PRESS = 0 PSI |
| 1410081410/211 | 100-HG-139-6.5 | 1 | SV | X | | | | | | | | #15C01266 / END PRESS = -3 PSI |
| 1410081420/2131 | 100-HG-139-40 | 1 | SV | X | | | | | | | | #15S00144 / END PRESS = -3 PSI |
| 1410081434/2123 | 100-HG-139-72 | 1 | SV | X | | | | | | | | #15C01270 / END PRESS = -3 PSI |
| 1410081500/005502 | 200-SG-4-60 | 1 | SV | X | | | | | | | | #15C00962 / END PRESS = 0 PSI |
| 1410090737/1661 | 600-SGW-1-12.5 | 1 | SV | X | | | | | | | | #15S00082 / END PRESS = -1 PSI |
| 1410090744/2040 | 600-SGW-1-57.5 | 1 | SV | X | | | | | | | | #15S00104 / END PRESS = 0 PSI |
| 1410090752/8119 | 600-SGW-1-117.5 | 1 | SV | X | | | | | | | | #15S00005 / END PRESS = 0 PSI |
| 1410090756/1810 | 600-SGW-4-12.5 | 1 | SV | X | | | | | | | | #15S00041 / END PRESS = 0 PSI |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 10/15/14 0830 | D.V. | 10-15-14 8:32 |
| | | | |
| | | | |

WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 10/14/14



Laboratory / PO # ALS ENVIRONMENTAL /13ECO28B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524-5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / CAN NO. | Sample Location | # of Containers | Sample Type SV SOIL VAPOR | Analytes: VOC's Method: TO-15 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1410090800/2134 | 600-SGW-4-47.5 | 1 | SV | X | | | | | | | | #15500147 / END PRESS = 0 PSI |
| 1410090805/2133 | 600-SGW-4-107.5 | 1 | SV | X | | | | | | | | #15500146 / END PRESS = 0 PSI |
| 1410090815/2125 | 600-SGW-4-142.5 | 1 | SV | X | | | | | | | | #15C01272 / END PRESS = 0 PSI |
| 1410090837/2126 | 600-SGW-8-7.5 | 1 | SV | X | | | | | | | | #15C01273 / END PRESS = -5 PSI |
| 1410090845/005104 | 600-SGW-8-52.5 | 1 | SV | X | | | | | | | | #15C00945 / END PRESS = -5 PSI |
| 1410090852/003103 | 600-SGW-8-102.5 | 1 | SV | X | | | | | | | | #15C00153 / END PRESS = -5 PSI |
| 1410090859/003956 | 600-SGW-8-150.5 | 1 | SV | X | | | | | | | | #15C00601 / END PRESS = -5 PSI |
| 1410090920/005105 | 600-SGW-7-7.5 | 1 | SV | X | | | | | | | | #15C00946 / END PRESS = -5 PSI |
| 1410090927/003606 | 600-SGW-7-62.5 | 1 | SV | X | | | | | | | | #15C00037 / END PRESS = -5 PSI |
| 1410090937/003905 | 600-SGW-7-102.5 | 1 | SV | X | | | | | | | | #15C00564 / END PRESS = -5 PSI |
| 1410090946/004627 | 600-SGW-7-152.5 | 1 | SV | X | | | | | | | | #15C00880 / END PRESS = -5 PSI |
| 1410090957/1890 | 600-SGW-3-12.5 | 1 | SV | X | | | | | | | | #15C01202 / END PRESS = -1 PSI |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
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| [signature] | 10/15/14 0830 | D.Y | 10-15-14 8:32 |
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| | | | |

# WSTF CHAIN OF CUSTODY RECORD

Date 10/14/14



Laboratory / PO # ALS ENVIRONMENTAL / 13ECD28B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524-5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / CAN NO. | Sample Location | # of Containers | Sample Type SV SOIL VAPOR | Analytes VOC's Method TO-15 | Comments |
|---|---|---|---|---|---|
| 1410091002 / 1748 | 600-SGW-3-57.5 | 1 | SV | X | #1SC01178 / END PRESS = -5 PSI |
| 1410091009 / 8663 | 600-SGW-3-107.5 | 1 | SV | X | #1SS00086 / END PRESS = -2 PSI |
| 1410091017 / 8452 | 600-SGW-3-137.5 | 1 | SV | X | #1SC01029 / |
| 1410091027 / | 600-SGW-5-7.5 | 1 | SV | X | #1SC00017 / END PRESS = 0 PSI |
| 1410091028 / 002970 | 600-SGW-5-FB | 1 | SV | X | #1SC00077 / END PRESS = 0 PSI |
| 1410091035 / 1898 | 600-SGW-5-52.5 | 1 | SV | X | #1SC01209 / END PRESS = 0 PSI |
| 1410091042 / 005199 | 600-SGW-5-102.5 | 1 | SV | X | #1SC00959 / END PRESS = 0 PSI |
| 1410091051 / 004874 | 600-SGW-5-137.5 | 1 | SV | X | #1SC00925 / END PRESS = 0 PSI |
| 1410091310 / 1803 | 600-SGW-9-7.5 | 1 | SV | X | #1SS00034 / END PRESS = 0 PSI |
| 1410091316 / 2024 | 600-SGW-9-40 | 1 | SV | X | #1SC01236 / END PRESS = 0 PSI |
| 1410091326 / 8637 | 600-SGW-9-80 | 1 | SV | X | #1SC01075 / END PRESS = 0 PSI |
| 1410091335 / 8453 | 600-SGW-9-120 | 1 | SV | X | #1SC01020 / END PRESS = 0 PSI |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
|---|---|---|---|
| [signature] | 10/15/14 0830 | D.Y | 10-15-14 8:32 |
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WSTF 381B (03/13)

# WSTF CHAIN OF CUSTODY RECORD

Date 10/14/14



Laboratory / PO # ALS ENVIRONMENTAL / 13ELO28B-C1

Address shipping questions to:

Attn: ☐ Lori Minnick ☑ Other GEOFF GILES

(575) 524-5119 (575) 524- 5352

Send Analytical Reports to:

Attn: ☑ Carlyn A. Tufts ☐ Other

carlyn.a.tufts@nasa.gov

Analysis Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department

12600 NASA Road; Bldg. 120

Las Cruces, NM 88012

Attn: Lori Minnick

| Sample No. / LAN NO. | Sample Location | # of Containers | Sample Type SV SOIL VAPOR | Analytes: VOC's Method: TO-15 | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1410091447/003860 | 600-SGW-6-7.5 | 1 | SV | X | | | | | | | | #1SC00518 / END PRESS = 0 PSI |
| 1410091447/8108 | 600-SGW-6-7.5D | 1 | SV | X | | | | | | | | #1SS00028 / END PRESS = 0 PSI |
| 1410091455/1674 | 600-SGW-6-52.5 | 1 | SV | X | | | | | | | | #1SC01162 / END PRESS = 0 PSI |
| 1410091505/003005 | 600-SGW-6-102.5 | 1 | SV | X | | | | | | | | #1SC00112 / END PRESS = 0 PSI |
| 1410091506/003154 | 600-SGW-6-FB | 1 | SV | X | | | | | | | | #1SC00200 / END PRESS = 0 PSI |
| 1410091515/004449 | 600-SGW-6-147.5 | 1 | SV | X | | | | | | | | #1SC00778 / END PRESS = 0 PSI |
| 1410091525/004429 | 600-SGW-2-12.5 | 1 | SV | X | | | | | | | | #1SC00758 / END PRESS = 0 PSI |
| 1410091532/003586 | 600-SGW-2-47.5 | 1 | SV | X | | | | | | | | #1SC00379 / END PRESS = 0 PSI |
| 1410091540/003472 | 600-SGW-2-107.5 | 1 | SV | X | | | | | | | | #1SC00320 / END PRESS = 0 PSI |
| 1410091540/003802 | 600-SGW-2-107.5D | 1 | SV | X | | | | | | | | #1SC00459 / END PRESS = 0 PSI |
| 1410091547/003244 | 600-SGW-2-150 | 1 | SV | X | | | | | | | | #1SC00254 / END PRESS = 0 PSI |
| 1410141400/003851 | 600-TB | 1 | SV | X | | | | | | | | #1SC00509 / |

| Relinquished By: | Date/Time: | Accepted By: | Date/Time: |
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| [signature] | 10/15/14 0830 | D.V | 10-15-14 8:32 |
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# Appendix E
# Soil Chemical Analytical Results

# Appendix E - Soil Chemistry Analytical Result

| Borehole | 200-GOX | Depth (ft) | 5 | Depth (m) | 1.52 | Event Date | 8/22/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1408220850 | Sample Type | PFOA | Analysis Method | 3550B |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 45298-90-6 | Perfluorooctane Sulfonate | ND | ng/g | 1 | 0.89 | 0.060 | |
| 335-67-1 | Perfluorooctanoic Acid | ND | ng/g | 1 | 0.89 | 0.20 | |

| Borehole | 200-GOX | Depth (ft) | 10 | Depth (m) | 3.05 | Event Date | 8/22/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1408220900 | Sample Type | PFOA | Analysis Method | 3550B |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 45298-90-6 | Perfluorooctane Sulfonate | ND | ng/g | 1 | 0.87 | 0.060 | |
| 335-67-1 | Perfluorooctanoic Acid | ND | ng/g | 1 | 0.87 | 0.20 | |

| Borehole | 200-SB-10 | Depth (ft) | 16 | Depth (m) | 4.88 | Event Date | 6/28/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406281018 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.93 | 4.7 | 0.68 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.93 | 4.7 | 1.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.93 | 4.7 | 0.68 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.93 | 4.7 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.93 | 4.7 | 1.3 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.93 | 4.7 | 0.57 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.93 | 4.7 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.93 | 4.7 | 2.2 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.93 | 93 | 26 | |
| 67-64-1 | Acetone | ND | ug/Kg | 0.93 | 4.7 | 2.7 | |
| 71-43-2 | Benzene | ND | ug/Kg | 0.93 | 4.7 | 0.27 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.57 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.93 | 4.7 | 0.87 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.93 | 4.7 | 0.27 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.93 | 4.7 | 1.2 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.38 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.68 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.93 | 4.7 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.54 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.93 | 4.7 | 0.22 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.93 | 9.3 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.93 | 4.7 | 0.88 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.93 | 4.7 | 0.45 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.93 | 4.7 | 0.82 | |
| 108-88-3 | Toluene | 2.1 | ug/Kg | 0.93 | 4.7 | 0.93 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.93 | 4.7 | 0.94 | |

| Sample | 1406281019 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406281020 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406281021 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406281021P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406281022 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.59 | 0.144 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.263 | ng/Kg | 1 | 2.59 | 0.162 | J * EB |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.59 | 0.187 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.119 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.59 | 0.117 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.106 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.59 | 0.135 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.136 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.59 | 0.116 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.59 | 0.119 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.59 | 0.184 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.104 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.59 | 0.117 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.517 | 0.249 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.517 | 0.21 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.59 | 0.164 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.59 | 0.162 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.59 | 0.115 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.59 | 0.123 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.17 | 0.65 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.75 | ng/Kg | 1 | 5.17 | 0.538 | J RB EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.59 | 0.14 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.59 | 0.184 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.517 | 0.249 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.517 | 0.21 | |

**Sample 1406281023 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4730 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.5 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 32.1 | mg/Kg | 1 | 2.1 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.28 | mg/Kg | 5 | 0.52 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.47 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 108000 | mg/Kg | 50 | 5100 | 700 | |
| 16887-00-6 | Chloride | 10 | mg/Kg | 1 | 31 | 6 | J |
| 7440-47-3 | Chromium, Total | 4.79 | mg/Kg | 5 | 0.52 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 2.87 | mg/Kg | 5 | 0.52 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.01 | mg/Kg | 5 | 0.52 | 0.21 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.092 | 0.015 | |
| 7439-89-6 | Iron, Total | 11800 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 7.3 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 19100 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 218 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.035 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.2 | mg/Kg | 1 | 2.6 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 8.5 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 5 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1250 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 110 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 175 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 103 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.38 | mg/Kg | 5 | 0.52 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 14.6 | mg/Kg | 1 | 5.1 | 0.3 | |
| 7440-66-6 | Zinc, Total | 32.4 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1406281024 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.68 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-10 Depth (ft) 26 Depth (m) 7.92 Event Date 6/28/2014**

**Sample 1406281200 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.73 | 3.7 | 0.54 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.73 | 3.7 | 0.91 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.73 | 3.7 | 0.54 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.73 | 3.7 | 0.94 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.73 | 3.7 | 1 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.73 | 3.7 | 0.45 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.73 | 3.7 | 1.1 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.73 | 3.7 | 1.7 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.73 | 73 | 21 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 5.7 | ug/Kg | 0.73 | 3.7 | 2.1 | J RB |
| 71-43-2 | Benzene | ND | ug/Kg | 0.73 | 3.7 | 0.22 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.73 | 3.7 | 0.45 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.73 | 3.7 | 0.68 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.73 | 3.7 | 0.22 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.73 | 3.7 | 0.92 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.73 | 3.7 | 0.3 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.73 | 3.7 | 0.54 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.73 | 3.7 | 1.1 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.73 | 3.7 | 0.42 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.73 | 3.7 | 0.17 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.73 | 7.3 | 0.8 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.73 | 3.7 | 0.69 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.73 | 3.7 | 0.36 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.73 | 3.7 | 0.65 | |
| 108-88-3 | Toluene | 2.1 | ug/Kg | 0.73 | 3.7 | 0.73 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.73 | 3.7 | 0.74 | |

**Sample 1406281201 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406281202 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406281203 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 360 | 47 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 360 | 56 | |

**Sample 1406281203P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.2 | 0.36 | |

**Sample 1406281204 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.0386 | ng/Kg | 1 | 2.63 | 0.0227 | J * |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.0824 | ng/Kg | 1 | 2.63 | 0.023 | J RB * |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.0411 | ng/Kg | 1 | 2.63 | 0.0303 | J * |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.63 | 0.00947 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.63 | 0.0339 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0186 | ng/Kg | 1 | 2.63 | 0.0081 | J * |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.63 | 0.0372 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.63 | 0.0112 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.0525 | ng/Kg | 1 | 2.63 | 0.0344 | J * |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.63 | 0.0574 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.63 | 0.057 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.63 | 0.00926 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.63 | 0.0531 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.526 | 0.0622 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.526 | 0.0989 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.63 | 0.0262 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.63 | 0.023 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.63 | 0.00936 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.63 | 0.0352 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.26 | 0.0552 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.383 | ng/Kg | 1 | 5.26 | 0.022 | J RB * A |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.63 | 0.0564 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.63 | 0.057 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.526 | 0.0622 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.526 | 0.0989 | |

**Sample** **1406281205** **Sample Type** **Inorganics** **Analysis Method** **Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5070 | mg/Kg | 1 | 11 | 3 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 6.3 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.2 | mg/Kg | 1 | 1.1 | 0.3 | |
| 7440-39-3 | Barium, Total | 155 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.4 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.43 | mg/Kg | 1 | 0.53 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 84500 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | 11 | mg/Kg | 1 | 32 | 7 | J |
| 7440-47-3 | Chromium, Total | 5.86 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.6 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.28 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.11 | 0.02 | |
| 7439-89-6 | Iron, Total | 13100 | mg/Kg | 20 | 210 | 160 | |
| 7439-92-1 | Lead, Total | 7.6 | mg/Kg | 1 | 5.3 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 11400 | mg/Kg | 1 | 110 | 2 | |
| 7439-96-5 | Manganese, Total | 185 | mg/Kg | 1 | 1.1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.034 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.4 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 7 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 8.2 | mg/Kg | 1 | 5.4 | 0.6 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9/7/7440 | Potassium, Total | 1560 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1.1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1.1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 90 | mg/Kg | 1 | 110 | 7 | J RB |
| 7440-24-6 | Strontium, Total | 140 | mg/Kg | 1 | 11 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1.1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 53 | 2 | |
| 7440-32-6 | Titanium, Total | 105 | mg/Kg | 1 | 5.3 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.13 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 15.5 | mg/Kg | 1 | 5.3 | 0.3 | |
| 7440-66-6 | Zinc, Total | 36.6 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1406281206 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.73 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-10 Depth (ft) 36 Depth (m) 10.97 Event Date 6/28/2014**

**Sample 1406281505 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1.04 | 5.2 | 0.76 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1.04 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1.04 | 5.2 | 0.76 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1.04 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1.04 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1.04 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1.04 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1.04 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1.04 | 100 | 30 | |
| 67-64-1 | Acetone | 8.2 | ug/Kg | 1.04 | 5.2 | 3 | J RB |
| 71-43-2 | Benzene | ND | ug/Kg | 1.04 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1.04 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1.04 | 5.2 | 0.97 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1.04 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1.04 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1.04 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1.04 | 5.2 | 0.76 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1.04 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1.04 | 5.2 | 0.6 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1.04 | 5.2 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1.04 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1.04 | 5.2 | 0.98 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1.04 | 5.2 | 0.5 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1.04 | 5.2 | 0.92 | |
| 108-88-3 | Toluene | 2.5 | ug/Kg | 1.04 | 5.2 | 1.1 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1.04 | 5.2 | 1.1 | |

**Sample 1406281506 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-3 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-5 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-8 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406281507 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406281508 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 52 | |

**Sample 1406281508P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2 | 0.33 | |

**Sample 1406281509 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.49 | 0.0371 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.49 | 0.065 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.49 | 0.0561 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.49 | 0.0386 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.49 | 0.0509 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.49 | 0.0324 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.49 | 0.0595 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.49 | 0.0482 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.49 | 0.0511 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.49 | 0.0798 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.49 | 0.0854 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.49 | 0.0392 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.49 | 0.0788 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.498 | 0.164 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.498 | 0.11 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.49 | 0.0457 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.49 | 0.065 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.49 | 0.0389 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.49 | 0.0538 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.98 | 0.143 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.304 | ng/Kg | 1 | 4.98 | 0.102 | J RB * |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.49 | 0.105 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.49 | 0.0854 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.498 | 0.164 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.498 | 0.11 | |

**Sample 1406281510 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4440 | mg/Kg | 1 | 9.9 | 2.2 | |
| 7440-36-0 | Antimony, Total | 0.7 | mg/Kg | 1 | 6 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.07 | mg/Kg | 1 | 0.99 | 0.29 | |
| 7440-39-3 | Barium, Total | 26.1 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.3 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.43 | mg/Kg | 1 | 0.5 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 66100 | mg/Kg | 20 | 2000 | 300 | |
| 16887-00-6 | Chloride | 11 | mg/Kg | 1 | 31 | 6 | J |
| 7440-47-3 | Chromium, Total | 5.15 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.04 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 4.7 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.099 | 0.015 | |
| 7439-89-6 | Iron, Total | 12500 | mg/Kg | 20 | 200 | 150 | |
| 7439-92-1 | Lead, Total | 7.4 | mg/Kg | 1 | 5 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 12100 | mg/Kg | 1 | 99 | 2 | |
| 7439-96-5 | Manganese, Total | 195 | mg/Kg | 1 | 0.99 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.031 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.7 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 7 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 3 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 970 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.99 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.99 | 0.08 | |
| 7440-23-5 | Sodium, Total | 90 | mg/Kg | 1 | 99 | 7 | J RB |
| 7440-24-6 | Strontium, Total | 106 | mg/Kg | 1 | 9.9 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.99 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 50 | 2 | |
| 7440-32-6 | Titanium, Total | 90.5 | mg/Kg | 1 | 5 | 0.1 | |
| 7440-61-1 | Uranium, Total | 0.86 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 12.8 | mg/Kg | 1 | 5 | 0.2 | |
| 7440-66-6 | Zinc, Total | 32.1 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406281511 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.89 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-11 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 7/1/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1407011410 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1.05 | 5.3 | 0.78 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1.05 | 5.3 | 1.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1.05 | 5.3 | 0.78 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1.05 | 5.3 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1.05 | 5.3 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1.05 | 5.3 | 0.65 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1.05 | 5.3 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1.05 | 5.3 | 2.5 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1.05 | 110 | 30 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1.05 | 5.3 | 3 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1.05 | 5.3 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1.05 | 5.3 | 0.65 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1.05 | 5.3 | 0.99 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1.05 | 5.3 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1.05 | 5.3 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1.05 | 5.3 | 0.43 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1.05 | 5.3 | 0.78 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1.05 | 5.3 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1.05 | 5.3 | 0.61 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1.05 | 5.3 | 0.25 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1.05 | 11 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1.05 | 5.3 | 1 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1.05 | 5.3 | 0.51 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1.05 | 5.3 | 0.94 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1.05 | 5.3 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1.05 | 5.3 | 1.1 | |

| Sample | 1407011411 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 5 | 1.38 | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 25 | 8.11 | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 25 | 5.5 | T |

| Sample | 1407011412 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407011413 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1407011413S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 330 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 330 | 52 | |

**Sample 1407011414 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.201 | ng/Kg | 1 | 2.42 | 0.0426 | J |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.192 | ng/Kg | 1 | 2.42 | 0.0355 | J * EB |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.42 | 0.04 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0479 | ng/Kg | 1 | 2.42 | 0.0275 | J * |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.42 | 0.0437 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0392 | ng/Kg | 1 | 2.42 | 0.0241 | J * |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.42 | 0.0474 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.0418 | ng/Kg | 1 | 2.42 | 0.0321 | J * |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.42 | 0.044 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.42 | 0.074 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.42 | 0.0639 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.42 | 0.0266 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.42 | 0.0675 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.483 | 0.0603 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 0.282 | ng/Kg | 1 | 0.483 | 0.125 | J * |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.42 | 0.0411 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 0.237 | ng/Kg | 1 | 2.42 | 0.0355 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.42 | 0.0272 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | 0.112 | ng/Kg | 1 | 2.42 | 0.0451 | J |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | 0.23 | ng/Kg | 1 | 4.83 | 0.0577 | J * |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.843 | ng/Kg | 1 | 4.83 | 0.0512 | J EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.42 | 0.0549 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.42 | 0.0639 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.483 | 0.0603 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.483 | 0.125 | |

**Sample 1407011415 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5240 | mg/Kg | 1 | 9.6 | 2.2 | |
| 7440-36-0 | Antimony, Total | 0.7 | mg/Kg | 1 | 5.8 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.74 | mg/Kg | 1 | 0.96 | 0.29 | |
| 7440-39-3 | Barium, Total | 57 | mg/Kg | 1 | 1.9 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.41 | mg/Kg | 5 | 0.49 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 19 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.55 | mg/Kg | 1 | 0.48 | 0.05 | |
| 7440-70-2 | Calcium, Total | 80700 | mg/Kg | 20 | 1900 | 300 | |
| 16887-00-6 | Chloride | 11 | mg/Kg | 1 | 30 | 6 | J |
| 7440-47-3 | Chromium, Total | 6.26 | mg/Kg | 5 | 0.49 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.79 | mg/Kg | 5 | 0.49 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.72 | mg/Kg | 5 | 0.49 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.28 | 0.05 | |
| 7439-89-6 | Iron, Total | 15200 | mg/Kg | 20 | 190 | 150 | |
| 7439-92-1 | Lead, Total | 7.2 | mg/Kg | 1 | 4.8 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 18600 | mg/Kg | 1 | 96 | 2 | |
| 7439-96-5 | Manganese, Total | 231 | mg/Kg | 1 | 0.96 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.031 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 0.8 | mg/Kg | 1 | 2.4 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 8.6 | mg/Kg | 1 | 3.9 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.8 | mg/Kg | 1 | 5.1 | 0.5 | J |
| 9/7/7440 | Potassium, Total | 1020 | mg/Kg | 1 | 190 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.96 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.96 | 0.08 | |
| 7440-23-5 | Sodium, Total | 106 | mg/Kg | 1 | 96 | 7 | J |
| 7440-24-6 | Strontium, Total | 181 | mg/Kg | 1 | 9.6 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.96 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 48 | 2 | |
| 7440-32-6 | Titanium, Total | 98.8 | mg/Kg | 1 | 4.8 | 0.1 | |
| 7440-61-1 | Uranium, Total | 0.89 | mg/Kg | 5 | 0.49 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 27 | mg/Kg | 1 | 4.8 | 0.2 | |
| 7440-66-6 | Zinc, Total | 28.8 | mg/Kg | 1 | 1.9 | 0.2 | |

**Sample 1407011416 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.76 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-11 Depth (ft) 28 Depth (m) 8.53 Event Date 7/1/2014**

**Sample 1407011600 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.1 | 0.63 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.1 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.1 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 3.9 | ug/Kg | 1 | 5.1 | 2.9 | J RB |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.1 | 0.63 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.1 | 0.96 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.1 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.1 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.1 | 0.59 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.1 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.1 | 0.97 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.1 | 0.5 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.1 | 0.9 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.1 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.1 | 1.1 | |

**Sample 1407011601 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-7 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-9 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-12 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample 1407011602 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407011603 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.0592 | ng/Kg | 1 | 2.44 | 0.0242 | J * |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.135 | ng/Kg | 1 | 2.44 | 0.023 | J |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.0371 | ng/Kg | 1 | 2.44 | 0.0274 | J * |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0372 | ng/Kg | 1 | 2.44 | 0.0278 | J * |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.44 | 0.037 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0237 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.44 | 0.0416 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0335 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.44 | 0.038 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.44 | 0.0558 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.44 | 0.0607 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0271 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.44 | 0.0541 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.488 | 0.0567 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.488 | 0.0996 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.44 | 0.0257 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 0.135 | ng/Kg | 1 | 2.44 | 0.023 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.44 | 0.0276 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.44 | 0.0389 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | 0.0744 | ng/Kg | 1 | 4.88 | 0.0477 | J * |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.55 | ng/Kg | 1 | 4.88 | 0.0592 | J * |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.44 | 0.0486 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.44 | 0.0607 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.488 | 0.0567 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.488 | 0.0996 | |

**Sample 1407011604 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4260 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 0.8 | mg/Kg | 1 | 6.1 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 7.4 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 82.7 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.34 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.56 | mg/Kg | 1 | 0.51 | 0.05 | |
| 7440-70-2 | Calcium, Total | 107000 | mg/Kg | 50 | 5100 | 700 | |
| 16887-00-6 | Chloride | 11 | mg/Kg | 1 | 31 | 6 | J |
| 7440-47-3 | Chromium, Total | 5.43 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.04 | mg/Kg | 5 | 0.5 | 0.04 | |
| 7440-50-8 | Copper, Total | 4.94 | mg/Kg | 5 | 0.5 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.26 | 0.04 | |
| 7439-89-6 | Iron, Total | 11400 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 8.6 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 14200 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 268 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.033 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.4 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 7 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.7 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1000 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 120 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 176 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 46.5 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.2 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 11 | mg/Kg | 1 | 5.1 | 0.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-66-6 | Zinc, Total | 49.9 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1407011605 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.97 | H UNIT | 1 | NA | NA | |

**Sample 1407011606 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1407011606S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 52 | |

| Borehole | 200-SB-13 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 6/16/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406161400 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 3 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.97 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.6 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.98 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.5 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.92 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 | |

| Sample | 1406161401 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406161402 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | T |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | T |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | T |

**Sample 1406161403 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406161403P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.33 | |

**Sample 1406161404 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.0604 | ng/Kg | 1 | 2.53 | 0.0447 | J * EB |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.202 | ng/Kg | 1 | 2.53 | 0.0605 | J * EB |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.0664 | ng/Kg | 1 | 2.53 | 0.064 | J * EB |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0843 | ng/Kg | 1 | 2.53 | 0.0566 | J * |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.105 | ng/Kg | 1 | 2.53 | 0.0629 | J * |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0506 | ng/Kg | 1 | 2.53 | 0.0459 | J * |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.0622 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.068 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.107 | ng/Kg | 1 | 2.53 | 0.0578 | J * |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.114 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.53 | 0.0885 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0504 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.121 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.505 | 0.308 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.505 | 0.27 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.0533 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.0605 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.0541 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.0609 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.05 | 0.249 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 10 | ng/Kg | 1 | 5.05 | 0.144 | EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.07 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.0885 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.505 | 0.308 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.505 | 0.27 | |

**Sample 1406161405 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4640 | mg/Kg | 1 | 10 | 2.2 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 6 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.06 | mg/Kg | 1 | 1 | 0.29 | |
| 7440-39-3 | Barium, Total | 39.9 | mg/Kg | 1 | 2 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.38 | mg/Kg | 5 | 0.49 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.39 | mg/Kg | 1 | 0.5 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 98900 | mg/Kg | 50 | 5000 | 700 | |
| 16887-00-6 | Chloride | 13 | mg/Kg | 1 | 31 | 6 | J |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 7440-47-3 | Chromium, Total | 6.86 | mg/Kg | 5 | 0.49 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.44 | mg/Kg | 5 | 0.49 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.36 | mg/Kg | 5 | 0.49 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.096 | 0.015 | |
| 7439-89-6 | Iron, Total | 11600 | mg/Kg | 10 | 100 | 74 | |
| 7439-92-1 | Lead, Total | 6.9 | mg/Kg | 1 | 5 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 17400 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 218 | mg/Kg | 1 | 1 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.032 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 7.1 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 7.4 | mg/Kg | 1 | 5.2 | 0.6 | |
| 9/7/7440 | Potassium, Total | 1350 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 148 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 250 | mg/Kg | 1 | 10 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 50 | 2 | |
| 7440-32-6 | Titanium, Total | 99.8 | mg/Kg | 1 | 5 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.45 | mg/Kg | 5 | 0.49 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 25.9 | mg/Kg | 1 | 5 | 0.2 | |
| 7440-66-6 | Zinc, Total | 31.6 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406161406 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.67 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-13 Depth (ft) 28 Depth (m) 8.53 Event Date 6/16/2014**

**Sample 1406161540 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.3 | 0.78 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.3 | 1.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.3 | 0.78 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.3 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.3 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.3 | 0.66 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.3 | 1.5 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.3 | 2.5 |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 110 | 30 |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.3 | 3 |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.3 | 0.31 |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.3 | 0.66 |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.3 | 1 |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.3 | 0.31 |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.3 | 1.4 |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.3 | 0.43 |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.3 | 0.78 |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.3 | 1.7 |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.3 | 0.61 |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.3 | 0.25 |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 11 | 1.2 |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.3 | 1.1 |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.3 | 0.52 |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.3 | 0.94 |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.3 | 1.1 |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.3 | 1.1 |

**Sample 1406161542 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406161544 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | T |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | T |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | T |

**Sample 1406161546 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.2 | 0.35 | |

**Sample 1406161548 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.231 | ng/Kg | 1 | 2.45 | 0.0271 | J * SP |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 2.38 | ng/Kg | 1 | 2.45 | 0.101 | J |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.45 | 0.0402 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0589 | ng/Kg | 1 | 2.45 | 0.0469 | J |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.45 | 0.0871 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.104 | ng/Kg | 1 | 2.45 | 0.0394 | J |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.45 | 0.0917 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.142 | ng/Kg | 1 | 2.45 | 0.0594 | J |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.166 | ng/Kg | 1 | 2.45 | 0.0825 | J |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | 0.128 | ng/Kg | 1 | 2.45 | 0.0593 | J * A |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.45 | 0.0997 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.45 | 0.0402 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | 0.0954 | ng/Kg | 1 | 2.45 | 0.0617 | J * |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.489 | 0.180 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.489 | 0.269 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.45 | 0.0328 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 2.38 | ng/Kg | 1 | 2.45 | 0.101 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | 0.404 | ng/Kg | 1 | 2.45 | 0.0453 | J |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | 0.166 | ng/Kg | 1 | 2.45 | 0.0870 | J |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.89 | 0.212 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 16 | ng/Kg | 1 | 4.89 | 0.180 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.45 | 0.0643 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.45 | 0.0997 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.489 | 0.180 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.489 | 0.269 | |

**Sample 1406161550 Sample Type Metals Analysis Method Metals**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 6040 | mg/Kg | 1 | 11 | 3 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 6.4 | 0.3 | J RB SP |
| 7440-38-2 | Arsenic, Total | 3.9 | mg/Kg | 1 | 1.1 | 0.3 | |
| 7440-39-3 | Barium, Total | 30.1 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.48 | mg/Kg | 5 | 0.53 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 5 | |
| 7440-43-9 | Cadmium, Total | 0.41 | mg/Kg | 1 | 0.53 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 91800 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 32 | 7 | |
| 18540-29-9 | Chromium, Hexavalent | 0.05 | mg/Kg | 1 | 0.42 | 0.03 | J |
| 18540-29-9 | Chromium, Hexavalent | 0.05 | mg/Kg | 1 | 0.42 | 0.03 | J |
| 7440-47-3 | Chromium, Total | 7.47 | mg/Kg | 5 | 0.53 | 0.05 | SP |
| 7440-48-4 | Cobalt, Total | 4.58 | mg/Kg | 5 | 0.53 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.65 | mg/Kg | 5 | 0.53 | 0.21 | SP |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.32 | 0.05 | SP |
| 7439-89-6 | Iron, Total | 10200 | mg/Kg | 10 | 110 | 80 | |
| 7439-92-1 | Lead, Total | 6.5 | mg/Kg | 1 | 5.3 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 7700 | mg/Kg | 1 | 110 | 2 | |
| 7439-96-5 | Manganese, Total | 189 | mg/Kg | 1 | 1.1 | 0.2 | SP |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.035 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 0.8 | mg/Kg | 1 | 2.6 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 6.9 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 4 | mg/Kg | 1 | 5.4 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 2590 | mg/Kg | 1 | 210 | 20 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1.1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1.1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 80 | mg/Kg | 1 | 110 | 7 | J |
| 7440-24-6 | Strontium, Total | 311 | mg/Kg | 1 | 11 | 0.06 | SP |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1.1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 53 | 2 | |
| 7440-32-6 | Titanium, Total | 162 | mg/Kg | 1 | 5.3 | 0.1 | |
| 7440-61-1 | Uranium, Total | 2.39 | mg/Kg | 5 | 0.53 | 0.002 | |
| 7440-62-2 | Vanadium, Total | 15.6 | mg/Kg | 1 | 5.3 | 0.3 | |
| 7440-66-6 | Zinc, Total | 26.4 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1406161552** **Sample Type pH** **Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.79 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-15 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 7/11/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1407111410 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1.08 | 5.7 | 0.84 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1.08 | 5.7 | 1.5 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1.08 | 5.7 | 0.84 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1.08 | 5.7 | 1.5 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1.08 | 5.7 | 1.6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1.08 | 5.7 | 0.71 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1.08 | 5.7 | 1.6 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1.08 | 5.7 | 2.7 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1.08 | 110 | 33 | |
| 67-64-1 | Acetone | 5.3 | ug/Kg | 1.08 | 5.7 | 3.3 | J |
| 71-43-2 | Benzene | ND | ug/Kg | 1.08 | 5.7 | 0.34 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1.08 | 5.7 | 0.71 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1.08 | 5.7 | 1.1 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1.08 | 5.7 | 0.34 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1.08 | 5.7 | 1.5 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1.08 | 5.7 | 0.46 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1.08 | 5.7 | 0.84 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1.08 | 5.7 | 1.8 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1.08 | 5.7 | 0.66 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1.08 | 5.7 | 0.27 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1.08 | 11 | 1.3 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1.08 | 5.7 | 1.1 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1.08 | 5.7 | 0.56 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1.08 | 5.7 | 1.1 | |
| 108-88-3 | Toluene | 3.4 | ug/Kg | 1.08 | 5.7 | 1.2 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1.08 | 5.7 | 1.2 | |

| Sample | 1407111412 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-12 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-14 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-17 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1407111414 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407111416 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 1.2 | ug/Kg | 1 | 2.1 | 0.34 | J |

**Sample 1407111416S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 46 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |

**Sample 1407111418 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.65 | 0.108 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.65 | 0.0957 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.65 | 0.159 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.65 | 0.0679 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.65 | 0.126 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.65 | 0.0584 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.65 | 0.133 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.65 | 0.0917 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.65 | 0.120 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.65 | 0.178 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.65 | 0.148 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.65 | 0.0715 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.65 | 0.181 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.529 | 0.485 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.529 | 0.362 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.65 | 0.130 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.65 | 0.0957 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.65 | 0.0708 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.65 | 0.127 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.29 | 0.430 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | ND | ng/Kg | 1 | 5.29 | 0.211 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.65 | 0.153 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.65 | 0.148 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.529 | 0.485 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.529 | 0.362 | |

**Sample 1407111420 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 10600 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 0.8 | mg/Kg | 1 | 6 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 9 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 111 | mg/Kg | 1 | 2 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.61 | mg/Kg | 5 | 0.52 | 0.02 | |
| 7440-42-8 | Boron, Total | 11 | mg/Kg | 1 | 20 | 4 | J |
| 7440-43-9 | Cadmium, Total | 0.34 | mg/Kg | 1 | 0.5 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 79000 | mg/Kg | 10 | 1000 | 200 | |
| 16887-00-6 | Chloride | 251 | mg/Kg | 1 | 32 | 6 | |
| 7440-47-3 | Chromium, Total | 9.86 | mg/Kg | 5 | 0.52 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 6.34 | mg/Kg | 5 | 0.52 | 0.04 | SP |
| 7440-50-8 | Copper, Total | 8.58 | mg/Kg | 5 | 0.52 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.11 | 0.02 | SP |
| 7439-89-6 | Iron, Total | 16700 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 12.1 | mg/Kg | 1 | 5 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 14500 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 304 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | 0.012 | mg/Kg | 1 | 0.033 | 0.002 | J |
| 7439-98-7 | Molybdenum, Total | 1.1 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 13.8 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 3.6 | mg/Kg | 1 | 5.3 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 3090 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 510 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 152 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | 4 | mg/Kg | 1 | 50 | 2 | J RB |
| 7440-32-6 | Titanium, Total | 177 | mg/Kg | 1 | 5 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.37 | mg/Kg | 5 | 0.52 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 36.2 | mg/Kg | 1 | 5 | 0.2 | |
| 7440-66-6 | Zinc, Total | 44.6 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1407111422 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.45 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-15 Depth (ft) 98 Depth (m) 29.87 Event Date 7/16/2014**

**Sample 1407161200 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1.07 | 5.5 | 0.82 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1.07 | 5.5 | 1.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1.07 | 5.5 | 0.82 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1.07 | 5.5 | 1.5 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1.07 | 5.5 | 1.6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1.07 | 5.5 | 0.68 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1.07 | 5.5 | 1.6 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1.07 | 5.5 | 2.6 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1.07 | 110 | 31 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 4 | ug/Kg | 1.07 | 5.5 | 3.2 | J |
| 71-43-2 | Benzene | ND | ug/Kg | 1.07 | 5.5 | 0.33 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1.07 | 5.5 | 0.68 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1.07 | 5.5 | 1.1 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1.07 | 5.5 | 0.33 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1.07 | 5.5 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1.07 | 5.5 | 0.45 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1.07 | 5.5 | 0.82 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1.07 | 5.5 | 1.7 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1.07 | 5.5 | 0.64 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1.07 | 5.5 | 0.26 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1.07 | 11 | 1.3 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1.07 | 5.5 | 1.1 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1.07 | 5.5 | 0.54 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1.07 | 5.5 | 0.98 | |
| 108-88-3 | Toluene | 1.4 | ug/Kg | 1.07 | 5.5 | 1.2 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1.07 | 5.5 | 1.2 | |

**Sample 1407161201 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-15 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-17 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-20 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1407161202 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407161203 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | 280 | ug/Kg | 1 | 340 | 45 | J |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1407161203P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1407161204 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.0461 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.172 | ng/Kg | 1 | 2.53 | 0.105 | J RB * |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.0614 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0491 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.0876 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0429 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.0999 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0598 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.087 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.208 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.53 | 0.206 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0505 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.206 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.506 | 0.349 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.506 | 0.376 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.0531 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.105 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.0499 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.0914 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.06 | 0.335 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.809 | ng/Kg | 1 | 5.06 | 0.173 | J RB * |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.174 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.206 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.506 | 0.349 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.506 | 0.376 | |

**Sample** **1407161205** **Sample Type** **Inorganics** **Analysis Method** **Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 2890 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 1.5 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 14.9 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 91.3 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.33 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | 4 | mg/Kg | 1 | 21 | 4 | J |
| 7440-43-9 | Cadmium, Total | 0.31 | mg/Kg | 1 | 0.52 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 235000 | mg/Kg | 10 | 1000 | 200 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 7440-47-3 | Chromium, Total | 6.26 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.35 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 3.96 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.099 | 0.015 | |
| 7439-89-6 | Iron, Total | 13100 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 4.4 | mg/Kg | 1 | 5.2 | 0.03 | J |
| 7439-95-4 | Magnesium, Total | 15000 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 371 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | 0.008 | mg/Kg | 1 | 0.032 | 0.002 | J |
| 7439-98-7 | Molybdenum, Total | 3.8 | mg/Kg | 1 | 2.6 | 0.07 | |
| 7440-02-0 | Nickel, Total | 8.5 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 4 | mg/Kg | 1 | 5.2 | 0.6 | J |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9/7/7440 | Potassium, Total | 570 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 160 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 228 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | 6 | mg/Kg | 1 | 52 | 2 | J RB |
| 7440-32-6 | Titanium, Total | 31.2 | mg/Kg | 1 | 5.2 | 0.1 | |
| 7440-61-1 | Uranium, Total | 0.87 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 13.8 | mg/Kg | 1 | 5.2 | 0.3 | |
| 7440-66-6 | Zinc, Total | 48.5 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1407161206 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 5 | 1.38 | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 25 | 8.11 | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 25 | 5.5 | T |

| Borehole | 200-SB-16 | Depth (ft) | 18 | Depth (m) | 5.49 | Event Date | 7/21/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1407220800 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.98 | 5.2 | 0.77 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.98 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.98 | 5.2 | 0.77 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.98 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.98 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.98 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.98 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.98 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.98 | 100 | 30 | |
| 67-64-1 | Acetone | 9.1 | ug/Kg | 0.98 | 5.2 | 3 | TB EB A |
| 71-43-2 | Benzene | ND | ug/Kg | 0.98 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.98 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.98 | 5.2 | 0.97 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.98 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.98 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.98 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.98 | 5.2 | 0.77 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.98 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.98 | 5.2 | 0.6 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.98 | 5.2 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.98 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.98 | 5.2 | 0.99 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.98 | 5.2 | 0.51 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.98 | 5.2 | 0.92 | |
| 108-88-3 | Toluene | 2.1 | ug/Kg | 0.98 | 5.2 | 1.1 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.98 | 5.2 | 1.1 | |

| Sample | 1407220801 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-20 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-22 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-25 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1407220802 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 5 | 1.38 | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 25 | 8.11 | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 25 | 5.5 | T |

**Sample 1407220803 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407220804 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.74 | ug/Kg | 1 | 2.1 | 0.35 | J |

**Sample 1407220804S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 46 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |

**Sample 1407220805 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.61 | 0.52 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.61 | 0.681 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.61 | 0.769 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.61 | 0.401 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.61 | 0.487 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.61 | 0.355 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.61 | 0.513 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.61 | 0.543 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.61 | 0.462 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.61 | 0.396 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.61 | 0.504 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.61 | 0.399 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.61 | 0.367 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.522 | 0.453 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.632 | 0.632 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.61 | 0.629 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.61 | 0.681 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.61 | 0.414 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.61 | 0.502 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.22 | 1.68 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | ND | ng/Kg | 1 | 5.22 | 1.28 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.61 | 0.347 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.61 | 0.504 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.522 | 0.453 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.632 | 0.632 | |

**Sample** **1407220806** **Sample Type** **Inorganics** **Analysis Method** **Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 10100 | mg/Kg | 10 | 100 | 30 | |
| 7440-36-0 | Antimony, Total | 0.7 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 6.6 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 151 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.58 | mg/Kg | 5 | 0.51 | 0.02 | |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.32 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 83100 | mg/Kg | 10 | 1000 | 200 | |
| 16887-00-6 | Chloride | 218 | mg/Kg | 1 | 31 | 6 | |
| 7440-47-3 | Chromium, Total | 8.15 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 6.12 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 8.43 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.092 | 0.015 | |
| 7439-89-6 | Iron, Total | 16800 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 12 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 24800 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 302 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.034 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.1 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 12.6 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 4 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 2690 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 390 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 218 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 180 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 2.18 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 24.9 | mg/Kg | 1 | 5.1 | 0.3 | |
| 7440-66-6 | Zinc, Total | 44.7 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample** **1407220807** **Sample Type** **pH** **Analysis Method** **pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.32 | H UNIT | 1 | NA | NA | |

**Borehole** **200-SB-16** **Depth (ft)** **28** **Depth (m)** **8.53** **Event Date** **7/22/2014**

**Sample** **1407220940** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.89 | 4.6 | 0.67 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.89 | 4.6 | 1.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.89 | 4.6 | 0.67 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.89 | 4.6 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.89 | 4.6 | 1.3 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.89 | 4.6 | 0.56 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.89 | 4.6 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.89 | 4.6 | 2.1 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.89 | 91 | 26 | |
| 67-64-1 | Acetone | 2.7 | ug/Kg | 0.89 | 4.6 | 2.6 | J |
| 71-43-2 | Benzene | ND | ug/Kg | 0.89 | 4.6 | 0.27 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.89 | 4.6 | 0.56 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.89 | 4.6 | 0.85 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.89 | 4.6 | 0.27 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.89 | 4.6 | 1.2 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.89 | 4.6 | 0.37 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.89 | 4.6 | 0.67 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.89 | 4.6 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.89 | 4.6 | 0.52 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.89 | 4.6 | 0.21 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.89 | 9.1 | 1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.89 | 4.6 | 0.86 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.89 | 4.6 | 0.44 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.89 | 4.6 | 0.81 | |
| 108-88-3 | Toluene | 2.1 | ug/Kg | 0.89 | 4.6 | 0.92 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.89 | 4.6 | 0.92 | |

**Sample 1407220941 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-21 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-23 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-26 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1407220942 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 5 | 1.38 | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 25 | 8.11 | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 25 | 5.5 | T |

**Sample 1407220943 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1407220944 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.41 | ug/Kg | 1 | 2.0 | 0.33 | J |

**Sample 1407220944S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 52 | |

**Sample 1407220945 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.41 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.53 | 0.548 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.594 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.342 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.332 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.291 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.364 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.462 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.322 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.269 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.53 | 0.326 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.328 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.258 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.505 | 0.386 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.517 | 0.517 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.492 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.548 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.347 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.349 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.05 | 0.884 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | ND | ng/Kg | 1 | 5.05 | 0.926 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.263 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.326 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.505 | 0.386 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.517 | 0.517 | |

**Sample 1407220946 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5860 | mg/Kg | 10 | 97 | 22 | |
| 7440-36-0 | Antimony, Total | 0.7 | mg/Kg | 1 | 5.8 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.2 | mg/Kg | 1 | 0.97 | 0.29 | |
| 7440-39-3 | Barium, Total | 61.1 | mg/Kg | 1 | 1.9 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.48 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 19 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.2 | mg/Kg | 1 | 0.49 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 77400 | mg/Kg | 10 | 970 | 130 | |
| 16887-00-6 | Chloride | 61 | mg/Kg | 1 | 31 | 6 | |
| 7440-47-3 | Chromium, Total | 6.66 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.61 | mg/Kg | 5 | 0.5 | 0.04 | |
| 7440-50-8 | Copper, Total | 7.99 | mg/Kg | 5 | 0.5 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.095 | 0.015 | |
| 7439-89-6 | Iron, Total | 15100 | mg/Kg | 10 | 97 | 74 | |
| 7439-92-1 | Lead, Total | 7.9 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 13800 | mg/Kg | 1 | 97 | 2 | |
| 7439-96-5 | Manganese, Total | 211 | mg/Kg | 1 | 0.97 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.033 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 0.9 | mg/Kg | 1 | 2.4 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 9.8 | mg/Kg | 1 | 3.9 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 3.8 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1490 | mg/Kg | 1 | 190 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.97 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.97 | 0.08 | |
| 7440-23-5 | Sodium, Total | 123 | mg/Kg | 1 | 97 | 7 | |
| 7440-24-6 | Strontium, Total | 156 | mg/Kg | 1 | 9.7 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.97 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 124 | mg/Kg | 1 | 4.9 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.7 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 16.6 | mg/Kg | 1 | 4.9 | 0.2 | |
| 7440-66-6 | Zinc, Total | 43.6 | mg/Kg | 1 | 1.9 | 0.2 | |

**Sample 1407220947 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.81 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-16 Depth (ft) 48 Depth (m) 14.63 Event Date 7/22/2014**

**Sample 1407221135 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.82 | 4.1 | 0.61 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.82 | 4.1 | 1.1 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.82 | 4.1 | 0.61 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.82 | 4.1 | 1.1 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.82 | 4.1 | 1.2 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.82 | 4.1 | 0.51 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.82 | 4.1 | 1.2 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.82 | 4.1 | 1.9 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.82 | 83 | 24 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 20 | ug/Kg | 0.82 | 4.1 | 2.4 | A |
| 71-43-2 | Benzene | ND | ug/Kg | 0.82 | 4.1 | 0.25 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.82 | 4.1 | 0.51 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.82 | 4.1 | 0.78 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.82 | 4.1 | 0.25 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.82 | 4.1 | 1.1 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.82 | 4.1 | 0.34 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.82 | 4.1 | 0.61 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.82 | 4.1 | 1.3 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.82 | 4.1 | 0.48 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.82 | 4.1 | 0.2 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.82 | 8.3 | 0.91 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.82 | 4.1 | 0.78 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.82 | 4.1 | 0.4 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.82 | 4.1 | 0.73 | |
| 108-88-3 | Toluene | 1.1 | ug/Kg | 0.82 | 4.1 | 0.83 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.82 | 4.1 | 0.84 | |

**Sample 1407221136 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-22 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-24 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-27 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample 1407221137 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 6.25 | NA | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 31.2 | NA | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 31.2 | NA | T |

**Sample 1407221138 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1407221139 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 330 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 330 | 52 | |

**Sample 1407221139P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2 | 0.33 | |

**Sample 1407221140 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.54 | 0.0784 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.252 | ng/Kg | 1 | 2.54 | 0.107 | J * |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.54 | 0.134 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.0811 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.101 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.0595 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.0935 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.147 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.0864 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.54 | 0.223 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.54 | 0.223 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.0883 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.54 | 0.245 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.509 | 0.353 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.509 | 0.354 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.103 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.107 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.0858 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.0928 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.09 | 0.396 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.01 | ng/Kg | 1 | 5.09 | 0.29 | J |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.225 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.223 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.509 | 0.353 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.509 | 0.354 | |

**Sample 1407221141 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4410 | mg/Kg | 20 | 200 | 50 | |
| 7440-36-0 | Antimony, Total | 0.8 | mg/Kg | 1 | 5.9 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.83 | mg/Kg | 1 | 0.98 | 0.29 | |
| 7440-39-3 | Barium, Total | 66.5 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.37 | mg/Kg | 5 | 0.49 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | ND | mg/Kg | 1 | 0.49 | 0.05 | |
| 7440-70-2 | Calcium, Total | 75600 | mg/Kg | 20 | 2000 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 30 | 6 | |
| 7440-47-3 | Chromium, Total | 6.04 | mg/Kg | 5 | 0.49 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.87 | mg/Kg | 5 | 0.49 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.42 | mg/Kg | 5 | 0.49 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.099 | 0.015 | |
| 7439-89-6 | Iron, Total | 14500 | mg/Kg | 20 | 200 | 150 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7439-92-1 | Lead, Total | 9.7 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 17100 | mg/Kg | 1 | 98 | 2 | |
| 7439-96-5 | Manganese, Total | 250 | mg/Kg | 1 | 0.98 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.032 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.5 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 8.6 | mg/Kg | 1 | 3.9 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 3.7 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1120 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.98 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.98 | 0.08 | |
| 7440-23-5 | Sodium, Total | 139 | mg/Kg | 1 | 98 | 7 | J |
| 7440-24-6 | Strontium, Total | 176 | mg/Kg | 1 | 9.8 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.98 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 83.7 | mg/Kg | 1 | 4.9 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.76 | mg/Kg | 5 | 0.49 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 19.7 | mg/Kg | 1 | 4.9 | 0.2 | |
| 7440-66-6 | Zinc, Total | 32.7 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1407221142 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.14 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-16 Depth (ft) 58 Depth (m) 17.68 Event Date 7/23/2014**

**Sample 1407230750 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.88 | 4.5 | 0.66 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.88 | 4.5 | 1.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.88 | 4.5 | 0.66 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.88 | 4.5 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.88 | 4.5 | 1.3 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.88 | 4.5 | 0.56 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.88 | 4.5 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.88 | 4.5 | 2.1 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.88 | 90 | 26 | |
| 67-64-1 | Acetone | 21 | ug/Kg | 0.88 | 4.5 | 2.6 | A |
| 71-43-2 | Benzene | ND | ug/Kg | 0.88 | 4.5 | 0.27 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.88 | 4.5 | 0.56 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.88 | 4.5 | 0.84 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.88 | 4.5 | 0.27 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.88 | 4.5 | 1.2 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.88 | 4.5 | 0.37 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.88 | 4.5 | 0.66 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.88 | 4.5 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.88 | 4.5 | 0.52 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.88 | 4.5 | 0.21 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.88 | 9 | 0.99 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.88 | 4.5 | 0.85 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.88 | 4.5 | 0.44 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.88 | 4.5 | 0.8 | |
| 108-88-3 | Toluene | 1.8 | ug/Kg | 0.88 | 4.5 | 0.91 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.88 | 4.5 | 0.92 | |

**Sample 1407230751 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-23 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-25 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-28 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample 1407230752 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 6.25 | NA | |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 31.2 | NA | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 31.2 | NA | |

**Sample 1407230753 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407230754 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.33 | |

**Sample 1407230754S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1407230755 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.134 | ng/Kg | 1 | 2.94 | 0.0575 | J RB |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.852 | ng/Kg | 1 | 2.94 | 0.0869 | J |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.94 | 0.0864 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0556 | ng/Kg | 1 | 2.94 | 0.028 | J |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.94 | 0.0287 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.94 | 0.0234 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.94 | 0.0281 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.94 | 0.0509 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.94 | 0.0254 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.94 | 0.0876 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.94 | 0.108 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | 0.0478 | ng/Kg | 1 | 2.94 | 0.0293 | J * |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.94 | 0.0809 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.587 | 0.095 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.587 | 0.154 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | 0.134 | ng/Kg | 1 | 2.94 | 0.0708 | J |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 0.852 | ng/Kg | 1 | 2.94 | 0.0869 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | 0.0556 | ng/Kg | 1 | 2.94 | 0.0311 | J |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.94 | 0.0273 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | 3.49 | ng/Kg | 1 | 5.87 | 0.229 | J |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 5.35 | ng/Kg | 1 | 5.87 | 0.112 | J |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.94 | 0.0732 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.94 | 0.108 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.587 | 0.095 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.587 | 0.154 | |

**Sample 1407230756 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4160 | mg/Kg | 20 | 210 | 50 | |
| 7440-36-0 | Antimony, Total | 0.6 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.5 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 64.5 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.46 | mg/Kg | 5 | 0.49 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | ND | mg/Kg | 1 | 0.51 | 0.05 | |
| 7440-70-2 | Calcium, Total | 107000 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 7440-47-3 | Chromium, Total | 6.33 | mg/Kg | 5 | 0.49 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.56 | mg/Kg | 5 | 0.49 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.6 | mg/Kg | 5 | 0.49 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.089 | 0.015 | |
| 7439-89-6 | Iron, Total | 11400 | mg/Kg | 20 | 210 | 160 | |
| 7439-92-1 | Lead, Total | 6.4 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 15800 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 213 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | 0.003 | mg/Kg | 1 | 0.033 | 0.003 | J |
| 7439-98-7 | Molybdenum, Total | 1.8 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 7.2 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 2.5 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1220 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-23-5 | Sodium, Total | 130 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 269 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 80 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 2.13 | mg/Kg | 5 | 0.49 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 13.1 | mg/Kg | 1 | 5.1 | 0.3 | |
| 7440-66-6 | Zinc, Total | 31.4 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1407230757** **Sample Type pH** **Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.92 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-17 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 8/2/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1408020915 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.9 | 4.6 | 0.68 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.9 | 4.6 | 1.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.9 | 4.6 | 0.68 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.9 | 4.6 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.9 | 4.6 | 1.3 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.9 | 4.6 | 0.57 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.9 | 4.6 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.9 | 4.6 | 2.2 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.9 | 92 | 26 | |
| 67-64-1 | Acetone | 3.9 | ug/Kg | 0.9 | 4.6 | 2.6 | J |
| 71-43-2 | Benzene | ND | ug/Kg | 0.9 | 4.6 | 0.27 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.9 | 4.6 | 0.57 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.9 | 4.6 | 0.86 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.9 | 4.6 | 0.27 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.9 | 4.6 | 1.2 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.9 | 4.6 | 0.37 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.9 | 4.6 | 0.68 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.9 | 4.6 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.9 | 4.6 | 0.53 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.9 | 4.6 | 0.22 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.9 | 9.2 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.9 | 4.6 | 0.87 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.9 | 4.6 | 0.45 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.9 | 4.6 | 0.81 | |
| 108-88-3 | Toluene | 1.4 | ug/Kg | 0.9 | 4.6 | 0.92 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.9 | 4.6 | 0.93 | |

| Sample | 1408020916 | Sample Type | VOA-D | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.86 | 4.4 | 0.65 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.86 | 4.4 | 1.1 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.86 | 4.4 | 0.65 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.86 | 4.4 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.86 | 4.4 | 1.2 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.86 | 4.4 | 0.54 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.86 | 4.4 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.86 | 4.4 | 2.1 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.86 | 88 | 25 | |
| 67-64-1 | Acetone | 2.7 | ug/Kg | 0.86 | 4.4 | 2.5 | J |
| 71-43-2 | Benzene | ND | ug/Kg | 0.86 | 4.4 | 0.26 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.86 | 4.4 | 0.54 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 75-25-2 | Bromoform | ND | ug/Kg | 0.86 | 4.4 | 0.82 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.86 | 4.4 | 0.26 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.86 | 4.4 | 1.2 | |
| 74-87-3 | Chloromethane | 0.54 | ug/Kg | 0.86 | 4.4 | 0.36 | J |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.86 | 4.4 | 0.65 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.86 | 4.4 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.86 | 4.4 | 0.51 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.86 | 4.4 | 0.21 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.86 | 8.8 | 0.96 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.86 | 4.4 | 0.83 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.86 | 4.4 | 0.43 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.86 | 4.4 | 0.78 | |
| 108-88-3 | Toluene | 1.9 | ug/Kg | 0.86 | 4.4 | 0.88 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.86 | 4.4 | 0.89 | |

**Sample 1408020917 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-28 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-30 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-33 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample 1408020918 Sample Type Hydrazine-D Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-29 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-31 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-34 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample 1408020919 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 300 | NA | |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 1500 | NA | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 1500 | NA | |

**Sample 1408020920 Sample Type Hydrazine-D Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 300 | NA | |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 1500 | NA | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 1500 | NA | |

**Sample 1408020921 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1408020923 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.92 | ug/Kg | 1 | 2.0 | 0.33 | J |

**Sample 1408020923S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 52 | |

**Sample 1408020924 Sample Type Perchlorate-D Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.81 | ug/Kg | 1 | 2.0 | 0.33 | J |

**Sample 1408020924S Sample Type SVOA-D Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 52 | |

**Sample 1408020925 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.51 | 0.0575 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.51 | 0.174 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.51 | 0.0806 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.51 | 0.105 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.51 | 0.112 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.51 | 0.0868 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.51 | 0.129 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.51 | 0.125 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.51 | 0.112 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.51 | 0.128 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.51 | 0.178 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.51 | 0.103 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.51 | 0.12 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.503 | 0.258 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.503 | 0.378 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.51 | 0.0678 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.51 | 0.174 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.51 | 0.103 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.51 | 0.118 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.03 | 0.394 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 3 | ng/Kg | 1 | 5.03 | 0.132 | J RB * EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.51 | 0.134 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.51 | 0.178 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.503 | 0.258 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.503 | 0.378 | |

**Sample 1408020926 Sample Type Dxns/Frns-D Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.47 | 0.101 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.47 | 0.244 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.47 | 0.134 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.132 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.47 | 0.0959 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.111 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.47 | 0.109 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.163 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.47 | 0.0948 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.47 | 0.125 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.47 | 0.205 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.127 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.47 | 0.123 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.495 | 0.45 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.495 | 0.329 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.47 | 0.116 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.47 | 0.244 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.47 | 0.131 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | 0.131 | ng/Kg | 1 | 2.47 | 0.0996 | J |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.95 | 0.463 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.495 | ng/Kg | 1 | 4.95 | 0.243 | J RB EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.47 | 0.155 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.47 | 0.205 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.495 | 0.45 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.495 | 0.329 | |

**Sample 1408020927 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5320 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | ND | mg/Kg | 1 | 6.1 | 0.3 | |
| 7440-38-2 | Arsenic, Total | 5.3 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 52.8 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.42 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | 7 | mg/Kg | 1 | 20 | 4 | J RB |
| 7440-43-9 | Cadmium, Total | 0.43 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 61900 | mg/Kg | 10 | 1000 | 200 | QD |
| 16887-00-6 | Chloride | 67 | mg/Kg | 1 | 31 | 6 | QD |
| 7440-47-3 | Chromium, Total | 6.84 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 5.82 | mg/Kg | 5 | 0.5 | 0.04 | QD |
| 7440-50-8 | Copper, Total | 8.63 | mg/Kg | 5 | 0.5 | 0.2 | QD |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.095 | 0.015 | |
| 7439-89-6 | Iron, Total | 13500 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 9.7 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 15900 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 255 | mg/Kg | 10 | 10 | 2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.031 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 0.7 | mg/Kg | 1 | 2.5 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 10.6 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.8 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 950 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 330 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 160 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 94.1 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 0.9 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 21.5 | mg/Kg | 1 | 5.1 | 0.2 | |
| 7440-66-6 | Zinc, Total | 42.7 | mg/Kg | 1 | 2 | 0.2 | |

**Sample** **1408020928** **Sample Type** **Inorganics-D** **Analysis Method** **Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5310 | mg/Kg | 1 | 9.9 | 2.2 | |
| 7440-36-0 | Antimony, Total | ND | mg/Kg | 1 | 5.9 | 0.3 | |
| 7440-38-2 | Arsenic, Total | 5.76 | mg/Kg | 1 | 0.99 | 0.29 | |
| 7440-39-3 | Barium, Total | 48.2 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.42 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | 6 | mg/Kg | 1 | 20 | 4 | J RB |
| 7440-43-9 | Cadmium, Total | 0.46 | mg/Kg | 1 | 0.49 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 90900 | mg/Kg | 10 | 990 | 130 | QD |
| 16887-00-6 | Chloride | 96 | mg/Kg | 1 | 31 | 6 | QD |
| 7440-47-3 | Chromium, Total | 7.24 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.36 | mg/Kg | 5 | 0.51 | 0.04 | QD |
| 7440-50-8 | Copper, Total | 5.91 | mg/Kg | 5 | 0.51 | 0.2 | QD |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.1 | 0.02 | |
| 7439-89-6 | Iron, Total | 13500 | mg/Kg | 10 | 99 | 74 | |
| 7439-92-1 | Lead, Total | 8.6 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 17400 | mg/Kg | 1 | 99 | 2 | |
| 7439-96-5 | Manganese, Total | 241 | mg/Kg | 10 | 9.9 | 1.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.032 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 0.5 | mg/Kg | 1 | 2.5 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 10.2 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 2 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 940 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.99 | 0.57 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.99 | 0.08 |
| 7440-23-5 | Sodium, Total | 315 | mg/Kg | 1 | 99 | 7 |
| 7440-24-6 | Strontium, Total | 170 | mg/Kg | 1 | 9.9 | 0.05 |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.99 | 0.75 |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 |
| 7440-32-6 | Titanium, Total | 90.4 | mg/Kg | 1 | 4.9 | 0.1 |
| 7440-61-1 | Uranium, Total | 0.81 | mg/Kg | 5 | 0.51 | 0.001 |
| 7440-62-2 | Vanadium, Total | 25.2 | mg/Kg | 1 | 4.9 | 0.2 |
| 7440-66-6 | Zinc, Total | 39 | mg/Kg | 1 | 2 | 0.2 |

**Sample 1408020929 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.82 | H UNIT | 1 | NA | NA | |

**Sample 1408020930 Sample Type pH-D Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.92 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-17 Depth (ft) 48 Depth (m) 14.63 Event Date 8/3/2014**

**Sample 1408030843 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.85 | 4.4 | 0.64 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.85 | 4.4 | 1.1 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.85 | 4.4 | 0.64 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.85 | 4.4 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.85 | 4.4 | 1.2 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.85 | 4.4 | 0.54 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.85 | 4.4 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.85 | 4.4 | 2 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.85 | 87 | 25 | |
| 67-64-1 | Acetone | ND | ug/Kg | 0.85 | 4.4 | 2.5 | |
| 71-43-2 | Benzene | ND | ug/Kg | 0.85 | 4.4 | 0.26 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.85 | 4.4 | 0.54 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.85 | 4.4 | 0.81 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.85 | 4.4 | 0.26 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.85 | 4.4 | 1.1 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.85 | 4.4 | 0.35 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.85 | 4.4 | 0.64 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.85 | 4.4 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.85 | 4.4 | 0.5 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.85 | 4.4 | 0.21 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.85 | 8.7 | 0.95 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.85 | 4.4 | 0.82 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.85 | 4.4 | 0.42 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.85 | 4.4 | 0.77 | |
| 108-88-3 | Toluene | 1 | ug/Kg | 0.85 | 4.4 | 0.88 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.85 | 4.4 | 0.88 | |

**Sample 1408030844 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-30 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-32 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-35 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample 1408030845 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 300 | NA | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 1500 | NA | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 1500 | NA | T |

**Sample 1408030846 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1408030849S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1408030850 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.0681 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.53 | 0.173 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.0912 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0662 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.141 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0569 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.158 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.105 | ng/Kg | 1 | 2.53 | 0.0798 | J * |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.139 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.185 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.53 | 0.239 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.0634 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.17 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.506 | 0.388 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.506 | 0.341 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.0788 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.173 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.0657 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.146 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.06 | 0.426 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.898 | ng/Kg | 1 | 5.06 | 0.245 | J RB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.161 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.239 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.506 | 0.388 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.506 | 0.341 | |

**Sample 1408030851 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4540 | mg/Kg | 1 | 9.9 | 2.2 | |
| 7440-36-0 | Antimony, Total | ND | mg/Kg | 1 | 6 | 0.3 | |
| 7440-38-2 | Arsenic, Total | 5.08 | mg/Kg | 1 | 0.99 | 0.29 | |
| 7440-39-3 | Barium, Total | 38.1 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.34 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | 5 | mg/Kg | 1 | 20 | 4 | J RB |
| 7440-43-9 | Cadmium, Total | 0.38 | mg/Kg | 1 | 0.5 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 83500 | mg/Kg | 10 | 990 | 130 | |
| 16887-00-6 | Chloride | 47 | mg/Kg | 1 | 31 | 6 | |
| 7440-47-3 | Chromium, Total | 6.1 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.47 | mg/Kg | 5 | 0.5 | 0.04 | |
| 7440-50-8 | Copper, Total | 4.45 | mg/Kg | 5 | 0.5 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.097 | 0.015 | |
| 7439-89-6 | Iron, Total | 11700 | mg/Kg | 10 | 99 | 74 | |
| 7439-92-1 | Lead, Total | 7.1 | mg/Kg | 1 | 5 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 11500 | mg/Kg | 1 | 99 | 2 | |
| 7439-96-5 | Manganese, Total | 202 | mg/Kg | 10 | 9.9 | 1.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.034 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 0.8 | mg/Kg | 1 | 2.5 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 8.1 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 2.1 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 940 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.99 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.99 | 0.08 | |
| 7440-23-5 | Sodium, Total | 116 | mg/Kg | 1 | 99 | 7 | J |
| 7440-24-6 | Strontium, Total | 146 | mg/Kg | 1 | 9.9 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.99 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 50 | 2 | |
| 7440-32-6 | Titanium, Total | 72.5 | mg/Kg | 1 | 5 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.15 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 16.6 | mg/Kg | 1 | 5 | 0.2 | |
| 7440-66-6 | Zinc, Total | 28.3 | mg/Kg | 1 | 2 | 0.2 | |

**Sample** **1408030852** **Sample Type** **pH** **Analysis Method** **pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.74 | H UNIT | 1 | NA | NA | |

**Borehole** **200-SB-17** **Depth (ft)** **88** **Depth (m)** **26.82** **Event Date** **8/3/2014**

**Sample** **1408031315** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.79 | 4 | 0.6 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.79 | 4 | 1.1 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.79 | 4 | 0.6 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.79 | 4 | 1.1 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.79 | 4 | 1.1 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.79 | 4 | 0.5 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.79 | 4 | 1.2 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.79 | 4 | 1.9 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.79 | 81 | 23 | |
| 67-64-1 | Acetone | 4.1 | ug/Kg | 0.79 | 4 | 2.3 | |
| 71-43-2 | Benzene | ND | ug/Kg | 0.79 | 4 | 0.24 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.79 | 4 | 0.5 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.79 | 4 | 0.76 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.79 | 4 | 0.24 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.79 | 4 | 1.1 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.79 | 4 | 0.33 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.79 | 4 | 0.6 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.79 | 4 | 1.3 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.79 | 4 | 0.47 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.79 | 4 | 0.19 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.79 | 8.1 | 0.89 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.79 | 4 | 0.77 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.79 | 4 | 0.39 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.79 | 4 | 0.72 | |
| 108-88-3 | Toluene | 1.1 | ug/Kg | 0.79 | 4 | 0.81 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.79 | 4 | 0.82 | |

**Sample** **1408031316** **Sample Type** **Hydrazine** **Analysis Method** **8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-31 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-33 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-36 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

**Sample** **1408031317** **Sample Type** **Hydrazine** **Analysis Method** **8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 300 | NA | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 1500 | NA | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 1500 | NA | T |

**Sample 1408031318 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1408031319S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 52 | |

**Sample 1408031320 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.43 | 0.0937 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 2.11 | ng/Kg | 1 | 2.43 | 0.0739 | J * |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.43 | 0.125 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.0861 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.43 | 0.0889 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.0711 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 2.24 | ng/Kg | 1 | 2.43 | 0.101 | J |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.098 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.818 | ng/Kg | 1 | 2.43 | 0.0877 | J |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.43 | 0.226 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | 3.87 | ng/Kg | 1 | 2.43 | 0.245 | * |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.0822 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.43 | 0.212 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.684 | 0.684 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | 0.954 | ng/Kg | 1 | 0.487 | 0.437 | * |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.43 | 0.108 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.43 | 0.0739 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | 0.22 | ng/Kg | 1 | 2.43 | 0.0833 | J |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | 4.38 | ng/Kg | 1 | 2.43 | 0.0923 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.87 | 0.393 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 6.15 | ng/Kg | 1 | 4.87 | 0.206 | J |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | 4.17 | ng/Kg | 1 | 2.43 | 0.196 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | 21.3 | ng/Kg | 1 | 2.43 | 0.245 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.684 | 0.684 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | 61.3 | ng/Kg | 1 | 0.487 | 0.437 | |

**Sample 1408031321 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4380 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | ND | mg/Kg | 1 | 6.1 | 0.3 | |
| 7440-38-2 | Arsenic, Total | 7 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 59.9 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.36 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.66 | mg/Kg | 1 | 0.51 | 0.05 | |
| 7440-70-2 | Calcium, Total | 129000 | mg/Kg | 10 | 1000 | 200 | |
| 16887-00-6 | Chloride | 9 | mg/Kg | 1 | 31 | 6 | J |
| 7440-47-3 | Chromium, Total | 49.7 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.7 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 11.8 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.089 | 0.015 | |
| 7439-89-6 | Iron, Total | 10300 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 7.9 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 21800 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 263 | mg/Kg | 10 | 10 | 2 | |
| 7439-97-6 | Mercury, Total | 0.028 | mg/Kg | 1 | 0.033 | 0.003 | J |
| 7439-98-7 | Molybdenum, Total | 2 | mg/Kg | 1 | 2.6 | 0.07 | J RB |
| 7440-02-0 | Nickel, Total | 8.2 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 2.2 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 960 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 160 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 276 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 66.1 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.34 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 13.5 | mg/Kg | 1 | 5.1 | 0.2 | |
| 7440-66-6 | Zinc, Total | 41.4 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1408031322 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.86 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-18 | Depth (ft) | 88 | Depth (m) | 26.82 | Event Date | 7/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1407091135 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5 | 0.73 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5 | 0.73 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5 | 1.3 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5 | 0.61 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5 | 1.4 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5 | 2.3 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 28 | |
| 67-64-1 | Acetone | 15 | ug/Kg | 1 | 5 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5 | 0.29 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5 | 0.61 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5 | 0.93 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5 | 0.29 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5 | 0.4 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5 | 0.73 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5 | 1.5 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5 | 0.57 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5 | 0.23 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5 | 0.94 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5 | 0.48 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5 | 0.88 | |
| 108-88-3 | Toluene | 1.9 | ug/Kg | 1 | 5 | 1 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5 | 1.1 | |

| Sample | 1407091136 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-10 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-12 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-15 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

| Sample | 1407091137 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1407091138 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.2 | 0.36 | |

**Sample 1407091138P Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.2 | 0.36 | |

**Sample 1407091139 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.68 | 0.0300 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.68 | 0.107 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.68 | 0.0434 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.68 | 0.0225 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.68 | 0.0692 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.68 | 0.0182 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.68 | 0.0731 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.68 | 0.0286 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.68 | 0.0660 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.68 | 0.153 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.68 | 0.261 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.68 | 0.0218 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.68 | 0.151 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.536 | 0.235 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.536 | 0.227 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.68 | 0.0361 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.68 | 0.107 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.68 | 0.0222 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.68 | 0.0694 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.36 | 0.327 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.06 | ng/Kg | 1 | 5.36 | 0.0891 | J RB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.68 | 0.132 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.68 | 0.261 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.536 | 0.235 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.536 | 0.227 | |

**Sample 1407091140 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 9180 | mg/Kg | 1 | 11 | 3 | |
| 7440-36-0 | Antimony, Total | 0.8 | mg/Kg | 1 | 6.4 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.9 | mg/Kg | 1 | 1.1 | 0.4 | |
| 7440-39-3 | Barium, Total | 376 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.62 | mg/Kg | 5 | 0.55 | 0.02 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 5 | |
| 7440-43-9 | Cadmium, Total | 0.19 | mg/Kg | 1 | 0.53 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 172000 | mg/Kg | 10 | 1100 | 200 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 33 | 7 | |
| 7440-47-3 | Chromium, Total | 7.24 | mg/Kg | 5 | 0.55 | 0.06 | |
| 7440-48-4 | Cobalt, Total | 5.24 | mg/Kg | 5 | 0.55 | 0.04 | |
| 7440-50-8 | Copper, Total | 7.14 | mg/Kg | 5 | 0.55 | 0.22 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.21 | 0.04 | |
| 7439-89-6 | Iron, Total | 13000 | mg/Kg | 10 | 110 | 80 | |
| 7439-92-1 | Lead, Total | 5.9 | mg/Kg | 1 | 5.3 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 5570 | mg/Kg | 1 | 110 | 2 | |
| 7439-96-5 | Manganese, Total | 202 | mg/Kg | 1 | 1.1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.037 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.4 | mg/Kg | 1 | 2.7 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 10.3 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 11.1 | mg/Kg | 1 | 5.5 | 0.6 | |
| 9/7/7440 | Potassium, Total | 2350 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1.1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1.1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 130 | mg/Kg | 1 | 110 | 7 | |
| 7440-24-6 | Strontium, Total | 211 | mg/Kg | 1 | 11 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1.1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 53 | 2 | |
| 7440-32-6 | Titanium, Total | 94.5 | mg/Kg | 1 | 5.3 | 0.1 | |
| 7440-61-1 | Uranium, Total | 0.87 | mg/Kg | 5 | 0.55 | 0.002 | |
| 7440-62-2 | Vanadium, Total | 12.9 | mg/Kg | 1 | 5.3 | 0.3 | |
| 7440-66-6 | Zinc, Total | 33.5 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1407091141 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.78 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-19 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 7/20/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1407200845 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1.46 | 7.7 | 1.2 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1.46 | 7.7 | 2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1.46 | 7.7 | 1.2 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1.46 | 7.7 | 2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1.46 | 7.7 | 2.1 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1.46 | 7.7 | 0.94 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1.46 | 7.7 | 2.2 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1.46 | 7.7 | 3.6 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1.46 | 150 | 43 | |
| 67-64-1 | Acetone | 4.5 | ug/Kg | 1.46 | 7.7 | 4.4 | J EB |
| 71-43-2 | Benzene | ND | ug/Kg | 1.46 | 7.7 | 0.45 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1.46 | 7.7 | 0.94 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1.46 | 7.7 | 1.5 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1.46 | 7.7 | 0.45 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1.46 | 7.7 | 2 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1.46 | 7.7 | 0.62 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1.46 | 7.7 | 1.2 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1.46 | 7.7 | 2.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1.46 | 7.7 | 0.88 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1.46 | 7.7 | 0.36 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1.46 | 15 | 1.7 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1.46 | 7.7 | 1.5 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1.46 | 7.7 | 0.74 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1.46 | 7.7 | 1.4 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1.46 | 7.7 | 1.6 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1.46 | 7.7 | 1.6 | |

| Sample | 1407200846 | Sample Type | VOA-D | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1.22 | 6.4 | 0.94 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1.22 | 6.4 | 1.6 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1.22 | 6.4 | 0.94 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1.22 | 6.4 | 1.7 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1.22 | 6.4 | 1.8 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1.22 | 6.4 | 0.79 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1.22 | 6.4 | 1.8 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1.22 | 6.4 | 3 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1.22 | 130 | 36 | |
| 67-64-1 | Acetone | 4.4 | ug/Kg | 1.22 | 6.4 | 3.7 | J EB |
| 71-43-2 | Benzene | ND | ug/Kg | 1.22 | 6.4 | 0.38 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1.22 | 6.4 | 0.79 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 75-25-2 | Bromoform | ND | ug/Kg | 1.22 | 6.4 | 1.2 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1.22 | 6.4 | 0.38 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1.22 | 6.4 | 1.7 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1.22 | 6.4 | 0.52 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1.22 | 6.4 | 0.94 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1.22 | 6.4 | 2 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1.22 | 6.4 | 0.74 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1.22 | 6.4 | 0.3 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1.22 | 13 | 1.5 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1.22 | 6.4 | 1.3 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1.22 | 6.4 | 0.62 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1.22 | 6.4 | 1.2 | |
| 108-88-3 | Toluene | 1.3 | ug/Kg | 1.22 | 6.4 | 1.3 | J |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1.22 | 6.4 | 1.3 | |

**Sample 1407200847 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-17 | Hydrazine | ND | mg/L | 1 | 0.05 | 0.0094 | |
| 60-33-19 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-22 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1407200848 Sample Type Hydrazine-D Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-18 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-20 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-23 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1407200849 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 5 | 1.38 | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 25 | 8.11 | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 25 | 5.5 | T |

**Sample 1407200850 Sample Type Hydrazine-D Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | ug/kg | 1 | 5 | 1.38 | T |
| 60-33-4 | Methylhydrazine | ND | ug/kg | 1 | 25 | 8.11 | T |
| 57-14-7 | N,N-Dimethylhydrazine | ND | ug/kg | 1 | 25 | 5.5 | T |

**Sample 1407200851 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407200852 Sample Type NDMA-D Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1407200853 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.84 | ug/Kg | 1 | 2.1 | 0.34 | J |

**Sample 1407200853S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |

**Sample 1407200854 Sample Type Perchlorate-D Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.84 | ug/Kg | 1 | 2.1 | 0.34 | J |

**Sample 1407200854S Sample Type SVOA-D Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |

**Sample 1407200855 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.66 | 0.455 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.66 | 0.591 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.66 | 0.657 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.251 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.376 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.211 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.438 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.336 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.376 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.66 | 0.32 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.66 | 0.344 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.245 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.66 | 0.299 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.531 | 0.399 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.577 | 0.577 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.544 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.591 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.253 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.408 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.31 | 1.12 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.29 | ng/Kg | 1 | 5.31 | 0.951 | J * EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.266 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.344 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.531 | 0.399 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.577 | 0.577 | |

**Sample 1407200856 Sample Type Dxns/Frns-D Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.52 | 0.304 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.52 | 0.446 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.52 | 0.429 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.52 | 0.24 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.52 | 0.325 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.52 | 0.202 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.52 | 0.36 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.52 | 0.333 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.52 | 0.317 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.52 | 0.359 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.52 | 0.363 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.52 | 0.243 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.52 | 0.346 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.503 | 0.476 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.503 | 0.458 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.52 | 0.359 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.52 | 0.446 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.52 | 0.247 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.52 | 0.344 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.03 | 0.823 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 3.11 | ng/Kg | 1 | 5.03 | 0.9 | J EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.52 | 0.256 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.52 | 0.363 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.503 | 0.476 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.503 | 0.458 | |

**Sample 1407200857 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 11100 | mg/Kg | 10 | 100 | 30 | |
| 7440-36-0 | Antimony, Total | 0.6 | mg/Kg | 1 | 6.3 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.3 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 79.6 | mg/Kg | 1 | 2.1 | 0.1 | QD |
| 7440-41-7 | Beryllium, Total | 0.67 | mg/Kg | 5 | 0.51 | 0.02 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.29 | mg/Kg | 1 | 0.52 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 70100 | mg/Kg | 10 | 1000 | 200 | |
| 16887-00-6 | Chloride | 442 | mg/Kg | 1 | 32 | 6 | |
| 7440-47-3 | Chromium, Total | 9.42 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 6.39 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 9.68 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.092 | 0.015 | |
| 7439-89-6 | Iron, Total | 17500 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 13.3 | mg/Kg | 1 | 5.2 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 15300 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 373 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.034 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.5 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 14 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 3.5 | mg/Kg | 1 | 5.3 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 3450 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 660 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 150 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 52 | 2 | |
| 7440-32-6 | Titanium, Total | 204 | mg/Kg | 1 | 5.2 | 0.1 | |
| 7440-61-1 | Uranium, Total | 2.27 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 20.9 | mg/Kg | 1 | 5.2 | 0.3 | |
| 7440-66-6 | Zinc, Total | 53.4 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1407200858 Sample Type Inorganics-D Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 11000 | mg/Kg | 10 | 110 | 30 | |
| 7440-36-0 | Antimony, Total | 0.8 | mg/Kg | 1 | 6.3 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.8 | mg/Kg | 1 | 1.1 | 0.3 | |
| 7440-39-3 | Barium, Total | 133 | mg/Kg | 1 | 2.1 | 0.1 | QD |
| 7440-41-7 | Beryllium, Total | 0.61 | mg/Kg | 5 | 0.52 | 0.02 | |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 5 | |
| 7440-43-9 | Cadmium, Total | 0.34 | mg/Kg | 1 | 0.53 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 71500 | mg/Kg | 10 | 1100 | 200 | |
| 16887-00-6 | Chloride | 393 | mg/Kg | 1 | 32 | 6 | |
| 7440-47-3 | Chromium, Total | 8.88 | mg/Kg | 5 | 0.52 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 6.58 | mg/Kg | 5 | 0.52 | 0.04 | |
| 7440-50-8 | Copper, Total | 9.59 | mg/Kg | 5 | 0.52 | 0.21 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.097 | 0.015 | |
| 7439-89-6 | Iron, Total | 17900 | mg/Kg | 10 | 110 | 80 | |
| 7439-92-1 | Lead, Total | 14.1 | mg/Kg | 1 | 5.3 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 16100 | mg/Kg | 1 | 110 | 2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7439-96-5 | Manganese, Total | 388 | mg/Kg | 1 | 1.1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.032 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.6 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 14.6 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 5 | mg/Kg | 1 | 5.3 | 0.6 | J QD |
| 9/7/7440 | Potassium, Total | 3560 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1.1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1.1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 660 | mg/Kg | 1 | 110 | 7 | |
| 7440-24-6 | Strontium, Total | 159 | mg/Kg | 1 | 11 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1.1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 53 | 2 | |
| 7440-32-6 | Titanium, Total | 199 | mg/Kg | 1 | 5.3 | 0.1 | |
| 7440-61-1 | Uranium, Total | 2.05 | mg/Kg | 5 | 0.52 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 22 | mg/Kg | 1 | 5.3 | 0.3 | |
| 7440-66-6 | Zinc, Total | 56.2 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1407200859 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.31 | H UNIT | 1 | NA | NA | |

**Sample 1407200900 Sample Type pH-D Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.17 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-20 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 6/4/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406040940 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.1 | 0.63 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.1 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.1 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.1 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.1 | 0.63 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.1 | 0.96 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.1 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.1 | 1.6 | |
| 75-09-2 | Dichloromethane | 0.75 | ug/Kg | 1 | 5.1 | 0.59 | J |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.1 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.1 | 0.97 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.1 | 0.5 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.1 | 0.9 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.1 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.1 | 1.1 | |

| Sample | 1406040941 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406040942 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

| Borehole | 200-SB-20 | Depth (ft) | 30 | Depth (m) | 9.14 | Event Date | 6/4/2014 |
|---|---|---|---|---|---|---|---|

**Sample 1406041200 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5 | 0.74 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5 | 0.74 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5 | 1.3 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5 | 0.62 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5 | 1.4 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | 3.8 | ug/Kg | 1 | 5 | 2.9 | J |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5 | 0.3 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5 | 0.62 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5 | 0.94 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5 | 0.3 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5 | 0.74 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5 | 0.58 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5 | 0.95 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5 | 0.49 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5 | 0.89 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5 | 1.1 | |

**Sample 1406041202 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406041203 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

**Sample 1406041204 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1406041204S** **Sample Type SVOA** **Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | 340 | ug/Kg | 1 | 330 | 43 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 330 | 51 | |

**Sample 1406041205** **Sample Type Dxns/Frns** **Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.46 | 0.256 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.46 | 0.311 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.46 | 0.313 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.209 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.46 | 0.254 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.174 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.46 | 0.277 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.244 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.46 | 0.244 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.46 | 0.261 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.46 | 0.548 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.185 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.46 | 0.265 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.492 | 0.384 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.492 | 0.369 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.46 | 0.283 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.46 | 0.311 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.46 | 0.2 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | 0.38 | ng/Kg | 1 | 2.46 | 0.258 | J |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.92 | 0.529 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.03 | ng/Kg | 1 | 4.92 | 0.635 | J * |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.46 | 0.25 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.46 | 0.548 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | 0.656 | ng/Kg | 1 | 0.492 | 0.384 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.492 | 0.369 | |

**Sample 1406041206** **Sample Type Inorganics** **Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 56 | mg/Kg | 1 | 30 | 6 | |
| 57-12-5 | Cyanide, Total | 0.015 | mg/Kg | 1 | 0.095 | 0.015 | J |
| NA | Nitrate+Nitrite as Nitrogen | ND | mg/Kg | 1 | 5 | 0.5 | |

**Sample 1406041207** **Sample Type pH** **Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.29 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-20 | Depth (ft) | 50 | Depth (m) | 15.24 | Event Date | 6/4/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406041720 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5 | 0.74 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5 | 0.74 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5 | 1.3 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5 | 0.62 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5 | 0.3 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5 | 0.62 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5 | 0.94 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5 | 0.3 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5 | 0.74 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5 | 0.58 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5 | 0.95 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5 | 0.49 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5 | 0.89 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5 | 1.1 | |

| Sample | 1406041721 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406041722 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406041723 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1406041723S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 330 | 43 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 330 | 52 | |

**Sample 1406041724 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.43 | 0.231 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.43 | 0.29 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.43 | 0.269 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.236 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.43 | 0.329 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.188 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.43 | 0.353 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.275 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.43 | 0.314 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.43 | 0.317 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.43 | 0.535 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.43 | 0.206 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.43 | 0.327 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.486 | 0.319 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.486 | 0.384 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.43 | 0.249 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.43 | 0.29 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.43 | 0.222 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.43 | 0.332 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.86 | 0.582 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | ND | ng/Kg | 1 | 4.86 | 0.594 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.43 | 0.207 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.43 | 0.535 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | 0.392 | ng/Kg | 1 | 0.486 | 0.319 | J |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.486 | 0.384 | |

**Sample 1406041725 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 16887-00-6 | Chloride | 28 | mg/Kg | 1 | 30 | 6 | J |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.1 | 0.02 | |
| NA | Nitrate+Nitrite as Nitrogen | ND | mg/Kg | 1 | 5 | 0.5 | |

**Sample** **1406041726** **Sample Type** **pH** **Analysis Method** **pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.22 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-21 | Depth (ft) | 7.5 | Depth (m) | 2.29 | Event Date | 6/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406091135 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 30 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 3.0 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.98 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.60 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.25 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.99 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.51 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.93 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 | |

| Sample | 1406091136 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406091137 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

**Sample 1406091138 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | 0.64 | ug/Kg | 1 | 2.1 | 0.35 | J |

**Sample 1406091138S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 46 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |

**Sample 1406091139 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.348 | ng/Kg | 1 | 2.66 | 0.274 | J * EB |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 1.03 | ng/Kg | 1 | 2.66 | 0.446 | J * EB |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.66 | 0.347 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.26 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.306 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.213 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.316 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.294 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.286 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.66 | 0.313 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.66 | 0.631 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.234 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.66 | 0.327 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.533 | 0.373 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.533 | 0.44 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.308 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.446 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.246 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.303 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | 2.06 | ng/Kg | 1 | 5.33 | 0.625 | J |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 6.36 | ng/Kg | 1 | 5.33 | 0.564 | EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.303 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.631 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.533 | 0.373 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.533 | 0.44 | |

**Sample 1406091140 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4460 | mg/Kg | 1 | 9.9 | 2.2 | |
| 7440-36-0 | Antimony, Total | 1.2 | mg/Kg | 1 | 5.9 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.74 | mg/Kg | 1 | 0.99 | 0.29 | |
| 7440-39-3 | Barium, Total | 36.4 | mg/Kg | 1 | 2.0 | 0.10 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.36 | mg/Kg | 5 | 0.52 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | ND | mg/Kg | 1 | 0.49 | 0.05 | |
| 7440-70-2 | Calcium, Total | 97400 | mg/Kg | 50 | 4900 | 700 | |
| 16887-00-6 | Chloride | 142 | mg/Kg | 1 | 31 | 6 | |
| 7440-47-3 | Chromium, Total | 7.12 | mg/Kg | 5 | 0.52 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.88 | mg/Kg | 5 | 0.52 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.37 | mg/Kg | 5 | 0.52 | 0.20 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.094 | 0.015 | |
| 7439-89-6 | Iron, Total | 11600 | mg/Kg | 5 | 49 | 37 | |
| 7439-92-1 | Lead, Total | 7.4 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 14200 | mg/Kg | 1 | 99 | 2 | |
| 7439-96-5 | Manganese, Total | 220 | mg/Kg | 1 | 0.99 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.032 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.1 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 8.3 | mg/Kg | 1 | 4.0 | 0.10 | |
| NA | Nitrate+Nitrite as Nitrogen | ND | mg/Kg | 1 | 5.2 | 0.6 | |
| 7440-09-7 | Potassium, Total | 1060 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.99 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.99 | 0.08 | |
| 7440-23-5 | Sodium, Total | 229 | mg/Kg | 1 | 99 | 7 | |
| 7440-24-6 | Strontium, Total | 182 | mg/Kg | 1 | 9.9 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.99 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 94.5 | mg/Kg | 1 | 4.9 | 0.10 | |
| 7440-61-1 | Uranium, Total | 0.95 | mg/Kg | 5 | 0.52 | 0.0010 | |
| 7440-62-2 | Vanadium, Total | 32 | mg/Kg | 1 | 4.9 | 0.2 | |
| 7440-66-6 | Zinc, Total | 30.7 | mg/Kg | 1 | 2.0 | 0.2 | |

**Sample 1406091141 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.41 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-21 Depth (ft) 17.5 Depth (m) 5.33 Event Date 6/9/2014**

**Sample 1406091610 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.0 | 0.74 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.0 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.0 | 0.74 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.0 | 1.3 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.0 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.0 | 0.62 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.0 | 1.4 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.0 | 2.3 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 28 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.0 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.0 | 0.30 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.0 | 0.62 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.0 | 0.94 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.0 | 0.30 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.0 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.0 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.0 | 0.74 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.0 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.0 | 0.58 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.0 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.0 | 0.95 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.0 | 0.49 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.0 | 0.89 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.0 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.0 | 1.1 | |

**Sample 1406091611 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406091612 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406091613 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1406091613S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 330 | 43 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 330 | 51 | |

**Sample 1406091614 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.46 | 0.238 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.46 | 0.335 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.46 | 0.295 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.202 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.46 | 0.203 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.162 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.46 | 0.21 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.235 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.46 | 0.19 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.46 | 0.233 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.46 | 0.535 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.46 | 0.174 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.46 | 0.235 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.492 | 0.348 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.492 | 0.335 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.46 | 0.265 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.46 | 0.335 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.46 | 0.189 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.46 | 0.201 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.92 | 0.592 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | ND | ng/Kg | 1 | 4.92 | 0.493 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.46 | 0.198 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.46 | 0.535 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.492 | 0.348 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.492 | 0.335 | |

**Sample** **1406091615** **Sample Type** **Inorganics** **Analysis Method** **Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 1380 | mg/Kg | 1 | 9.8 | 2.2 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 5.9 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 1.24 | mg/Kg | 1 | 0.98 | 0.29 | |
| 7440-39-3 | Barium, Total | 9.3 | mg/Kg | 1 | 2.0 | 0.10 | |
| 7440-41-7 | Beryllium, Total | 0.3 | mg/Kg | 5 | 0.48 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | ND | mg/Kg | 1 | 0.49 | 0.05 | |
| 7440-70-2 | Calcium, Total | 116000 | mg/Kg | 50 | 4900 | 700 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 30 | 6 | |
| 7440-47-3 | Chromium, Total | 5.46 | mg/Kg | 5 | 0.48 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 2.55 | mg/Kg | 5 | 0.48 | 0.04 | |
| 7440-50-8 | Copper, Total | 4.11 | mg/Kg | 5 | 0.48 | 0.20 | |
| 57-12-5 | Cyanide, Total | 0.019 | mg/Kg | 1 | 0.097 | 0.015 | J |
| 7439-89-6 | Iron, Total | 3760 | mg/Kg | 5 | 49 | 37 | |
| 7439-92-1 | Lead, Total | 3.1 | mg/Kg | 1 | 4.9 | 0.03 | J |
| 7439-95-4 | Magnesium, Total | 31100 | mg/Kg | 1 | 98 | 2 | |
| 7439-96-5 | Manganese, Total | 169 | mg/Kg | 1 | 0.98 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.033 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 0.5 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 4.7 | mg/Kg | 1 | 3.9 | 0.10 | |
| NA | Nitrate+Nitrite as Nitrogen | ND | mg/Kg | 1 | 4.8 | 0.5 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-09-7 | Potassium, Total | 340 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.98 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.98 | 0.08 | |
| 7440-23-5 | Sodium, Total | 126 | mg/Kg | 1 | 98 | 7 | |
| 7440-24-6 | Strontium, Total | 108 | mg/Kg | 1 | 9.8 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.98 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 15.3 | mg/Kg | 1 | 4.9 | 0.10 | |
| 7440-61-1 | Uranium, Total | 1.79 | mg/Kg | 5 | 0.48 | 0.0010 | |
| 7440-62-2 | Vanadium, Total | 4.2 | mg/Kg | 1 | 4.9 | 0.2 | J |
| 7440-66-6 | Zinc, Total | 18.5 | mg/Kg | 1 | 2.0 | 0.2 | |

**Sample 1406091616 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.41 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-21 Depth (ft) 27.5 Depth (m) 8.38 Event Date 6/9/2014**

**Sample 1406091745 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.1 | 0.74 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.1 | 0.74 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.1 | 0.62 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.1 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.1 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.1 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.1 | 0.30 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.1 | 0.62 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.1 | 0.94 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.1 | 0.30 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.1 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.1 | 0.74 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.1 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.1 | 0.58 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.1 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.1 | 0.95 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.1 | 0.49 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.1 | 0.89 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.1 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.1 | 1.1 | |

**Sample 1406091746 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406091747 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

**Sample 1406091748 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1406091748S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 410 | 53 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 410 | 63 | |

**Sample 1406091749 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.196 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 1.11 | ng/Kg | 1 | 2.53 | 0.318 | J |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.53 | 0.244 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.209 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.257 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.168 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.271 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.244 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.53 | 0.243 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.295 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.53 | 0.47 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.53 | 0.187 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.53 | 0.307 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.506 | 0.342 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.506 | 0.4 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.219 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 1.11 | ng/Kg | 1 | 2.53 | 0.318 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.197 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.257 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.06 | 0.552 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 6.91 | ng/Kg | 1 | 5.06 | 0.604 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.53 | 0.228 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.53 | 0.47 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.506 | 0.342 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.506 | 0.4 | |

**Sample 1406091750 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 3510 | mg/Kg | 1 | 9.8 | 2.2 | |
| 7440-36-0 | Antimony, Total | 1.2 | mg/Kg | 1 | 5.9 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 3.75 | mg/Kg | 1 | 0.98 | 0.29 | |
| 7440-39-3 | Barium, Total | 40.3 | mg/Kg | 1 | 2.0 | 0.10 | |
| 7440-41-7 | Beryllium, Total | 0.36 | mg/Kg | 5 | 0.48 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.1 | mg/Kg | 1 | 0.49 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 94500 | mg/Kg | 50 | 4900 | 700 | |
| 16887-00-6 | Chloride | 62 | mg/Kg | 1 | 30 | 6 | |
| 7440-47-3 | Chromium, Total | 6.18 | mg/Kg | 5 | 0.48 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.36 | mg/Kg | 5 | 0.48 | 0.04 | |
| 7440-50-8 | Copper, Total | 4.87 | mg/Kg | 5 | 0.48 | 0.20 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.093 | 0.015 | |
| 7439-89-6 | Iron, Total | 11100 | mg/Kg | 5 | 49 | 37 | |
| 7439-92-1 | Lead, Total | 11.5 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 25000 | mg/Kg | 1 | 98 | 2 | |
| 7439-96-5 | Manganese, Total | 366 | mg/Kg | 1 | 0.98 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.031 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.1 | mg/Kg | 1 | 2.4 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 9.7 | mg/Kg | 1 | 3.9 | 0.10 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.8 | mg/Kg | 1 | 5.0 | 0.5 | J |
| 7440-09-7 | Potassium, Total | 770 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.98 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.98 | 0.08 | |
| 7440-23-5 | Sodium, Total | 195 | mg/Kg | 1 | 98 | 7 | |
| 7440-24-6 | Strontium, Total | 141 | mg/Kg | 1 | 9.8 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.98 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 56.9 | mg/Kg | 1 | 4.9 | 0.10 | |
| 7440-61-1 | Uranium, Total | 1.63 | mg/Kg | 5 | 0.48 | 0.0010 | |
| 7440-62-2 | Vanadium, Total | 15.8 | mg/Kg | 1 | 4.9 | 0.2 | |
| 7440-66-6 | Zinc, Total | 50.4 | mg/Kg | 1 | 2.0 | 0.2 | |

**Sample 1406091751 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.21 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-5 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 6/15/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406151125 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.4 | 0.79 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.4 | 1.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.4 | 0.79 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.4 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.4 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.4 | 0.66 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.4 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.4 | 2.5 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 110 | 30 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.4 | 3.1 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.4 | 0.32 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.4 | 0.66 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.4 | 1 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.4 | 0.32 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.4 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.4 | 0.44 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.4 | 0.79 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.4 | 1.7 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.4 | 0.62 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.4 | 0.25 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 11 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.4 | 1.1 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.4 | 0.52 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.4 | 0.95 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.4 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.4 | 1.1 | |

| Sample | 1406151126 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406151127 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406151128 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406151128S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406151129 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.159 | ng/Kg | 1 | 2.59 | 0.0396 | J |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.59 | 0.141 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.59 | 0.0536 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.0537 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.59 | 0.0626 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.044 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.0729 | ng/Kg | 1 | 2.59 | 0.0687 | J * |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.0614 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.59 | 0.0635 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.59 | 0.0803 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.59 | 0.12 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.59 | 0.0467 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.59 | 0.0811 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.518 | 0.286 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.518 | 0.273 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | 0.159 | ng/Kg | 1 | 2.59 | 0.0459 | J |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.59 | 0.141 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.59 | 0.0504 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.59 | 0.065 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.18 | 0.206 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.643 | ng/Kg | 1 | 5.18 | 0.0947 | J * EB QD |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.59 | 0.0948 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.59 | 0.12 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.518 | 0.286 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.518 | 0.273 | |

**Sample 1406151130 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5080 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.8 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 73.6 | mg/Kg | 1 | 2.1 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.45 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.32 | mg/Kg | 1 | 0.52 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 63500 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 7440-47-3 | Chromium, Total | 7.56 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.54 | mg/Kg | 5 | 0.5 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.36 | mg/Kg | 5 | 0.5 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.097 | 0.015 | |
| 7439-89-6 | Iron, Total | 13100 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 7.7 | mg/Kg | 1 | 5.2 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 17500 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 194 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.035 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 0.8 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 9.7 | mg/Kg | 1 | 4.2 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 0.7 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1070 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 110 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 136 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 52 | 2 | |
| 7440-32-6 | Titanium, Total | 94.3 | mg/Kg | 1 | 5.2 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.04 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 29.9 | mg/Kg | 1 | 5.2 | 0.3 | QD |
| 7440-66-6 | Zinc, Total | 38.6 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1406151131 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.99 | H UNIT | 1 | NA | NA | |

**Sample 1406151141 Sample Type VOA-D Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.63 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 2.9 |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.3 |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.63 |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.96 |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.3 |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.76 |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.59 |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.24 |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.98 |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.5 |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.91 |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 |

**Sample 1406151142 Sample Type Hydrazine-D Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406151143 Sample Type NDMA-D Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406151144 Sample Type SVOA-D Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406151144S Sample Type SVOA-D Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406151145 Sample Type Dxns/Frns-D Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.309 | ng/Kg | 1 | 2.54 | 0.0502 | J * |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 2.35 | ng/Kg | 1 | 2.54 | 0.0629 | J * EB |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.54 | 0.0709 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | 0.123 | ng/Kg | 1 | 2.54 | 0.0433 | J * |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.0658 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.0344 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.0657 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | 0.133 | ng/Kg | 1 | 2.54 | 0.0524 | J * |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.157 | ng/Kg | 1 | 2.54 | 0.0608 | J * |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.54 | 0.118 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.54 | 0.123 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.0376 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.54 | 0.123 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.508 | 0.233 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.508 | 0.198 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | 0.313 | ng/Kg | 1 | 2.54 | 0.0595 | J |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 2.31 | ng/Kg | 1 | 2.54 | 0.0629 | J EB |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.0409 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | 0.325 | ng/Kg | 1 | 2.54 | 0.064 | J |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | 0.534 | ng/Kg | 1 | 5.08 | 0.17 | J EB |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 23.7 | ng/Kg | 1 | 5.08 | 0.0992 | EB QD |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.0607 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.123 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.508 | 0.233 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.508 | 0.198 | |

**Sample** **1406151146** **Sample Type** **Inorganics-D** **Analysis Method** **Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5500 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 1 | mg/Kg | 1 | 6.1 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.4 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 69.7 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.44 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.44 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 71800 | mg/Kg | 20 | 2000 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 7440-47-3 | Chromium, Total | 6.98 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.6 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.57 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.1 | 0.02 | |
| 7439-89-6 | Iron, Total | 16500 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 11.7 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 15200 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 215 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.033 | 0.002 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7439-98-7 | Molybdenum, Total | 0.9 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 10.9 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 0.8 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1220 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 110 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 157 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 102 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.15 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 39.6 | mg/Kg | 1 | 5.1 | 0.2 | QD |
| 7440-66-6 | Zinc, Total | 38.5 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406151147 Sample Type pH-D Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.9 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-6 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 6/14/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406141700 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.1 | 0.63 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.1 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.1 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.1 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.1 | 0.63 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.1 | 0.96 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.1 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.1 | 0.75 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.1 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.1 | 0.59 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.1 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.1 | 0.97 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.1 | 0.5 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.1 | 0.9 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.1 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.1 | 1.1 | |

| Sample | 1406141701 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406141702 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406141703 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.33 | |

**Sample 1406141703S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406141704 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.57 | 0.0778 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.57 | 0.159 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | 0.182 | ng/Kg | 1 | 2.57 | 0.101 | J* |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.57 | 0.0875 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.57 | 0.0749 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.57 | 0.0712 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.57 | 0.0774 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.57 | 0.0974 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.57 | 0.0736 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.57 | 0.0804 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.57 | 0.134 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.57 | 0.0769 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.57 | 0.0809 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.513 | 0.257 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.513 | 0.32 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.57 | 0.0883 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.57 | 0.159 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.57 | 0.082 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.57 | 0.0753 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.13 | 0.214 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.8 | ng/Kg | 1 | 5.13 | 0.134 | J * EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.57 | 0.0795 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.57 | 0.134 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.513 | 0.257 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.513 | 0.32 | |

**Sample 1406141705 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 3620 | mg/Kg | 1 | 9.7 | 2.2 | |
| 7440-36-0 | Antimony, Total | 1 | mg/Kg | 1 | 5.8 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.13 | mg/Kg | 1 | 0.97 | 0.29 | |
| 7440-39-3 | Barium, Total | 40.2 | mg/Kg | 1 | 1.9 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.35 | mg/Kg | 5 | 0.49 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 19 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.3 | mg/Kg | 1 | 0.49 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 103000 | mg/Kg | 50 | 4900 | 700 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | 0.04 | mg/Kg | 1 | 0.39 | 0.03 | J |
| 18540-29-9 | Chromium, Hexavalent | 0.03 | mg/Kg | 1 | 0.39 | 0.03 | J |
| 7440-47-3 | Chromium, Total | 5.85 | mg/Kg | 5 | 0.49 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 2.97 | mg/Kg | 5 | 0.49 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.7 | mg/Kg | 5 | 0.49 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.098 | 0.015 | |
| 7439-89-6 | Iron, Total | 9380 | mg/Kg | 10 | 97 | 74 | |
| 7439-92-1 | Lead, Total | 8.6 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 20000 | mg/Kg | 1 | 97 | 2 | |
| 7439-96-5 | Manganese, Total | 234 | mg/Kg | 1 | 0.97 | 0.12 | |
| 7439-97-6 | Mercury, Total | 0.003 | mg/Kg | 1 | 0.031 | 0.002 | J |
| 7439-98-7 | Molybdenum, Total | 1.6 | mg/Kg | 1 | 2.4 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 6.1 | mg/Kg | 1 | 3.9 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | ND | mg/Kg | 1 | 5.1 | 0.6 | |
| 9/7/7440 | Potassium, Total | 1130 | mg/Kg | 1 | 190 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.97 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.97 | 0.08 | |
| 7440-23-5 | Sodium, Total | 108 | mg/Kg | 1 | 97 | 7 | J |
| 7440-24-6 | Strontium, Total | 141 | mg/Kg | 1 | 9.7 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.97 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 69.4 | mg/Kg | 1 | 4.9 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.14 | mg/Kg | 5 | 0.49 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 18 | mg/Kg | 1 | 4.9 | 0.2 | |
| 7440-66-6 | Zinc, Total | 36.3 | mg/Kg | 1 | 1.9 | 0.2 | |

**Sample 1406141706 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.13 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-7 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 6/11/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406111455 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 30 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 3 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.98 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.6 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.25 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.99 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.51 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.92 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 | |

| Sample | 1406111457 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406111459 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406111501 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406111501S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 46 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406111503 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.62 | 0.183 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 1.37 | ng/Kg | 1 | 2.62 | 0.272 | J * SP |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.62 | 0.205 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.62 | 0.199 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.62 | 0.275 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.62 | 0.159 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.62 | 0.283 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.62 | 0.212 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.62 | 0.257 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.62 | 0.231 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.62 | 0.397 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.62 | 0.177 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.62 | 0.239 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.524 | 0.287 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.524 | 0.339 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.62 | 0.194 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 1.21 | ng/Kg | 1 | 2.62 | 0.272 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.62 | 0.184 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.62 | 0.272 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.24 | 0.421 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 17.1 | ng/Kg | 1 | 5.24 | 0.447 | SP |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.62 | 0.232 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.62 | 0.397 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.524 | 0.287 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.524 | 0.339 | |

**Sample 1406111505 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5390 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 0.9 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 6.9 | mg/Kg | 1 | 1 | 0.3 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-39-3 | Barium, Total | 108 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.46 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.19 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 53600 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 7440-47-3 | Chromium, Total | 9.26 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.75 | mg/Kg | 5 | 0.5 | 0.04 | SP |
| 7440-50-8 | Copper, Total | 8.21 | mg/Kg | 5 | 0.5 | 0.2 | SP |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.098 | 0.015 | SP |
| 7439-89-6 | Iron, Total | 12500 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 8 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 15300 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 207 | mg/Kg | 1 | 1 | 0.2 | SP |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.035 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.5 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 8.6 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.5 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1310 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 110 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 175 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 111 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.76 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 42.2 | mg/Kg | 1 | 5.1 | 0.3 | |
| 7440-66-6 | Zinc, Total | 36.9 | mg/Kg | 1 | 2.1 | 0.2 | |

**Sample 1406111507 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.97 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-7 Depth (ft) 18 Depth (m) 5.49 Event Date 6/11/2014**

**Sample 1406111630 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.5 | 0.8 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.5 | 1.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.5 | 0.8 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.5 | 1.5 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.5 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.5 | 0.67 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.5 | 1.6 |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.5 | 2.6 |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 110 | 31 |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.5 | 3.1 |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.5 | 0.32 |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.5 | 0.67 |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.5 | 1.1 |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.5 | 0.32 |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.5 | 1.4 |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.5 | 0.44 |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.5 | 0.8 |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.5 | 1.7 |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.5 | 0.63 |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.5 | 0.26 |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 11 | 1.2 |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.5 | 1.1 |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.5 | 0.53 |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.5 | 0.97 |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.5 | 1.1 |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.5 | 1.2 |

**Sample 1406111631 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406111632 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.16 | |

**Sample 1406111633 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.2 | 0.36 | |

**Sample 1406111633S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 360 | 47 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 360 | 56 | |
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.2 | 0.36 | |

**Sample 1406111634 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.66 | 0.253 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.827 | ng/Kg | 1 | 2.66 | 0.29 | J |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.66 | 0.288 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.24 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.342 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.205 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.346 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.319 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.66 | 0.316 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.66 | 0.217 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.66 | 0.36 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.66 | 0.227 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.66 | 0.217 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.533 | 0.322 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.533 | 0.39 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.27 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 0.827 | ng/Kg | 1 | 2.66 | 0.29 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.242 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.334 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.33 | 0.519 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 8.88 | ng/Kg | 1 | 5.33 | 0.53 | |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.66 | 0.227 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.66 | 0.36 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.533 | 0.322 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.533 | 0.39 | |

**Sample 1406111635 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 7100 | mg/Kg | 1 | 11 | 3 | |
| 7440-36-0 | Antimony, Total | 1 | mg/Kg | 1 | 6.4 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 5.5 | mg/Kg | 1 | 1.1 | 0.4 | |
| 7440-39-3 | Barium, Total | 41.4 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.37 | mg/Kg | 5 | 0.55 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 5 | |
| 7440-43-9 | Cadmium, Total | 0.27 | mg/Kg | 1 | 0.53 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 72300 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 33 | 7 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.44 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.44 | 0.03 | |
| 7440-47-3 | Chromium, Total | 6.58 | mg/Kg | 5 | 0.55 | 0.06 | |
| 7440-48-4 | Cobalt, Total | 4.7 | mg/Kg | 5 | 0.55 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.53 | mg/Kg | 5 | 0.55 | 0.21 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.099 | 0.015 | |
| 7439-89-6 | Iron, Total | 12500 | mg/Kg | 10 | 110 | 80 | |
| 7439-92-1 | Lead, Total | 9.5 | mg/Kg | 1 | 5.3 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 11400 | mg/Kg | 1 | 110 | 2 | |
| 7439-96-5 | Manganese, Total | 200 | mg/Kg | 1 | 1.1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.036 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1 | mg/Kg | 1 | 2.7 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 10.3 | mg/Kg | 1 | 4.3 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 2 | mg/Kg | 1 | 5.6 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 3110 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1.1 | 0.7 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1.1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 150 | mg/Kg | 1 | 110 | 7 | |
| 7440-24-6 | Strontium, Total | 153 | mg/Kg | 1 | 11 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1.1 | 0.9 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 53 | 2 | |
| 7440-32-6 | Titanium, Total | 156 | mg/Kg | 1 | 5.3 | 0.1 | |
| 7440-61-1 | Uranium, Total | 2.26 | mg/Kg | 5 | 0.55 | 0.002 | |
| 7440-62-2 | Vanadium, Total | 16.6 | mg/Kg | 1 | 5.3 | 0.3 | |
| 7440-66-6 | Zinc, Total | 33.3 | mg/Kg | 1 | 2.1 | 0.3 | |

**Sample 1406111636 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.78 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-7 Depth (ft) 38 Depth (m) 11.58 Event Date 6/12/2014**

**Sample 1406120930 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.76 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 3 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.97 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.76 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.6 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.98 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.5 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.92 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 | |

**Sample 1406120931 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406120932 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

**Sample 1406120933 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406120933S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406120934 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.96 | 0.316 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.96 | 0.414 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.96 | 0.409 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.96 | 0.208 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.96 | 0.353 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.96 | 0.177 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.96 | 0.364 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.96 | 0.257 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.96 | 0.33 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.96 | 0.287 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.96 | 0.47 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.96 | 0.181 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.96 | 0.288 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.593 | 0.374 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.593 | 0.451 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.96 | 0.36 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.96 | 0.414 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.96 | 0.201 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.96 | 0.349 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.93 | 0.655 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.874 | ng/Kg | 1 | 5.93 | 0.573 | J |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.96 | 0.296 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.96 | 0.47 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.593 | 0.374 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.593 | 0.451 | |

**Sample 1406120935 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 3270 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 1.2 | mg/Kg | 1 | 6.2 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 3.6 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 67.3 | mg/Kg | 1 | 2.1 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.37 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 21 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.32 | mg/Kg | 1 | 0.52 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 96000 | mg/Kg | 20 | 2100 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | 0.03 | mg/Kg | 1 | 0.41 | 0.03 | J |
| 7440-47-3 | Chromium, Total | 6.24 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.05 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.47 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.1 | 0.02 | |
| 7439-89-6 | Iron, Total | 11100 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 7 | mg/Kg | 1 | 5.2 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 16600 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 198 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.034 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.4 | mg/Kg | 1 | 2.6 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 6.7 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.2 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 970 | mg/Kg | 1 | 210 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 140 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 153 | mg/Kg | 1 | 10 | 0.06 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 52 | 2 |
| 7440-32-6 | Titanium, Total | 111 | mg/Kg | 1 | 5.2 | 0.1 |
| 7440-61-1 | Uranium, Total | 1.38 | mg/Kg | 5 | 0.51 | 0.001 |
| 7440-62-2 | Vanadium, Total | 12.4 | mg/Kg | 1 | 5.2 | 0.3 |
| 7440-66-6 | Zinc, Total | 43.1 | mg/Kg | 1 | 2.1 | 0.2 |

**Sample 1406120936** **Sample Type pH** **Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.18 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-8 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 7/13/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406130800 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 30 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 3 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.98 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.31 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.6 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.25 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.99 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.51 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.92 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 | |

| Sample | 1406130801 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

| Sample | 1406130802 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1406130803 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406130803S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406130804 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.55 | 0.205 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.55 | 0.39 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.55 | 0.275 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.55 | 0.2 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.55 | 0.254 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.55 | 0.157 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.55 | 0.269 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.55 | 0.24 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.55 | 0.241 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.55 | 0.211 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.55 | 0.323 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.55 | 0.175 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.55 | 0.216 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.51 | 0.273 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.51 | 0.41 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.55 | 0.237 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.55 | 0.39 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.55 | 0.188 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.55 | 0.254 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.1 | 0.694 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.46 | ng/Kg | 1 | 5.1 | 0.68 | J * EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.55 | 0.222 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.55 | 0.323 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.51 | 0.273 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.51 | 0.41 | |

**Sample 1406130805 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5910 | mg/Kg | 1 | 10 | 2.2 | |
| 7440-36-0 | Antimony, Total | 1 | mg/Kg | 1 | 6 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 8.21 | mg/Kg | 1 | 1 | 0.29 | |
| 7440-39-3 | Barium, Total | 50.6 | mg/Kg | 1 | 2 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.44 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.35 | mg/Kg | 1 | 0.5 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 102000 | mg/Kg | 50 | 5000 | 700 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | 0.03 | mg/Kg | 1 | 0.4 | 0.03 | J |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 7440-47-3 | Chromium, Total | 8.79 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.34 | mg/Kg | 5 | 0.5 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.41 | mg/Kg | 5 | 0.5 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.099 | 0.015 | |
| 7439-89-6 | Iron, Total | 13000 | mg/Kg | 10 | 100 | 74 | |
| 7439-92-1 | Lead, Total | 9.6 | mg/Kg | 1 | 5 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 17400 | mg/Kg | 1 | 100 | 2 | QD |
| 7439-96-5 | Manganese, Total | 321 | mg/Kg | 1 | 1 | 0.12 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.032 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.1 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 11 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.4 | mg/Kg | 1 | 5.2 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1560 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 116 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 233 | mg/Kg | 1 | 10 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 50 | 2 | |
| 7440-32-6 | Titanium, Total | 79.8 | mg/Kg | 1 | 5 | 0.1 | QD |
| 7440-61-1 | Uranium, Total | 1.05 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 26.5 | mg/Kg | 1 | 5 | 0.2 | |
| 7440-66-6 | Zinc, Total | 36.6 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406130806 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.92 | H UNIT | 1 | NA | NA | |

**Sample 1406130810 Sample Type VOA-D Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.2 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.2 | 0.77 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.2 | 1.4 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.2 | 0.64 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.2 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.2 | 2.4 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 30 |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.2 | 3 |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.2 | 0.31 |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.2 | 0.64 |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.2 | 0.97 |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.2 | 0.31 |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.2 | 1.4 |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.2 | 0.42 |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.2 | 0.77 |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.2 | 1.6 |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.2 | 0.6 |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.2 | 0.24 |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.2 | 0.99 |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.2 | 0.51 |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.2 | 0.92 |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.2 | 1.1 |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.2 | 1.1 |

**Sample 1406130811 Sample Type Hydrazine-D Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406130812 Sample Type NDMA-D Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1406130813 Sample Type Perchlorate-D Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.34 | |

**Sample 1406130813S Sample Type SVOA-D Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 350 | 45 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 350 | 54 | |

**Sample 1406130814 Sample Type Dxns/Frns-D Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.47 | 0.22 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.47 | 0.285 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.47 | 0.262 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.237 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.47 | 0.303 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.192 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.47 | 0.314 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.252 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.47 | 0.284 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.47 | 0.226 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.47 | 0.331 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.47 | 0.212 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.47 | 0.25 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.494 | 0.314 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.494 | 0.333 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.47 | 0.24 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.47 | 0.285 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.47 | 0.22 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.47 | 0.3 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.94 | 0.35 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 1.24 | ng/Kg | 1 | 4.94 | 0.451 | J EB |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.47 | 0.227 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.47 | 0.331 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.494 | 0.314 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.494 | 0.333 | |

**Sample 1406130815 Sample Type Inorganics-D Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 6460 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 1.2 | mg/Kg | 1 | 6.1 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 6.9 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 64 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.49 | mg/Kg | 5 | 0.5 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.42 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 104000 | mg/Kg | 50 | 5100 | 700 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 32 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 7440-47-3 | Chromium, Total | 8.31 | mg/Kg | 5 | 0.5 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 5.35 | mg/Kg | 5 | 0.5 | 0.04 | |
| 7440-50-8 | Copper, Total | 7.88 | mg/Kg | 5 | 0.5 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.097 | 0.015 | |
| 7439-89-6 | Iron, Total | 14000 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 9.4 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 28400 | mg/Kg | 1 | 100 | 2 | QD |
| 7439-96-5 | Manganese, Total | 294 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.034 | 0.003 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7439-98-7 | Molybdenum, Total | 1.4 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 10.7 | mg/Kg | 1 | 4 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 1.4 | mg/Kg | 1 | 5.3 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1870 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 130 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 193 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 109 | mg/Kg | 1 | 5.1 | 0.1 | QD |
| 7440-61-1 | Uranium, Total | 1.12 | mg/Kg | 5 | 0.5 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 28.8 | mg/Kg | 1 | 5.1 | 0.2 | |
| 7440-66-6 | Zinc, Total | 42.4 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406130816 Sample Type pH-D Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.92 | H UNIT | 1 | NA | NA | |

**Borehole 200-SB-8 Depth (ft) 28 Depth (m) 8.53 Event Date 6/13/2014**

**Sample 1406130940 Sample Type VOA Analysis Method 8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.9 | 0.86 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.9 | 1.5 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.9 | 0.86 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.9 | 1.6 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.9 | 1.6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.9 | 0.72 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.9 | 1.7 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.9 | 2.7 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 120 | 33 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.9 | 3.4 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.9 | 0.35 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.9 | 0.72 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.9 | 1.1 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.9 | 0.35 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.9 | 1.5 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.9 | 0.48 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.9 | 0.86 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.9 | 1.8 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.9 | 0.67 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.9 | 0.28 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 12 | 1.3 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.9 | 1.2 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.9 | 0.57 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.9 | 1.1 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.9 | 1.2 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.9 | 1.2 | |

**Sample 1406130941 Sample Type Hydrazine Analysis Method 8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample 1406130942 Sample Type NDMA Analysis Method 607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

**Sample 1406130943 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.33 | |

**Sample 1406130943S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406130944 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.54 | 0.306 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.54 | 0.39 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.54 | 0.421 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.225 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.313 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.19 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.347 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.25 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.54 | 0.304 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.54 | 0.246 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.54 | 0.308 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.54 | 0.2 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.54 | 0.264 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.508 | 0.363 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.508 | 0.484 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.359 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.39 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.213 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.321 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.08 | 0.624 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.706 | ng/Kg | 1 | 5.08 | 0.55 | J * |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.54 | 0.253 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.54 | 0.308 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.508 | 0.363 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.508 | 0.484 | |

**Sample 1406130945 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 5030 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 1 | mg/Kg | 1 | 6.1 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.5 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 34.1 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.47 | mg/Kg | 5 | 0.51 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.36 | mg/Kg | 1 | 0.51 | 0.05 | J |
| 7440-70-2 | Calcium, Total | 80700 | mg/Kg | 20 | 2000 | 300 | |
| 16887-00-6 | Chloride | ND | mg/Kg | 1 | 31 | 6 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.41 | 0.03 | |
| 7440-47-3 | Chromium, Total | 8.5 | mg/Kg | 5 | 0.51 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 4.28 | mg/Kg | 5 | 0.51 | 0.04 | |
| 7440-50-8 | Copper, Total | 6.15 | mg/Kg | 5 | 0.51 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.098 | 0.015 | |
| 7439-89-6 | Iron, Total | 12500 | mg/Kg | 10 | 100 | 80 | |
| 7439-92-1 | Lead, Total | 8.1 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 12800 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 234 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.031 | 0.002 | |
| 7439-98-7 | Molybdenum, Total | 1.3 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 9.5 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | ND | mg/Kg | 1 | 5.1 | 0.6 | |
| 9/7/7440 | Potassium, Total | 1240 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 100 | mg/Kg | 1 | 100 | 7 | J |
| 7440-24-6 | Strontium, Total | 138 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 72.1 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.51 | mg/Kg | 5 | 0.51 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 14.5 | mg/Kg | 1 | 5.1 | 0.2 | |
| 7440-66-6 | Zinc, Total | 39.3 | mg/Kg | 1 | 2 | 0.2 | |

**Sample** **1406130946** **Sample Type** **pH** **Analysis Method** **pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.11 | H UNIT | 1 | NA | NA | |

**Borehole** **200-SB-8** **Depth (ft)** **43** **Depth (m)** **13.11** **Event Date** **6/13/2014**

**Sample** **1406131300** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 1 | 5.1 | 0.74 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 1 | 5.1 | 0.74 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 1 | 5.1 | 1.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 1 | 5.1 | 0.62 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 1 | 5.1 | 1.5 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 1 | 5.1 | 2.4 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 1 | 100 | 29 | |
| 67-64-1 | Acetone | ND | ug/Kg | 1 | 5.1 | 2.9 | |
| 71-43-2 | Benzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 1 | 5.1 | 0.62 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 1 | 5.1 | 0.94 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 1 | 5.1 | 0.3 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 1 | 5.1 | 1.3 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 1 | 5.1 | 0.41 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 1 | 5.1 | 0.74 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 1 | 5.1 | 1.6 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 1 | 5.1 | 0.58 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 1 | 5.1 | 0.24 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 1 | 10 | 1.2 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 1 | 5.1 | 0.95 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 1 | 5.1 | 0.49 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 1 | 5.1 | 0.89 | |
| 108-88-3 | Toluene | ND | ug/Kg | 1 | 5.1 | 1.1 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 1 | 5.1 | 1.1 | |

**Sample** **1406131301** **Sample Type** **Hydrazine** **Analysis Method** **8315**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-2 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-4 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-7 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | |

**Sample** **1406131302** **Sample Type** **NDMA** **Analysis Method** **607**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/L | 1 | 0.32 | 0.16 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/L | 1 | 0.32 | 0.16 | |

**Sample 1406131303 Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.0 | 0.33 | |

**Sample 1406131303S Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 330 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 330 | 52 | |

**Sample 1406131304 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.44 | 0.0912 | |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | ND | ng/Kg | 1 | 2.44 | 0.179 | |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.44 | 0.124 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0533 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.44 | 0.0728 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0416 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.44 | 0.077 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0631 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.44 | 0.0724 | |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.44 | 0.0876 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.44 | 0.115 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.44 | 0.0464 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.44 | 0.0821 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.487 | 0.228 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.487 | 0.346 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | ND | ng/Kg | 1 | 2.44 | 0.107 | |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | ND | ng/Kg | 1 | 2.44 | 0.179 | |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.44 | 0.0498 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.44 | 0.0741 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 4.87 | 0.186 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.744 | ng/Kg | 1 | 4.87 | 0.103 | J * |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.44 | 0.0981 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.44 | 0.115 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.487 | 0.228 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.487 | 0.346 | |

**Sample 1406131305 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 2730 | mg/Kg | 1 | 9.8 | 2.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-36-0 | Antimony, Total | 1 | mg/Kg | 1 | 5.9 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 4.5 | mg/Kg | 1 | 0.98 | 0.29 | |
| 7440-39-3 | Barium, Total | 49.5 | mg/Kg | 1 | 2 | 0.1 | |
| 7440-41-7 | Beryllium, Total | 0.32 | mg/Kg | 5 | 0.48 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.65 | mg/Kg | 1 | 0.49 | 0.05 | |
| 7440-70-2 | Calcium, Total | 148000 | mg/Kg | 50 | 4900 | 700 | |
| 16887-00-6 | Chloride | 7 | mg/Kg | 1 | 30 | 6 | J |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 18540-29-9 | Chromium, Hexavalent | ND | mg/Kg | 1 | 0.4 | 0.03 | |
| 7440-47-3 | Chromium, Total | 7.17 | mg/Kg | 5 | 0.48 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 2.41 | mg/Kg | 5 | 0.48 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.06 | mg/Kg | 5 | 0.48 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.094 | 0.015 | |
| 7439-89-6 | Iron, Total | 9700 | mg/Kg | 10 | 98 | 74 | |
| 7439-92-1 | Lead, Total | 10.9 | mg/Kg | 1 | 4.9 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 20500 | mg/Kg | 1 | 98 | 2 | |
| 7439-96-5 | Manganese, Total | 289 | mg/Kg | 1 | 0.98 | 0.12 | |
| 7439-97-6 | Mercury, Total | 0.004 | mg/Kg | 1 | 0.033 | 0.003 | J |
| 7439-98-7 | Molybdenum, Total | 3.2 | mg/Kg | 1 | 2.4 | 0.07 | |
| 7440-02-0 | Nickel, Total | 6.8 | mg/Kg | 1 | 3.9 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 2.2 | mg/Kg | 1 | 5 | 0.5 | J |
| 9/7/7440 | Potassium, Total | 880 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 0.98 | 0.57 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 0.98 | 0.08 | |
| 7440-23-5 | Sodium, Total | 132 | mg/Kg | 1 | 98 | 7 | J |
| 7440-24-6 | Strontium, Total | 220 | mg/Kg | 1 | 9.8 | 0.05 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 0.98 | 0.75 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 49 | 2 | |
| 7440-32-6 | Titanium, Total | 52.3 | mg/Kg | 1 | 4.9 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.43 | mg/Kg | 5 | 0.48 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 10.7 | mg/Kg | 1 | 4.9 | 0.2 | |
| 7440-66-6 | Zinc, Total | 42.7 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406131306 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 9.12 | H UNIT | 1 | NA | NA | |

| Borehole | 200-SB-9 | Depth (ft) | 8 | Depth (m) | 2.44 | Event Date | 6/30/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1406301545 | Sample Type | VOA | Analysis Method | 8260 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane (TCA) | ND | ug/Kg | 0.93 | 4.7 | 0.68 | |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/Kg | 0.93 | 4.7 | 1.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/Kg | 0.93 | 4.7 | 0.68 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/Kg | 0.93 | 4.7 | 1.2 | |
| 354-23-4 | 1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a) | ND | ug/Kg | 0.93 | 4.7 | 1.3 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/Kg | 0.93 | 4.7 | 0.57 | |
| 306-83-2 | 2,2-Dichloro-1,1,1-trifluoroethane (CFC 123) | ND | ug/Kg | 0.93 | 4.7 | 1.3 | |
| 78-93-3 | 2-Butanone (MEK) | ND | ug/Kg | 0.93 | 4.7 | 2.2 | |
| 67-63-0 | 2-Propanol | ND | ug/Kg | 0.93 | 93 | 26 | |
| 67-64-1 | Acetone | ND | ug/Kg | 0.93 | 4.7 | 2.7 | |
| 71-43-2 | Benzene | ND | ug/Kg | 0.93 | 4.7 | 0.27 | |
| 75-27-4 | Bromodichloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.57 | |
| 75-25-2 | Bromoform | ND | ug/Kg | 0.93 | 4.7 | 0.87 | |
| 108-90-7 | Chlorobenzene | ND | ug/Kg | 0.93 | 4.7 | 0.27 | |
| 67-66-3 | Chloroform | ND | ug/Kg | 0.93 | 4.7 | 1.2 | |
| 74-87-3 | Chloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.38 | |
| 124-48-1 | Dibromochloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.68 | |
| 75-43-4 | Dichlorofluoromethane (CFC 21) | ND | ug/Kg | 0.93 | 4.7 | 1.4 | |
| 75-09-2 | Dichloromethane | ND | ug/Kg | 0.93 | 4.7 | 0.54 | |
| 100-41-4 | Ethylbenzene | ND | ug/Kg | 0.93 | 4.7 | 0.22 | |
| 179601-23- | m,p-Xylenes | ND | ug/Kg | 0.93 | 9.3 | 1.1 | |
| 1634-04-4 | Methyl tert-Butyl Ether | ND | ug/Kg | 0.93 | 4.7 | 0.88 | |
| 95-47-6 | o-Xylene | ND | ug/Kg | 0.93 | 4.7 | 0.45 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/Kg | 0.93 | 4.7 | 0.82 | |
| 108-88-3 | Toluene | ND | ug/Kg | 0.93 | 4.7 | 0.93 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/Kg | 0.93 | 4.7 | 0.94 | |

| Sample | 1406301546 | Sample Type | Hydrazine | Analysis Method | 8315 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 302-01-5 | Hydrazine | ND | mg/kg | 1 | 0.05 | 0.0094 | |
| 60-33-7 | Methylhydrazine | ND | mg/kg | 1 | 0.05 | 0.017 | |
| 57-14-10 | N,N-Dimethylhydrazine | ND | mg/kg | 1 | 0.5 | 0.014 | A |

| Sample | 1406301547 | Sample Type | NDMA | Analysis Method | 607 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 314-40-9 | Bromacil | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 4164-28-7 | N-Nitrodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |
| 62-75-9 | N-Nitrosodimethylamine | ND | ug/Kg | 1 | 0.33 | 0.17 | |

**Sample 1406301548 Sample Type SVOA Analysis Method 8270**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 117-81-7 | Bis(2-ethylhexyl) Phthalate | ND | ug/Kg | 1 | 340 | 44 | |
| 84-74-2 | Di-n-butyl Phthalate | ND | ug/Kg | 1 | 340 | 53 | |

**Sample 1406301548P Sample Type Perchlorate Analysis Method 6850**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 14797-73-0 | Perchlorate | ND | ug/Kg | 1 | 2.1 | 0.33 | |

**Sample 1406301549 Sample Type Dxns/Frns Analysis Method 8290**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 67562-39-4 | 1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF) | 0.0413 | ng/Kg | 1 | 2.5 | 0.0116 | J |
| 35822-46-9 | 1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD) | 0.0653 | ng/Kg | 1 | 2.5 | 0.0215 | J RB |
| 55673-89-7 | 1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF) | ND | ng/Kg | 1 | 2.5 | 0.0157 | |
| 70648-26-9 | 1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.5 | 0.0114 | |
| 39227-28-6 | 1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.5 | 0.0208 | |
| 57117-44-9 | 1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.5 | 0.00942 | |
| 57653-85-7 | 1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD) | ND | ng/Kg | 1 | 2.5 | 0.0219 | |
| 72918-21-9 | 1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.5 | 0.0128 | |
| 19408-74-3 | 1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD) | 0.0476 | ng/Kg | 1 | 2.5 | 0.0206 | J * |
| 57117-41-6 | 1,2,3,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.5 | 0.0573 | |
| 40321-76-4 | 1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD) | ND | ng/Kg | 1 | 2.5 | 0.044 | |
| 60851-34-5 | 2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF) | ND | ng/Kg | 1 | 2.5 | 0.011 | |
| 57117-31-4 | 2,3,4,7,8-Pentachlorodibenzofuran (PeCDF) | ND | ng/Kg | 1 | 2.5 | 0.0555 | |
| 51207-31-9 | 2,3,7,8-Tetrachlorodibenzofuran (TCDF) | ND | ng/Kg | 1 | 0.501 | 0.0555 | |
| 1746-01-6 | 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) | ND | ng/Kg | 1 | 0.501 | 0.122 | |
| 38998-75-3 | Heptachlorodibenzofurans (HpCDF), Total | 0.0413 | ng/Kg | 1 | 2.5 | 0.0135 | J |
| 37871-00-4 | Heptachlorodibenzo-p-dioxins (HpCDD), Total | 0.0653 | ng/Kg | 1 | 2.5 | 0.0215 | J |
| 55684-94-1 | Hexachlorodibenzofurans (HxCDF), Total | ND | ng/Kg | 1 | 2.5 | 0.011 | |
| 34465-46-8 | Hexachlorodibenzo-p-dioxins (HxCDD), Total | ND | ng/Kg | 1 | 2.5 | 0.0211 | |
| 39001-02-0 | Octachlorodibenzofuran (OCDF) | ND | ng/Kg | 1 | 5.01 | 0.0497 | |
| 3268-87-9 | Octachlorodibenzo-p-dioxin (OCDD) | 0.475 | ng/Kg | 1 | 5.01 | 0.0367 | J RB EB A |
| 30402-15-4 | Pentachlorodibenzofurans (PeCDF), Total | ND | ng/Kg | 1 | 2.5 | 0.055 | |
| 36088-22-9 | Pentachlorodibenzo-p-dioxin (PeCDD), Total | ND | ng/Kg | 1 | 2.5 | 0.044 | |
| 30402-14-3 | Tetrachlorodibenzofurans (TCDF), Total | ND | ng/Kg | 1 | 0.501 | 0.0555 | |
| 41903-57-5 | Tetrachlorodibenzo-p-dioxins (TCDD), Total | ND | ng/Kg | 1 | 0.501 | 0.122 | |

**Sample 1406301550 Sample Type Inorganics Analysis Method Inorganics**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 7429-90-5 | Aluminum, Total | 4650 | mg/Kg | 1 | 10 | 3 | |
| 7440-36-0 | Antimony, Total | 1.1 | mg/Kg | 1 | 6.1 | 0.3 | J RB |
| 7440-38-2 | Arsenic, Total | 13.7 | mg/Kg | 1 | 1 | 0.3 | |
| 7440-39-3 | Barium, Total | 45.9 | mg/Kg | 1 | 2 | 0.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 7440-41-7 | Beryllium, Total | 0.4 | mg/Kg | 5 | 0.49 | 0.02 | J |
| 7440-42-8 | Boron, Total | ND | mg/Kg | 1 | 20 | 4 | |
| 7440-43-9 | Cadmium, Total | 0.95 | mg/Kg | 1 | 0.51 | 0.05 | |
| 7440-70-2 | Calcium, Total | 86500 | mg/Kg | 20 | 2000 | 300 | |
| 16887-00-6 | Chloride | 16 | mg/Kg | 1 | 31 | 6 | J |
| 7440-47-3 | Chromium, Total | 7.22 | mg/Kg | 5 | 0.49 | 0.05 | |
| 7440-48-4 | Cobalt, Total | 3.63 | mg/Kg | 5 | 0.49 | 0.04 | |
| 7440-50-8 | Copper, Total | 5.76 | mg/Kg | 5 | 0.49 | 0.2 | |
| 57-12-5 | Cyanide, Total | ND | mg/Kg | 1 | 0.1 | 0.02 | |
| 7439-89-6 | Iron, Total | 19300 | mg/Kg | 20 | 200 | 150 | |
| 7439-92-1 | Lead, Total | 13 | mg/Kg | 1 | 5.1 | 0.03 | |
| 7439-95-4 | Magnesium, Total | 28200 | mg/Kg | 1 | 100 | 2 | |
| 7439-96-5 | Manganese, Total | 243 | mg/Kg | 1 | 1 | 0.2 | |
| 7439-97-6 | Mercury, Total | ND | mg/Kg | 1 | 0.033 | 0.003 | |
| 7439-98-7 | Molybdenum, Total | 1.8 | mg/Kg | 1 | 2.5 | 0.07 | J |
| 7440-02-0 | Nickel, Total | 10 | mg/Kg | 1 | 4.1 | 0.1 | |
| NA | Nitrate+Nitrite as Nitrogen | 4.7 | mg/Kg | 1 | 5.1 | 0.6 | J |
| 9/7/7440 | Potassium, Total | 1100 | mg/Kg | 1 | 200 | 20 | |
| 7782-49-2 | Selenium, Total | ND | mg/Kg | 1 | 1 | 0.6 | |
| 7440-22-4 | Silver, Total | ND | mg/Kg | 1 | 1 | 0.08 | |
| 7440-23-5 | Sodium, Total | 200 | mg/Kg | 1 | 100 | 7 | |
| 7440-24-6 | Strontium, Total | 161 | mg/Kg | 1 | 10 | 0.06 | |
| 7440-28-0 | Thallium, Total | ND | mg/Kg | 1 | 1 | 0.8 | |
| 7440-31-5 | Tin, Total | ND | mg/Kg | 1 | 51 | 2 | |
| 7440-32-6 | Titanium, Total | 87.6 | mg/Kg | 1 | 5.1 | 0.1 | |
| 7440-61-1 | Uranium, Total | 1.28 | mg/Kg | 5 | 0.49 | 0.001 | |
| 7440-62-2 | Vanadium, Total | 19 | mg/Kg | 1 | 5.1 | 0.2 | |
| 7440-66-6 | Zinc, Total | 68 | mg/Kg | 1 | 2 | 0.2 | |

**Sample 1406301551 Sample Type pH Analysis Method pH**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 12408-02-5 | pH | 8.83 | H UNIT | 1 | NA | NA | |

# Appendix F
# Soil Geotechnical Analytical Results

# Laboratory Report for

# Navarro Research and Engineering, Inc.

## WSTF 200 Area Phase II Project

**August 20, 2014**

*Daniel B. Stephens & Associates, Inc.*

4400 Alameda Blvd. NE, Suite C • Albuquerque, New Mexico 87113

August 20, 2014

Geoffrey Giles
Navarro Research and Engineering, Inc.
White Sands Test Facility
PO Box 20
Las Cruces, NM 88004
(575) 524-5352

Re: DBS&A Laboratory Report for the Navarro Research and Engineering, Inc., WSTF 200 Area Phase II Project

Dear Mr. Giles:

Enclosed is the report for the Navarro Research and Engineering, Inc., WSTF 200 Area Phase II project samples. Please review this report and provide any comments as samples will be held for a maximum of 30 days. After 30 days samples will be returned or disposed of in an appropriate manner.

All testing results were evaluated subjectively for consistency and reasonableness, and the results appear to be reasonably representative of the material tested. However, DBS&A does not assume any responsibility for interpretations or analyses based on the data enclosed, nor can we guarantee that these data are fully representative of the undisturbed materials at the field site. We recommend that careful evaluation of these laboratory results be made for your particular application.

The testing utilized to generate the enclosed report employs methods that are standard for the industry. The results do not constitute a professional opinion by DBS&A, nor can the results affect any professional or expert opinions rendered with respect thereto by DBS&A. You have acknowledged that all the testing undertaken by us, and the report provided, constitutes mere test results using standardized methods, and cannot be used to disqualify DBS&A from rendering any professional or expert opinion, having waived any claim of conflict of interest by DBS&A.

We are pleased to provide this service to Navarro and look forward to future laboratory testing on other projects. If you have any questions about the enclosed data, please do not hesitate to call.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.
SOIL TESTING & RESEARCH LABORATORY

Joleen Hines

Joleen Hines
Laboratory Supervising Manager

Enclosure

***Daniel B. Stephens & Associates, Inc.***
***Soil Testing & Research Laboratory***
4400 Alameda Blvd. NE, Suite C
Albuquerque, NM 87113
505-889-7752
FAX 505-889-0258

# Summaries

# Summary of Tests Performed

| Laboratory Sample Number | Initial Soil Properties[1] | | | Saturated Hydraulic Conductivity[2] | | | Moisture Characteristics[3] | | | | | | | | Particle Size[4] | | | Specific Gravity[5] | | Air Perm-eability | Atterberg Limits | Proctor Compaction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G | VM | VD | CH | FH | FW | HC | PP | FP | DPP | RH | EP | WHC | $K_{unsat}$ | DS | WS | H | F | C | | | |
| 200-SB-05 (8-10') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-05 (8-10') MR | X | X | | X | | | X | | | X | X | | | X | | X | X | | | | | |
| 200-SB-06 (8-10') Bag/MR | X | X | | X | | | X | | | X | X | | | X | | X | X | | | | X | |
| 200-SB-07 (47-49') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-07 (47-49') MR | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |
| 200-SB-08 (28-30') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-08 (28-30') MR | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |
| 200-SB-20 (28-30') Bag/MR | X | X | | X | | | X | | | X | X | | | X | | X | X | | | | X | |
| 200-SB-21 (32.5-33') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-21 (32.5-33') MR | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |

[1] G = Gravimetric Moisture Content, VM = Volume Measurement Method, VD = Volume Displacement Method
[2] CH = Constant Head Rigid Wall, FH = Falling Head Rigid Wall, FW = Falling Head Rising Tail Flexible Wall
[3] HC = Hanging Column, PP = Pressure Plate, FP = Filter Paper, DPP = Dew Point Potentiometer, RH = Relative Humidity Box, EP = Effective Porosity, WHC = Water Holding Capacity, Kunsat = Calculated Unsaturated Hydraulic Conductivity
[4] DS = Dry Sieve, WS = Wet Sieve, H = Hydrometer
[5] F = Fine (<4.75mm), C = Coarse (>4.75mm)

# Notes

**Sample Receipt:**
Six samples arrived on June 27, 2014. The samples were received in either a 2.5" x 6" stainless steel sleeve sealed with end caps and tape and/or as loose material in one or two 1/4 to 3/4 full 1-gallon bag(s). The samples were packaged in three 5-gallon buckets filled with packing material and sealed with custody seals. All samples arrived in good order.

**Sample Preparation and Testing Notes:**
The material inside each of the four sleeve samples (200-SB-05 (8-10'), 200-SB-07 (47-49'), 200-SB-08 (28-30'), and 200-SB-21 (32.5-33')) was loose, with headspace ranging between 1/4" to 2.5". Rather than cutting each sleeve in order to remove the headspace; sub-samples were prepared by gently remolding each sample into a testing ring approximately 3" in length.

Representative sub-samples were obtained from each of the two samples (200-SB-06 (8-10') and 200-SB-20 (28-30')) received in bags. Each sub-sample was then remolded into testing rings to target a dry bulk density of 2.01 g/cm$^3$ at moisture content below 8%. Due to the coarse nature of sample 200-SB-06 (8-10'), material larger than 3/8" was first removed from the material prior to remolding. The target remold parameters were adjusted for the removal of the material larger than 3/8". Oversize correction calculations are presented for this sample, since the fraction removed was greater than 5% of the bulk sample mass. The target density of 2.01 g/cm$^3$ was not achievable for sample 200-SB-20 (28-30'); a density of 1.76 g/cm$^3$ achieved for this sample.

Each of the above sub-samples were subjected to initial properties, saturated hydraulic conductivity, and the hanging column and pressure chamber portions of the moisture retention testing. Post moisture retention testing each sub-sample was also subjected to particle size analysis.

Remaining material was used to prepare separate sub-samples for the dewpoint potentiometer and relative humidity chamber portions of the moisture retention testing.

The material received in bags were each subjected to particle size analysis and Atterberg limits testing. The results of the Atterberg limits testing were also combined with the particle size analysis results of the sleeve samples in order to obtain USCS classifications.

Each sample ID was annotated with either 'Bag' indicating the material was obtained from a bag sample, or 'MR' indicating the material was obtained from a sleeve sample and was used for the moisture retention properties testing, or 'Bag/MR' indicating the material was obtained from a bag sample and was used for the moisture retention properties testing.

Volume changes (settling) occurred for all samples except 200-SB-20 (28-30') after saturated hydraulic conductivity testing and throughout the hanging column and pressure chamber portions of the moisture retention testing. The reported volumetric moisture contents are adjusted for volume changes, when applicable. Due to irregularities formed on the sample surfaces, volume measurements obtained after the initial reading should be considered estimates.

## Notes (continued)

Total porosity calculations, and the particle diameter calculations in the hydrometer portion of the particle size analysis testing, are based on the use of an assumed specific gravity value of 2.70.

One sample was calculated to be greater than 105% saturated at the saturated stage of testing, and five samples were calculated to be less than 95% saturated at the saturated stage. Potential causes for high or low saturation values can include: using an assumed specific gravity value to calculate the total porosity, underestimating or overestimating the saturated sample volume. Other potential causes for under saturation can include: the loss of some water prior to measuring the saturated sample mass, and/or the loss of some sample mass during the saturated hydraulic conductivity test.

Several of the samples lost some amount of water after saturation, prior to initiating moisture retention testing. This is presumably due to water 'falling out' of the larger sample pores (macro pores). In order to represent the soil-water characteristic curve, including the fully saturated state, theta S (the saturated moisture content) was set equal to the calculated total porosity of each sample at the saturated state, prior to generating the predicted van Genuchten parameters using the RETC program. Users of this data are encouraged to independently evaluate the predicted soil-water characteristic curves.

## Summary of Sample Preparation/Volume Changes

| Sample Number | Target Remold Parameters[1] | | Actual Remold Data | | | Volume Change Post Saturation[2] | | | Volume Change Post Drying Curve[3] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Moisture Content (%, g/g) | Dry Bulk Density ($g/cm^3$) | Moisture Content (%, g/g) | Dry Bulk Density ($g/cm^3$) | % of Target Density (%) | Dry Bulk Density ($g/cm^3$) | % Volume Change (%) | % of Initial Density (%) | Dry Bulk Density ($g/cm^3$) | % Volume Change (%) | % of Initial Density (%) |
| 200-SB-05 (8-10') MR | As Received Conditions | | 3.6 | 1.67 | NA | 1.94 | -13.6% | 116% | 2.07 | -19.3% | 124% |
| 200-SB-06 (8-10') Bag/MR | 8.0 | 1.72 | 8.3 | 1.72 | 100% | 1.78 | -3.1% | 103% | 1.78 | -3.1% | 103% |
| 200-SB-07 (47-49') MR | As Received Conditions | | 6.6 | 1.57 | NA | 1.61 | -2.2% | 102% | 1.63 | -3.6% | 104% |
| 200-SB-08 (28-30') MR | As Received Conditions | | 3.4 | 1.64 | NA | 1.92 | -14.3% | 117% | 1.97 | -16.6% | 120% |
| 200-SB-20 (28-30') Bag/MR | 7.0 | 2.01 | 7.0 | 1.76 | 87% | 1.76 | --- | 100% | 1.76 | --- | 100% |
| 200-SB-21 (32.5-33') MR | As Received Conditions | | 1.2 | 1.72 | NA | 1.84 | -6.9% | 107% | 1.88 | -8.9% | 110% |

[1]Target Remold Parameters: See 'Notes' Page.

[2]Volume Change Post Saturation: Volume change measurements were obtained after saturated hydraulic conductivity testing.

[3]Volume Change Post Drying Curve: Volume change measurements were obtained throughout hanging column and pressure plate testing. The 'Volume Change Post Drying Curve' values represent the final sample dimensions after the last pressure plate point.

Notes:

"+" indicates sample swelling, "-" indicates sample settling, and "---" indicates no volume change occurred.

## Summary of Initial Moisture Content, Dry Bulk Density Wet Bulk Density and Calculated Porosity

| Sample Number | Moisture Content: As Received Gravimetric (%, g/g) | Moisture Content: As Received Volumetric (%, $cm^3/cm^3$) | Moisture Content: Remolded Gravimetric (%, g/g) | Moisture Content: Remolded Volumetric (%, $cm^3/cm^3$) | Dry Bulk Density ($g/cm^3$) | Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) |
|---|---|---|---|---|---|---|---|
| 200-SB-05 (8-10') MR | 3.6 | NA | 3.6 | 6.0 | 1.67 | 1.73 | 38.0 |
| 200-SB-06 (8-10') Bag/MR | 2.4 | NA | 8.3 | 14.3 | 1.72 | 1.87 | 36.2 |
| 200-SB-07 (47-49') MR | 6.6 | NA | 6.6 | 10.4 | 1.57 | 1.68 | 41.8 |
| 200-SB-08 (28-30') MR | 3.4 | NA | 3.4 | 5.6 | 1.64 | 1.70 | 39.2 |
| 200-SB-20 (28-30') Bag/MR | 7.9 | NA | 7.0 | 12.2 | 1.76 | 1.88 | 34.9 |
| 200-SB-21 (32.5-33') MR | 1.2 | NA | 1.2 | 2.0 | 1.72 | 1.74 | 36.4 |

NA = Not analyzed

--- = This sample was not remolded

## Summary of Saturated Hydraulic Conductivity Tests

| Sample Number | $K_{sat}$ (cm/sec) | Oversize Corrected $K_{sat}$ (cm/sec) | Method of Analysis | |
|---|---|---|---|---|
| | | | Constant Head | Falling Head |
| 200-SB-05 (8-10') MR | 1.2E-02 | NA | X | |
| 200-SB-06 (8-10') Bag/MR | 5.2E-02 | 3.0E-02 | X | |
| 200-SB-07 (47-49') MR | 5.5E-03 | NA | X | |
| 200-SB-08 (28-30') MR | 9.2E-03 | NA | X | |
| 200-SB-20 (28-30') Bag/MR | 4.9E-02 | NA | X | |
| 200-SB-21 (32.5-33') MR | 1.3E-03 | NA | X | |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

## Summary of Moisture Characteristics of the Initial Drainage Curve

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-05 (8-10') MR | 0 | 26.0 ‡‡ |
| | 5 | 24.7 ‡‡ |
| | 12 | 23.1 ‡‡ |
| | 45 | 16.4 ‡‡ |
| | 171 | 11.3 ‡‡ |
| | 4385 | 3.8 ‡‡ |
| | 24271 | 2.3 ‡‡ |
| | 104428 | 1.5 ‡‡ |
| | 851293 | 0.8 ‡‡ |
| 200-SB-06 (8-10') Bag/MR | 0 | 23.7 ‡‡ |
| | 6 | 20.8 ‡‡ |
| | 8 | 20.1 ‡‡ |
| | 45 | 15.4 ‡‡ |
| | 190 | 13.9 ‡‡ |
| | 16725 | 2.7 ‡‡ |
| | 110342 | 1.4 ‡‡ |
| | 495521 | 1.0 ‡‡ |
| | 851293 | 0.6 ‡‡ |
| 200-SB-07 (47-49') MR | 0 | 32.1 ‡‡ |
| | 5 | 31.6 ‡‡ |
| | 15 | 21.9 ‡‡ |
| | 65 | 15.9 ‡‡ |
| | 337 | 12.3 ‡‡ |
| | 14175 | 4.1 ‡‡ |
| | 54661 | 2.9 ‡‡ |
| | 315934 | 1.9 ‡‡ |
| | 851293 | 1.1 ‡‡ |

‡‡ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Moisture Characteristics of the Initial Drainage Curve (Continued)

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-08 (28-30') MR | 0 | 30.5 ‡‡ |
| | 5 | 29.2 ‡‡ |
| | 14 | 28.3 ‡‡ |
| | 63 | 19.8 ‡‡ |
| | 337 | 10.6 ‡‡ |
| | 7547 | 4.1 ‡‡ |
| | 57721 | 2.3 ‡‡ |
| | 371921 | 1.1 ‡‡ |
| | 851293 | 0.9 ‡‡ |
| 200-SB-20 (28-30') Bag/MR | 0 | 21.0 |
| | 7 | 19.2 |
| | 11 | 16.4 |
| | 45 | 8.7 |
| | 190 | 5.8 |
| | 4181 | 2.4 |
| | 38548 | 1.5 |
| | 181116 | 1.0 |
| | 851293 | 0.6 |
| 200-SB-21 (32.5-33') MR | 0 | 25.1 ‡‡ |
| | 4 | 22.1 ‡‡ |
| | 22 | 13.6 ‡‡ |
| | 70 | 8.0 ‡‡ |
| | 337 | 5.4 ‡‡ |
| | 8464 | 1.8 ‡‡ |
| | 50174 | 0.9 ‡‡ |
| | 222928 | 0.6 ‡‡ |
| | 851293 | 0.4 ‡‡ |

‡‡ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Calculated Unsaturated Hydraulic Properties

| Sample Number | $\alpha$ ($cm^{-1}$) | N (dimensionless) | $\theta_r$ (% vol) | $\theta_s$ (% vol) | Oversize Corrected $\theta_r$ (% vol) | Oversize Corrected $\theta_s$ (% vol) |
|---|---|---|---|---|---|---|
| 200-SB-05 (8-10') MR | 0.1176 | 1.3082 | 0.00 | 28.17 | NA | NA |
| 200-SB-06 (8-10') Bag/MR | 1.2646 | 1.2116 | 0.00 | 34.11 | 0.00 | 23.20 |
| 200-SB-07 (47-49') MR | 0.5150 | 1.2561 | 0.00 | 40.53 | NA | NA |
| 200-SB-08 (28-30') MR | 0.0269 | 1.4776 | 1.16 | 28.97 | NA | NA |
| 200-SB-20 (28-30') Bag/MR | 0.5383 | 1.4362 | 0.88 | 34.88 | NA | NA |
| 200-SB-21 (32.5-33') MR | 0.5654 | 1.3480 | 0.00 | 31.74 | NA | NA |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

## Summary of Particle Size Characteristics

| Sample Number | $d_{10}$ (mm) | $d_{50}$ (mm) | $d_{60}$ (mm) | $C_u$ | $C_c$ | Method | ASTM Classification | USDA Classification |
|---|---|---|---|---|---|---|---|---|
| 200-SB-05 (8-10') Bag | 0.099 | 4.5 | 7.3 | 74 | 1.7 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-05 (8-10') MR | 0.075 | 3.2 | 5.4 | 72 | 2.0 | WS/H | Well-graded sand with silt and gravel (SW-SM)g | Loamy Sand † |
| 200-SB-06 (8-10') Bag/MR | 0.074 | 6.0 | 10 | 135 | 3.0 | WS/H | Poorly-graded gravel with silt and sand (GP-GM)s | Loamy Sand † |
| 200-SB-07 (47-49') Bag | 0.71 | 8.0 | 9.5 | 13 | 4.6 | WS/H | Poorly-graded gravel with clay and sand (GP-GC)s | Sandy Loam † |
| 200-SB-07 (47-49') MR | 0.0028 | 1.3 | 2.1 | 750 | 6.1 | WS/H | Silty, clayey sand with gravel (SC-SM)g | Sandy Loam † |
| 200-SB-08 (28-30') Bag | 0.0073 | 0.83 | 1.8 | 247 | 4.8 | WS/H | Silty sand with gravel (SM)g | Sandy Loam † |
| 200-SB-08 (28-30') MR | 0.014 | 0.84 | 2.0 | 143 | 1.7 | WS/H | Silty sand with gravel (SM)g | Sandy Loam † |
| 200-SB-20 (28-30') Bag/MR | 0.32 | 1.6 | 2.1 | 6.6 | 1.2 | WS/H | Well-graded sand with gravel (SW)g | Sand † |
| 200-SB-21 (32.5-33') Bag | 0.17 | 4.2 | 6.5 | 38 | 1.5 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-21 (32.5-33') MR | 0.33 | 3.6 | 5.4 | 16 | 1.3 | WS/H | Well-graded sand with gravel (SW)g | Sand † |

$d_{50}$ = Median particle diameter

Est = Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material

## Percent Gravel, Sand, Silt and Clay*

| Sample Number | % Gravel (>4.75mm) | % Sand (<4.75mm, >0.075mm) | % Silt (<0.075mm, >0.002mm) | % Clay (<0.002mm) |
|---|---|---|---|---|
| 200-SB-05 (8-10') Bag | 49.1 | 41.6 | 6.4 | 3.0 |
| 200-SB-05 (8-10') MR | 43.2 | 46.8 | 8.2 | 1.8 |
| 200-SB-06 (8-10') Bag/MR | 54.4 | 35.5 | 8.2 | 1.8 |
| 200-SB-07 (47-49') Bag | 79.0 | 15.3 | 3.7 | 2.1 |
| 200-SB-07 (47-49') MR | 22.1 | 52.8 | 17.0 | 8.1 |
| 200-SB-08 (28-30') Bag | 26.0 | 54.9 | 13.2 | 5.8 |
| 200-SB-08 (28-30') MR | 27.0 | 52.0 | 17.1 | 3.9 |
| 200-SB-20 (28-30') Bag/MR | 17.4 | 78.7 | 1.7 | 2.2 |
| 200-SB-21 (32.5-33') Bag | 47.7 | 44.8 | 4.8 | 2.7 |
| 200-SB-21 (32.5-33') MR | 43.4 | 51.6 | 3.9 | 1.0 |

*USCS classification does not classify clay fraction based on particle size. USDA definition of clay (<0.002mm) used in this table.

## Summary of Atterberg Tests

| Sample Number | Liquid Limit | Plastic Limit | Plasticity Index | Classification |
|---|---|---|---|---|
| 200-SB-05 (8-10') Bag | --- | --- | --- | ML |
| 200-SB-06 (8-10') Bag/MR | --- | --- | --- | ML |
| 200-SB-07 (47-49') Bag | 21 | 14 | 7 | CL-ML |
| 200-SB-08 (28-30') Bag | --- | --- | --- | ML |
| 200-SB-20 (28-30') Bag/MR | --- | --- | --- | ML |
| 200-SB-21 (32.5-33') Bag | --- | --- | --- | ML |

--- = Soil requires visual-manual classification due to non-plasticity

# Initial Properties

## Summary of Initial Moisture Content, Dry Bulk Density Wet Bulk Density and Calculated Porosity

| Sample Number | Moisture Content: As Received Gravimetric (%, g/g) | Moisture Content: As Received Volumetric (%, $cm^3/cm^3$) | Moisture Content: Remolded Gravimetric (%, g/g) | Moisture Content: Remolded Volumetric (%, $cm^3/cm^3$) | Dry Bulk Density ($g/cm^3$) | Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) |
|---|---|---|---|---|---|---|---|
| 200-SB-05 (8-10') MR | 3.6 | NA | 3.6 | 6.0 | 1.67 | 1.73 | 38.0 |
| 200-SB-06 (8-10') Bag/MR | 2.4 | NA | 8.3 | 14.3 | 1.72 | 1.87 | 36.2 |
| 200-SB-07 (47-49') MR | 6.6 | NA | 6.6 | 10.4 | 1.57 | 1.68 | 41.8 |
| 200-SB-08 (28-30') MR | 3.4 | NA | 3.4 | 5.6 | 1.64 | 1.70 | 39.2 |
| 200-SB-20 (28-30') Bag/MR | 7.9 | NA | 7.0 | 12.2 | 1.76 | 1.88 | 34.9 |
| 200-SB-21 (32.5-33') MR | 1.2 | NA | 1.2 | 2.0 | 1.72 | 1.74 | 36.4 |

NA = Not analyzed

--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') MR
*Project:* WSTF
*PO#:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 2-Jul-14 | 2-Jul-14 |
| *Field weight* of sample* (g): | 517.08 | 517.08 |
| *Tare weight, ring* (g): | 133.80 | 133.80 |
| *Tare weight, pan/plate* (g): | 0.00 | 0.00 |
| *Tare weight, other* (g): | 0.00 | 0.00 |
| *Dry weight of sample* (g): | 370.07 | 370.07 |
| *Sample volume* ($cm^3$): | NA | 220.96 |
| *Assumed particle density* ($g/cm^3$): | 2.70 | 2.70 |
| *Gravimetric Moisture Content* (% g/g): | 3.6 | 3.6 |
| *Volumetric Moisture Content* (% vol): | NA | 6.0 |
| *Dry bulk density* ($g/cm^3$): | NA | 1.67 |
| *Wet bulk density* ($g/cm^3$): | NA | 1.73 |
| *Calculated Porosity* (% vol): | NA | 38.0 |
| *Percent Saturation:* | NA | 15.7 |
| *Laboratory analysis by:* | D. O'Dowd | D. O'Dowd |
| *Data entered by:* | D. O'Dowd | D. O'Dowd |
| *Checked by:* | J. Hines | J. Hines |

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 2-Jul-14 | 8-Jul-14 |
| *Field weight* of sample* (g): | 3067.00 | 776.55 |
| *Tare weight, ring* (g): | 0.00 | 238.41 |
| *Tare weight, pan/plate* (g): | 796.60 | 0.00 |
| *Tare weight, other* (g): | 0.00 | 0.00 |
| *Dry weight of sample* (g): | 2218.15 | 496.80 |
| *Sample volume* ($cm^3$): | NA | 288.28 |
| *Assumed particle density* ($g/cm^3$): | 2.70 | 2.70 |
| *Gravimetric Moisture Content* (% g/g): | 2.4 | 8.3 |
| *Volumetric Moisture Content* (% vol): | NA | 14.3 |
| *Dry bulk density* ($g/cm^3$): | NA | 1.72 |
| *Wet bulk density* ($g/cm^3$): | NA | 1.87 |
| *Calculated Porosity* (% vol): | NA | 36.2 |
| *Percent Saturation:* | NA | 39.6 |
| *Laboratory analysis by:* | D. O'Dowd | D. O'Dowd |
| *Data entered by:* | D. O'Dowd | D. O'Dowd |
| *Checked by:* | J. Hines | J. Hines |

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') MR
*Project:* WSTF
*PO#:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 2-Jul-14 | 2-Jul-14 |
| *Field weight* of sample* (g): | 504.35 | 504.35 |
| *Tare weight, ring* (g): | 133.80 | 133.80 |
| *Tare weight, pan/plate* (g): | 0.00 | 0.00 |
| *Tare weight, other* (g): | 0.00 | 0.00 |
| *Dry weight of sample* (g): | 347.51 | 347.51 |
| *Sample volume* ($cm^3$): | NA | 221.22 |
| *Assumed particle density* ($g/cm^3$): | 2.70 | 2.70 |
| *Gravimetric Moisture Content* (% g/g): | 6.6 | 6.6 |
| *Volumetric Moisture Content* (% vol): | NA | 10.4 |
| *Dry bulk density* ($g/cm^3$): | NA | 1.57 |
| *Wet bulk density* ($g/cm^3$): | NA | 1.68 |
| *Calculated Porosity* (% vol): | NA | 41.8 |
| *Percent Saturation:* | NA | 24.9 |
| *Laboratory analysis by:* | D. O'Dowd | D. O'Dowd |
| *Data entered by:* | D. O'Dowd | D. O'Dowd |
| *Checked by:* | J. Hines | J. Hines |

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') MR
*Project:* WSTF
*PO#:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 2-Jul-14 | 2-Jul-14 |
| *Field weight* of sample* (g): | 508.45 | 508.45 |
| *Tare weight, ring* (g): | 127.42 | 127.42 |
| *Tare weight, pan/plate* (g): | 0.00 | 0.00 |
| *Tare weight, other* (g): | 0.00 | 0.00 |
| *Dry weight of sample* (g): | 368.48 | 368.48 |
| *Sample volume* ($cm^3$): | NA | 224.34 |
| *Assumed particle density* ($g/cm^3$): | 2.70 | 2.70 |
| *Gravimetric Moisture Content* (% g/g): | 3.4 | 3.4 |
| *Volumetric Moisture Content* (% vol): | NA | 5.6 |
| *Dry bulk density* ($g/cm^3$): | NA | 1.64 |
| *Wet bulk density* ($g/cm^3$): | NA | 1.70 |
| *Calculated Porosity* (% vol): | NA | 39.2 |
| *Percent Saturation:* | NA | 14.3 |
| *Laboratory analysis by:* | D. O'Dowd | D. O'Dowd |
| *Data entered by:* | D. O'Dowd | D. O'Dowd |
| *Checked by:* | J. Hines | J. Hines |

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Jul-14 | 8-Jul-14 |
| *Field weight* of sample* (g): | 1897.70 | 4420.00 |
| *Tare weight, ring* (g): | 0.00 | 272.30 |
| *Tare weight, pan/plate* (g): | 407.64 | 0.00 |
| *Tare weight, other* (g): | 0.00 | 0.00 |
| *Dry weight of sample* (g): | 1380.93 | 3878.10 |
| *Sample volume* ($cm^3$): | NA | 2205.74 |
| *Assumed particle density* ($g/cm^3$): | 2.70 | 2.70 |
| *Gravimetric Moisture Content* (% g/g): | 7.9 | 7.0 |
| *Volumetric Moisture Content* (% vol): | NA | 12.2 |
| *Dry bulk density* ($g/cm^3$): | NA | 1.76 |
| *Wet bulk density* ($g/cm^3$): | NA | 1.88 |
| *Calculated Porosity* (% vol): | NA | 34.9 |
| *Percent Saturation:* | NA | 35.0 |
| *Laboratory analysis by:* | D. O'Dowd | D. O'Dowd |
| *Data entered by:* | D. O'Dowd | D. O'Dowd |
| *Checked by:* | J. Hines | J. Hines |

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') MR
*Project:* WSTF
*PO#:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 2-Jul-14 | 2-Jul-14 |
| *Field weight* of sample* (g): | 513.00 | 513.00 |
| *Tare weight, ring* (g): | 126.41 | 126.41 |
| *Tare weight, pan/plate* (g): | 0.00 | 0.00 |
| *Tare weight, other* (g): | 0.00 | 0.00 |
| *Dry weight of sample* (g): | 382.15 | 382.15 |
| *Sample volume* ($cm^3$): | NA | 222.69 |
| *Assumed particle density* ($g/cm^3$): | 2.70 | 2.70 |
| *Gravimetric Moisture Content* (% g/g): | 1.2 | 1.2 |
| *Volumetric Moisture Content* (% vol): | NA | 2.0 |
| *Dry bulk density* ($g/cm^3$): | NA | 1.72 |
| *Wet bulk density* ($g/cm^3$): | NA | 1.74 |
| *Calculated Porosity* (% vol): | NA | 36.4 |
| *Percent Saturation:* | NA | 5.5 |
| *Laboratory analysis by:* | D. O'Dowd | D. O'Dowd |
| *Data entered by:* | D. O'Dowd | D. O'Dowd |
| *Checked by:* | J. Hines | J. Hines |

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Saturated Hydraulic Conductivity

## Summary of Saturated Hydraulic Conductivity Tests

| Sample Number | $K_{sat}$ (cm/sec) | Oversize Corrected $K_{sat}$ (cm/sec) | Method of Analysis | |
|---|---|---|---|---|
| | | | Constant Head | Falling Head |
| 200-SB-05 (8-10') MR | 1.2E-02 | NA | X | |
| 200-SB-06 (8-10') Bag/MR | 5.2E-02 | 3.0E-02 | X | |
| 200-SB-07 (47-49') MR | 5.5E-03 | NA | X | |
| 200-SB-08 (28-30') MR | 9.2E-03 | NA | X | |
| 200-SB-20 (28-30') Bag/MR | 4.9E-02 | NA | X | |
| 200-SB-21 (32.5-33') MR | 1.3E-03 | NA | X | |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') MR
*Project:* WSTF
*PO#:* 14EC016B

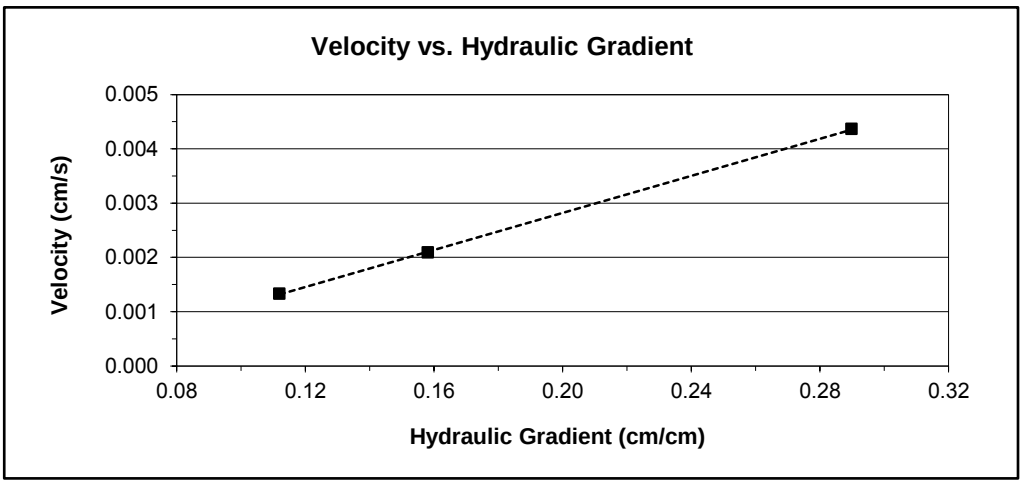
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.89
*Sample length* (cm)*:* 7.59
*Sample diameter* (cm)*:* 6.09
*Sample x-sectional area* ($cm^2$)*:* 29.12

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 8-Jul-14 | 13:32:20 | 23.0 | 2.2 | 18.51 | 7.6 | 60 | 1.5E-02 | 1.4E-02 |
| 8-Jul-14 | 13:33:20 | | | | | | | |
| Test # 2: | | | | | | | | |
| 8-Jul-14 | 13:47:33 | 23.0 | 1.2 | 14.54 | 3.7 | 60 | 1.3E-02 | 1.2E-02 |
| 8-Jul-14 | 13:48:33 | | | | | | | |
| Test # 3: | | | | | | | | |
| 8-Jul-14 | 14:03:18 | 23.0 | 0.85 | 13.21 | 2.3 | 60 | 1.2E-02 | 1.1E-02 |
| 8-Jul-14 | 14:04:18 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **1.2E-02**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

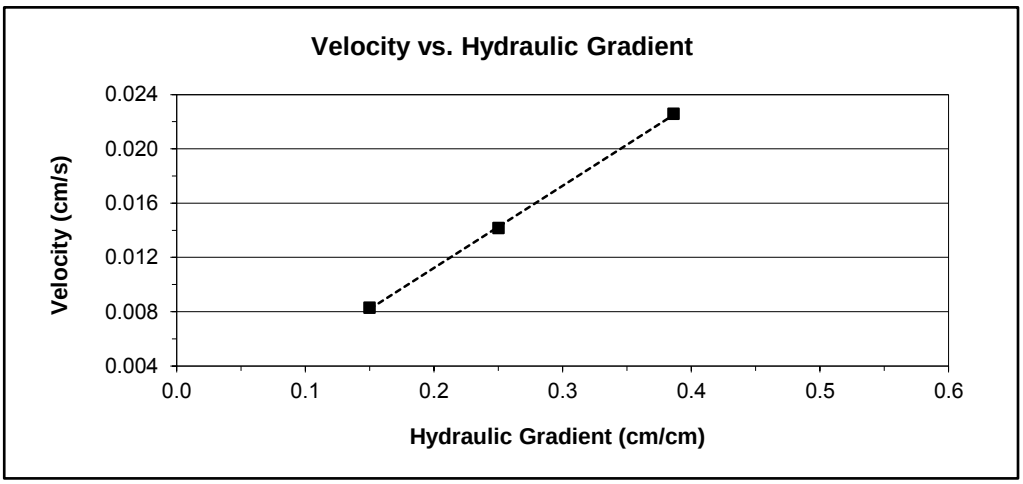
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.03
*Sample length* (cm)*:* 6.99
*Sample diameter* (cm)*:* 7.25
*Sample x-sectional area* ($cm^2$)*:* 41.25

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 10-Jul-14 | 12:51:00 | 23.5 | 2.7 | 38.96 | 27.9 | 30 | 5.8E-02 | 5.4E-02 |
| 10-Jul-14 | 12:51:30 | | | | | | | |
| Test # 2: | | | | | | | | |
| 10-Jul-14 | 13:02:30 | 23.5 | 1.75 | 28.53 | 17.5 | 30 | 5.6E-02 | 5.2E-02 |
| 10-Jul-14 | 13:03:00 | | | | | | | |
| Test # 3: | | | | | | | | |
| 10-Jul-14 | 13:14:00 | 23.5 | 1.05 | 21.28 | 10.3 | 30 | 5.5E-02 | 5.1E-02 |
| 10-Jul-14 | 13:14:30 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **5.2E-02**
***Oversize Corrected Ksat* (cm/sec)*:*** **3.0E-02**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Oversize Correction Data Sheet

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Split (3/4", 3/8", #4):* 3/8
*Calculated Porosity of Fines* (% vol)*:* 36.2

| | Coarse Fraction* | Fines Fraction | Composite |
|---|---|---|---|
| *Subsample Mass* (g)*:* | 913.31 | 1304.17 | 2217.48 |
| *Bulk Density* ($g/cm^3$)*:* | 2.65 | 1.72 | 2.01 |
| *Volume of Solids* ($cm^3$)*:* | 344.65 | 483.03 | 827.67 |
| *Volume of Voids* ($cm^3$)*:* | 0.00 | 273.76 | 273.76 |
| *Total Volume* ($cm^3$)*:* | 344.65 | 756.79 | 1101.43 |
| *Volumetric Fraction* (%)*:* | 31.29 | 68.71 | 100.00 |
| *Mass Fraction* (%)*:* | 41.19 | 58.81 | 100.00 |
| *Ksat* (cm/sec)*:* | NM | 5.2E-02 | 3.0E-02 |

* = Porosity and moisture content of coarse fraction assumed to be zero.
--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NM = Not measured

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
Checked by: J. Hines

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') MR
*Project:* WSTF
*PO#:* 14EC016B

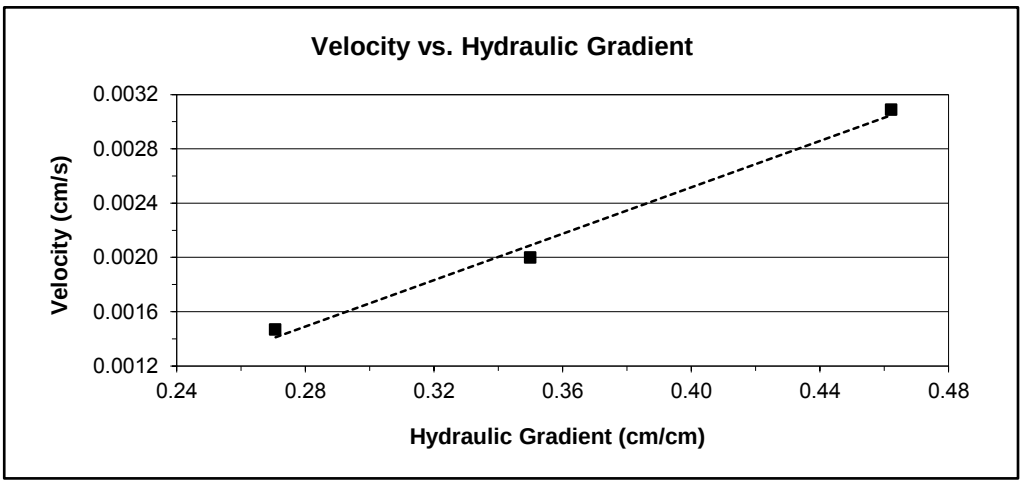
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.94
*Sample length* (cm)*:* 7.57
*Sample diameter* (cm)*:* 6.10
*Sample x-sectional area* ($cm^2$)*:* 29.22

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 8-Jul-14 | 13:18:45 | 23.0 | 3.5 | 16.35 | 5.4 | 60 | 6.7E-03 | 6.2E-03 |
| 8-Jul-14 | 13:19:45 | | | | | | | |
| Test # 2: | | | | | | | | |
| 8-Jul-14 | 13:43:51 | 23.0 | 2.65 | 14.44 | 3.5 | 60 | 5.7E-03 | 5.3E-03 |
| 8-Jul-14 | 13:44:51 | | | | | | | |
| Test # 3: | | | | | | | | |
| 8-Jul-14 | 14:01:17 | 23.0 | 2.05 | 13.51 | 2.6 | 60 | 5.4E-03 | 5.0E-03 |
| 8-Jul-14 | 14:02:17 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **5.5E-03**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') MR
*Project:* WSTF
*PO#:* 14EC016B

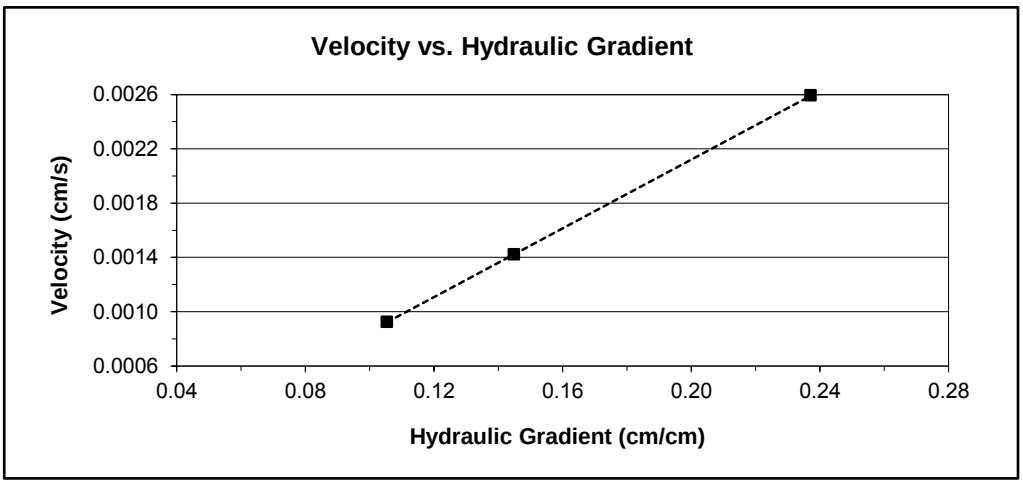
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.97
*Sample length* (cm)*:* 7.59
*Sample diameter* (cm)*:* 6.14
*Sample x-sectional area* ($cm^2$)*:* 29.56

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 8-Jul-14 | 13:31:55 | 23.0 | 1.8 | 15.57 | 4.6 | 60 | 1.1E-02 | 1.0E-02 |
| 8-Jul-14 | 13:32:55 | | | | | | | |
| Test # 2: | | | | | | | | |
| 8-Jul-14 | 13:44:23 | 23.0 | 1.1 | 13.49 | 2.5 | 60 | 9.8E-03 | 9.1E-03 |
| 8-Jul-14 | 13:45:23 | | | | | | | |
| Test # 3: | | | | | | | | |
| 8-Jul-14 | 14:01:40 | 23.0 | 0.8 | 12.61 | 1.6 | 60 | 8.8E-03 | 8.2E-03 |
| 8-Jul-14 | 14:02:40 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **9.2E-03**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

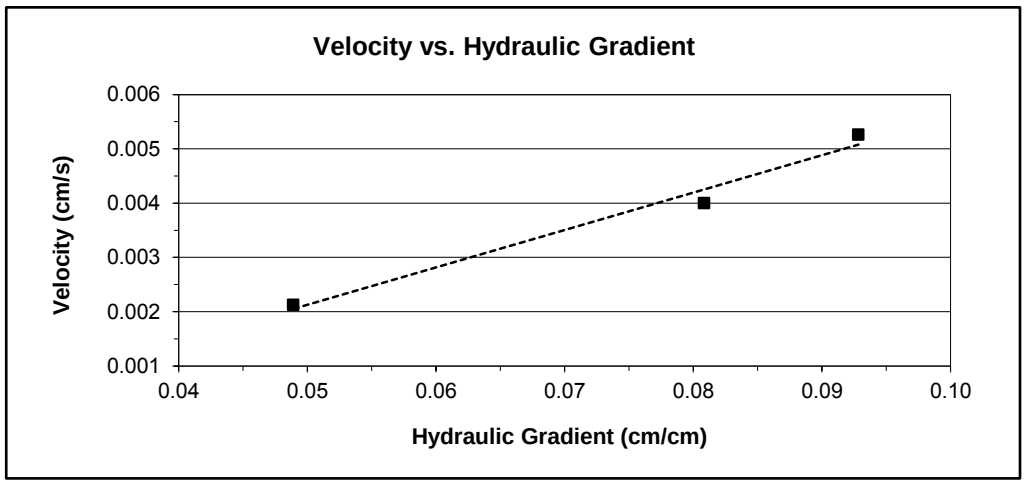
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.02
*Sample length* (cm)*:* 12.52
*Sample diameter* (cm)*:* 14.98
*Sample x-sectional area* ($cm^2$)*:* 176.15

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 10-Jul-14 | 12:49:00 | 23.5 | 1.1 | 29.55 | 18.5 | 20 | 6.0E-02 | 5.5E-02 |
| 10-Jul-14 | 12:49:20 | | | | | | | |
| Test # 2: | | | | | | | | |
| 10-Jul-14 | 13:01:30 | 23.5 | 0.95 | 32.15 | 21.1 | 30 | 5.3E-02 | 4.8E-02 |
| 10-Jul-14 | 13:02:00 | | | | | | | |
| Test # 3: | | | | | | | | |
| 10-Jul-14 | 13:13:00 | 23.5 | 0.55 | 22.23 | 11.2 | 30 | 4.8E-02 | 4.4E-02 |
| 10-Jul-14 | 13:13:30 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **4.9E-02**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') MR
*Project:* WSTF
*PO#:* 14EC016B

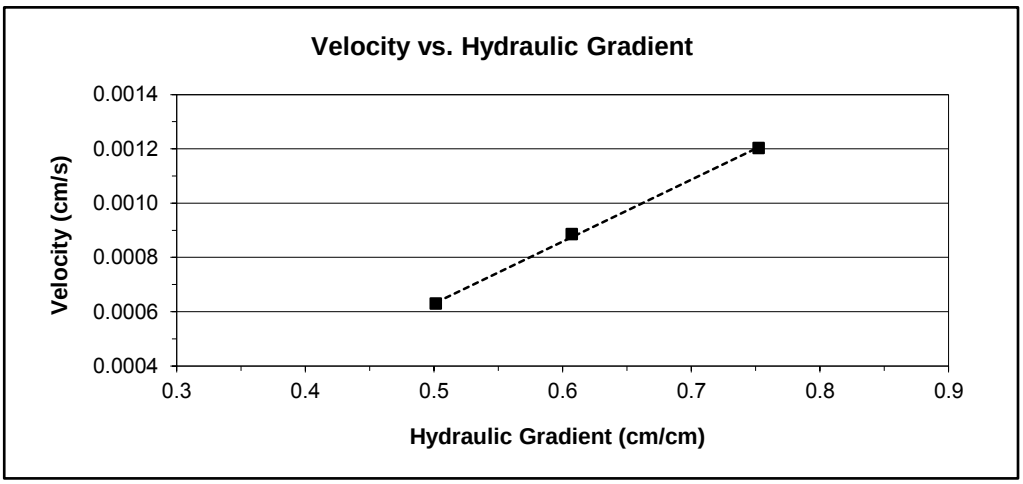
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.02
*Sample length* (cm)*:* 7.58
*Sample diameter* (cm)*:* 6.12
*Sample x-sectional area* ($cm^2$)*:* 29.40

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 8-Jul-14 | 13:20:49 | 23.0 | 5.7 | 13.14 | 2.1 | 60 | 1.6E-03 | 1.5E-03 |
| 8-Jul-14 | 13:21:49 | | | | | | | |
| Test # 2: | | | | | | | | |
| 8-Jul-14 | 13:45:43 | 23.0 | 4.6 | 12.58 | 1.6 | 60 | 1.5E-03 | 1.4E-03 |
| 8-Jul-14 | 13:46:43 | | | | | | | |
| Test # 3: | | | | | | | | |
| 8-Jul-14 | 14:02:51 | 23.0 | 3.8 | 12.13 | 1.1 | 60 | 1.3E-03 | 1.2E-03 |
| 8-Jul-14 | 14:03:51 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **1.3E-03**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Moisture Retention Characteristics

## Summary of Moisture Characteristics of the Initial Drainage Curve

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-05 (8-10') MR | 0 | 26.0 ‡‡ |
| | 5 | 24.7 ‡‡ |
| | 12 | 23.1 ‡‡ |
| | 45 | 16.4 ‡‡ |
| | 171 | 11.3 ‡‡ |
| | 4385 | 3.8 ‡‡ |
| | 24271 | 2.3 ‡‡ |
| | 104428 | 1.5 ‡‡ |
| | 851293 | 0.8 ‡‡ |
| 200-SB-06 (8-10') Bag/MR | 0 | 23.7 ‡‡ |
| | 6 | 20.8 ‡‡ |
| | 8 | 20.1 ‡‡ |
| | 45 | 15.4 ‡‡ |
| | 190 | 13.9 ‡‡ |
| | 16725 | 2.7 ‡‡ |
| | 110342 | 1.4 ‡‡ |
| | 495521 | 1.0 ‡‡ |
| | 851293 | 0.6 ‡‡ |
| 200-SB-07 (47-49') MR | 0 | 32.1 ‡‡ |
| | 5 | 31.6 ‡‡ |
| | 15 | 21.9 ‡‡ |
| | 65 | 15.9 ‡‡ |
| | 337 | 12.3 ‡‡ |
| | 14175 | 4.1 ‡‡ |
| | 54661 | 2.9 ‡‡ |
| | 315934 | 1.9 ‡‡ |
| | 851293 | 1.1 ‡‡ |

‡‡ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Moisture Characteristics of the Initial Drainage Curve (Continued)

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-08 (28-30') MR | 0 | 30.5 ‡‡ |
| | 5 | 29.2 ‡‡ |
| | 14 | 28.3 ‡‡ |
| | 63 | 19.8 ‡‡ |
| | 337 | 10.6 ‡‡ |
| | 7547 | 4.1 ‡‡ |
| | 57721 | 2.3 ‡‡ |
| | 371921 | 1.1 ‡‡ |
| | 851293 | 0.9 ‡‡ |
| 200-SB-20 (28-30') Bag/MR | 0 | 21.0 |
| | 7 | 19.2 |
| | 11 | 16.4 |
| | 45 | 8.7 |
| | 190 | 5.8 |
| | 4181 | 2.4 |
| | 38548 | 1.5 |
| | 181116 | 1.0 |
| | 851293 | 0.6 |
| 200-SB-21 (32.5-33') MR | 0 | 25.1 ‡‡ |
| | 4 | 22.1 ‡‡ |
| | 22 | 13.6 ‡‡ |
| | 70 | 8.0 ‡‡ |
| | 337 | 5.4 ‡‡ |
| | 8464 | 1.8 ‡‡ |
| | 50174 | 0.9 ‡‡ |
| | 222928 | 0.6 ‡‡ |
| | 851293 | 0.4 ‡‡ |

‡‡ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Calculated Unsaturated Hydraulic Properties

| Sample Number | $\alpha$ ($cm^{-1}$) | N (dimensionless) | $\theta_r$ (% vol) | $\theta_s$ (% vol) | Oversize Corrected $\theta_r$ (% vol) | Oversize Corrected $\theta_s$ (% vol) |
|---|---|---|---|---|---|---|
| 200-SB-05 (8-10') MR | 0.1176 | 1.3082 | 0.00 | 28.17 | NA | NA |
| 200-SB-06 (8-10') Bag/MR | 1.2646 | 1.2116 | 0.00 | 34.11 | 0.00 | 23.20 |
| 200-SB-07 (47-49') MR | 0.5150 | 1.2561 | 0.00 | 40.53 | NA | NA |
| 200-SB-08 (28-30') MR | 0.0269 | 1.4776 | 1.16 | 28.97 | NA | NA |
| 200-SB-20 (28-30') Bag/MR | 0.5383 | 1.4362 | 0.88 | 34.88 | NA | NA |
| 200-SB-21 (32.5-33') MR | 0.5654 | 1.3480 | 0.00 | 31.74 | NA | NA |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') MR
*Project:* WSTF
*PO#:* 14EC016B

*Dry wt. of sample* (g): 370.07
*Tare wt., ring* (g): 133.80
*Tare wt., screen & clamp* (g): 27.92
*Initial sample volume* ($cm^3$): 220.96
*Initial dry bulk density* ($g/cm^3$): 1.67
*Assumed particle density* ($g/cm^3$): 2.70
*Initial calculated total porosity* (%): 37.97

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 9-Jul-14 | 11:35 | 581.33 | 0 | 25.96 | ‡‡ |
| | 17-Jul-14 | 10:30 | 576.80 | 4.5 | 24.68 | ‡‡ |
| | 25-Jul-14 | 9:35 | 573.00 | 12.0 | 23.07 | ‡‡ |
| | 1-Aug-14 | 10:00 | 561.10 | 45.0 | 16.43 | ‡‡ |
| | 8-Aug-14 | 15:10 | 552.00 | 171.0 | 11.33 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 190.82 | -13.64% | 1.94 | 28.17 |
| | 4.5 | 182.37 | -17.46% | 2.03 | 24.84 |
| | 12.0 | 178.62 | -19.16% | 2.07 | 23.26 |
| | 45.0 | 178.42 | -19.25% | 2.07 | 23.18 |
| | 171.0 | 178.42 | -19.25% | 2.07 | 23.18 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-05 (8-10') MR

*Initial sample bulk density* (g/cm$^3$)*:* 1.67

*Fraction of bulk sample used (<2.00mm fraction) (%):* 41.29

*Dry weight* of dew point potentiometer sample* (g)*:* 180.74

*Tare weight, jar* (g)*:* 110.59

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 8-Jul-14 | 16:15 | 183.89 | 4385 | 3.85 | ‡‡ |
| | 10-Jul-14 | 12:30 | 182.64 | 24271 | 2.32 | ‡‡ |
| | 11-Jul-14 | 15:45 | 181.95 | 104428 | 1.48 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 4385 | 178.42 | -19.25% | 2.07 | 23.18 |
| | 24271 | 178.42 | -19.25% | 2.07 | 23.18 |
| | 104428 | 178.42 | -19.25% | 2.07 | 23.18 |

*Dry weight* of relative humidity box sample* (g)*:* 74.65

*Tare weight* (g)*:* 42.10

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 8-Jul-14 | 9:15 | 74.97 | 851293 | 0.85 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 851293 | 178.42 | -19.25% | 2.07 | 23.18 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

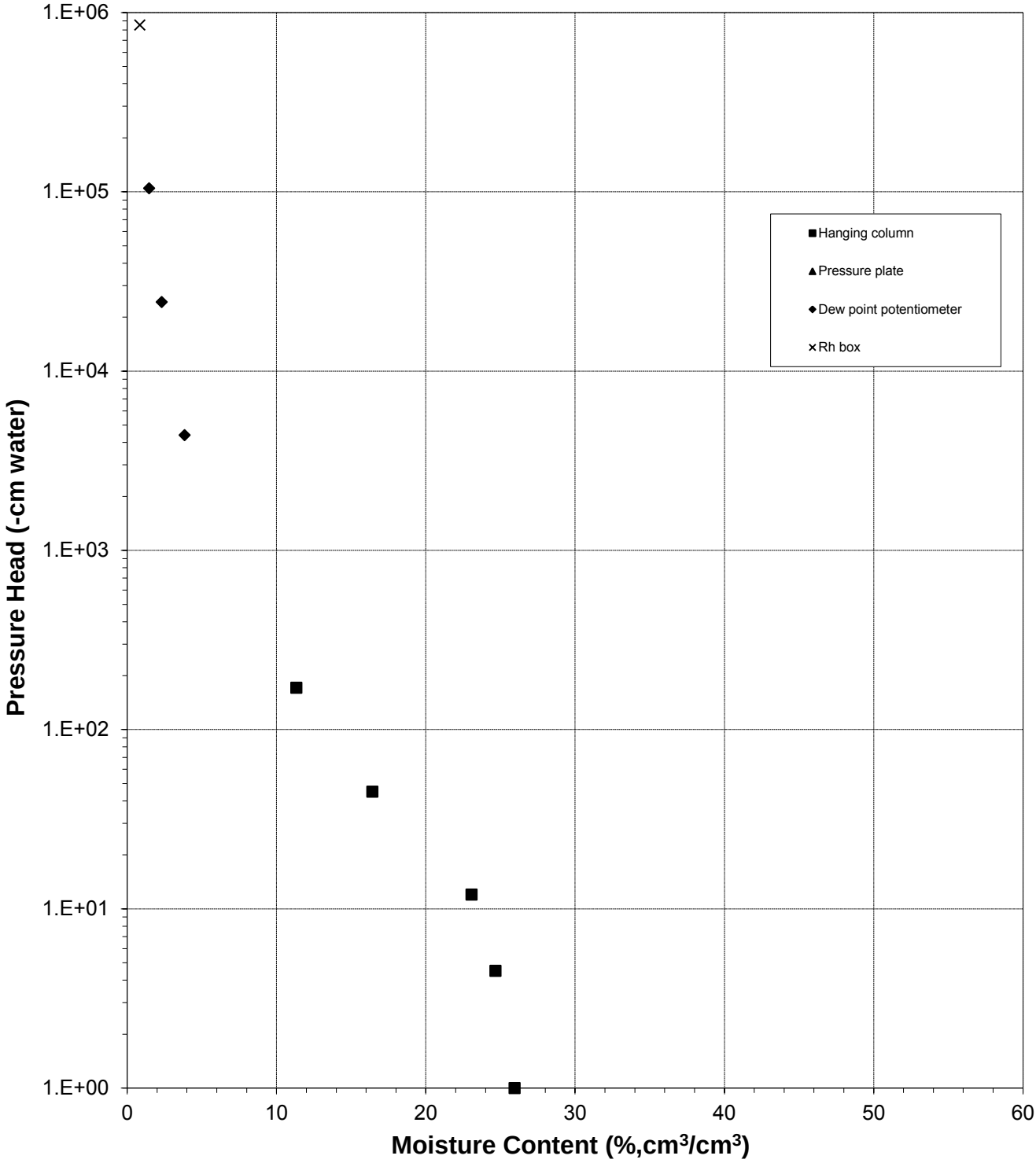
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

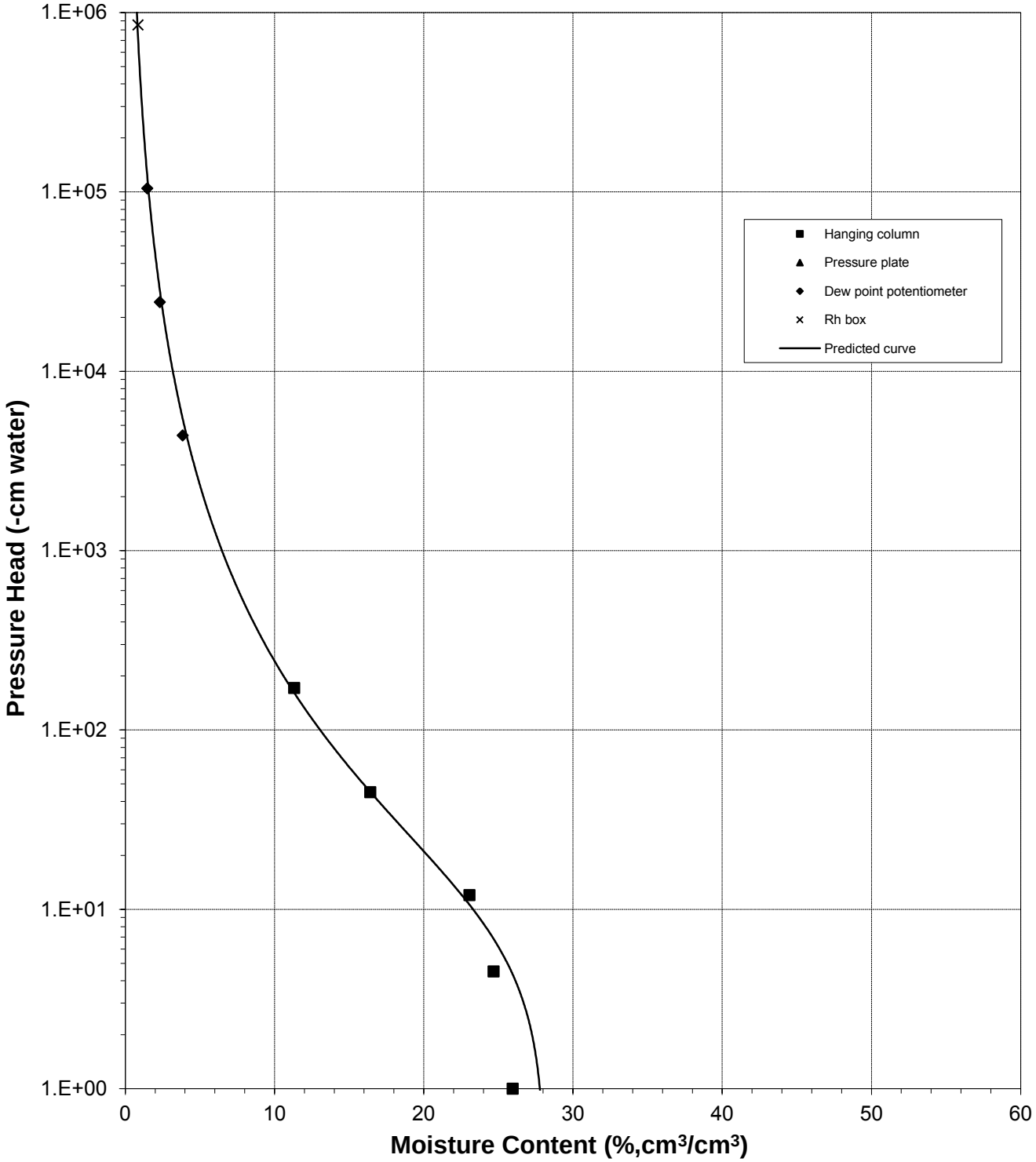
## Water Retention Data Points

*Sample Number: 200-SB-05 (8-10') MR*



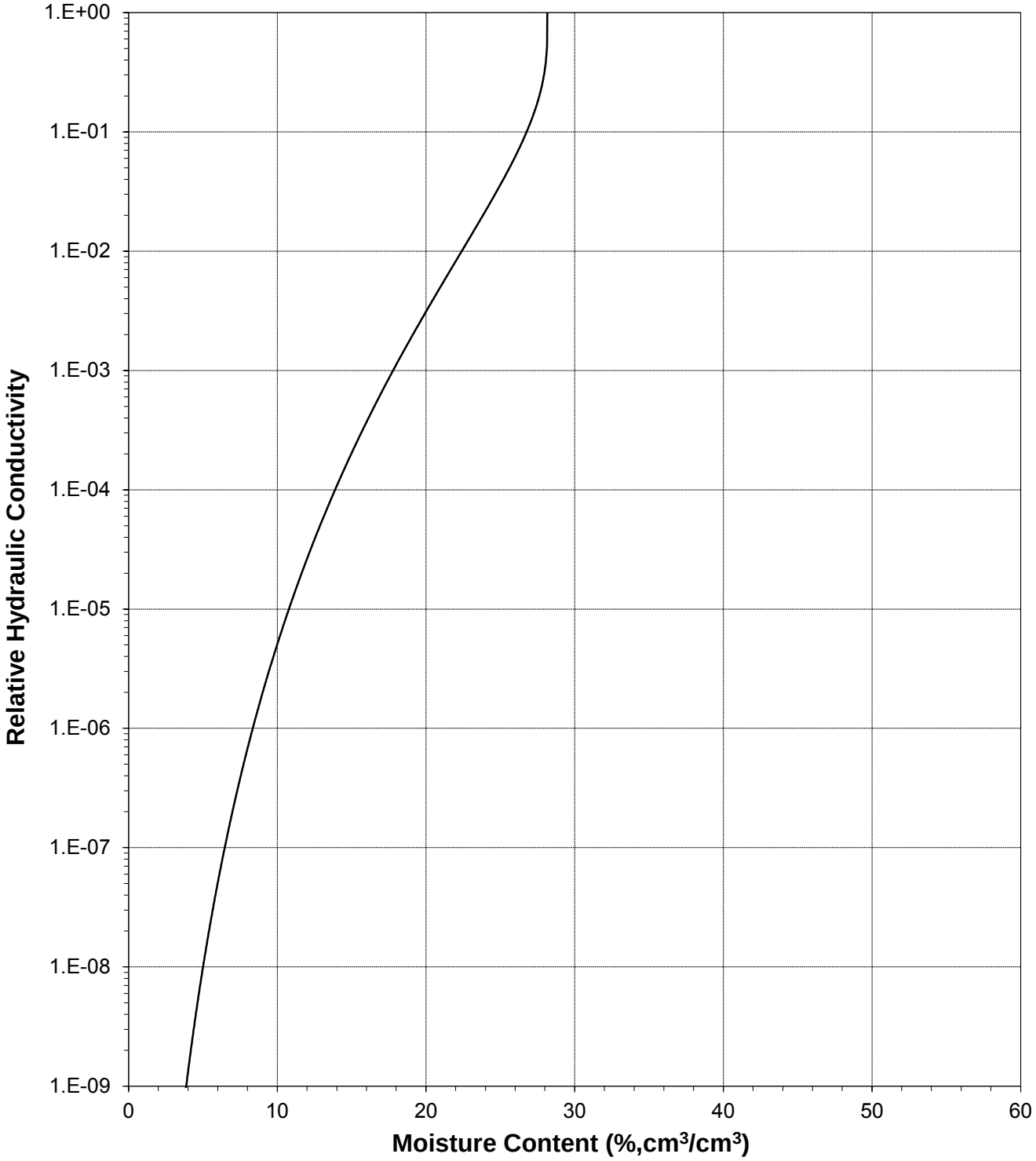
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-05 (8-10') MR*



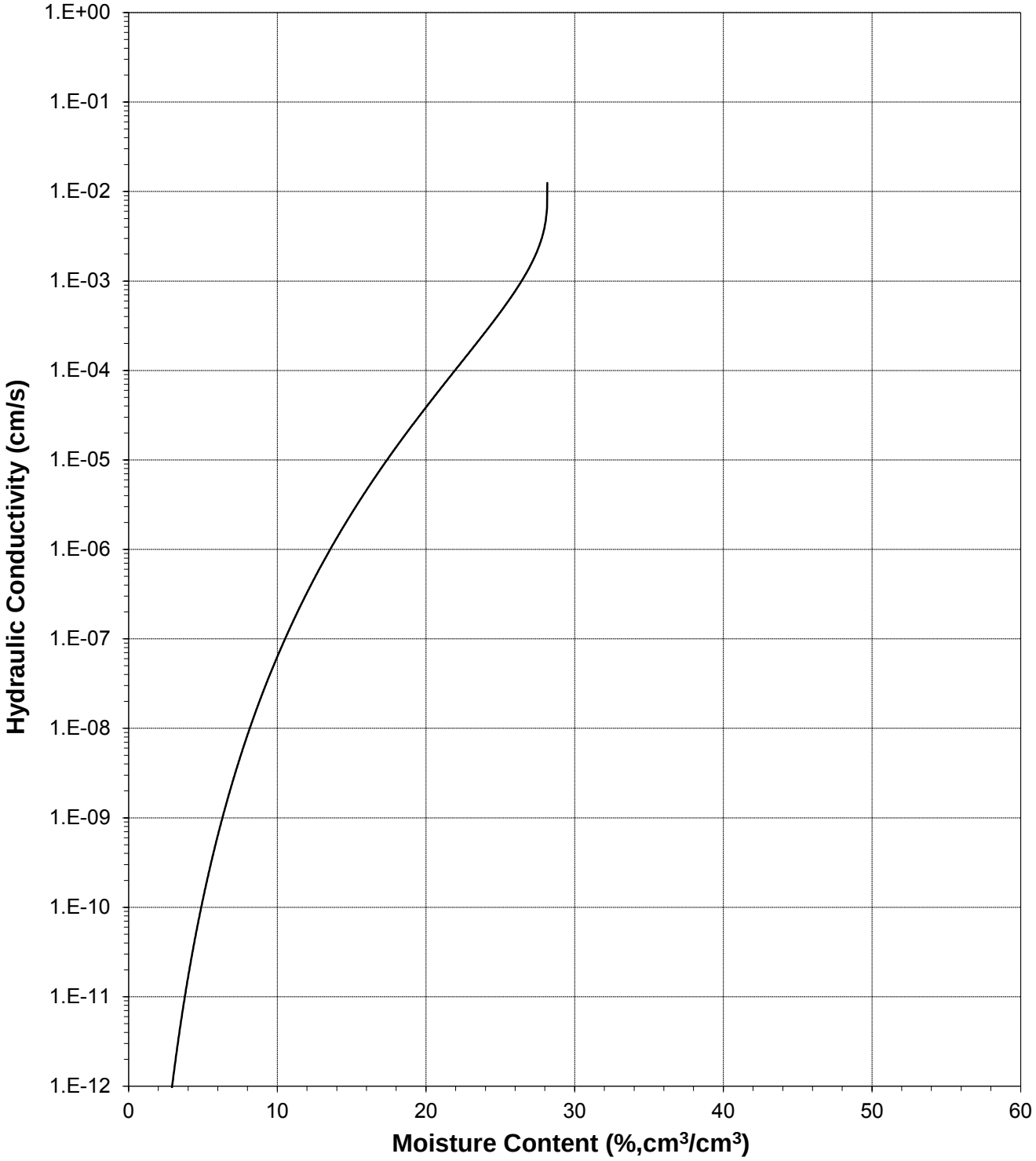
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-05 (8-10') MR*



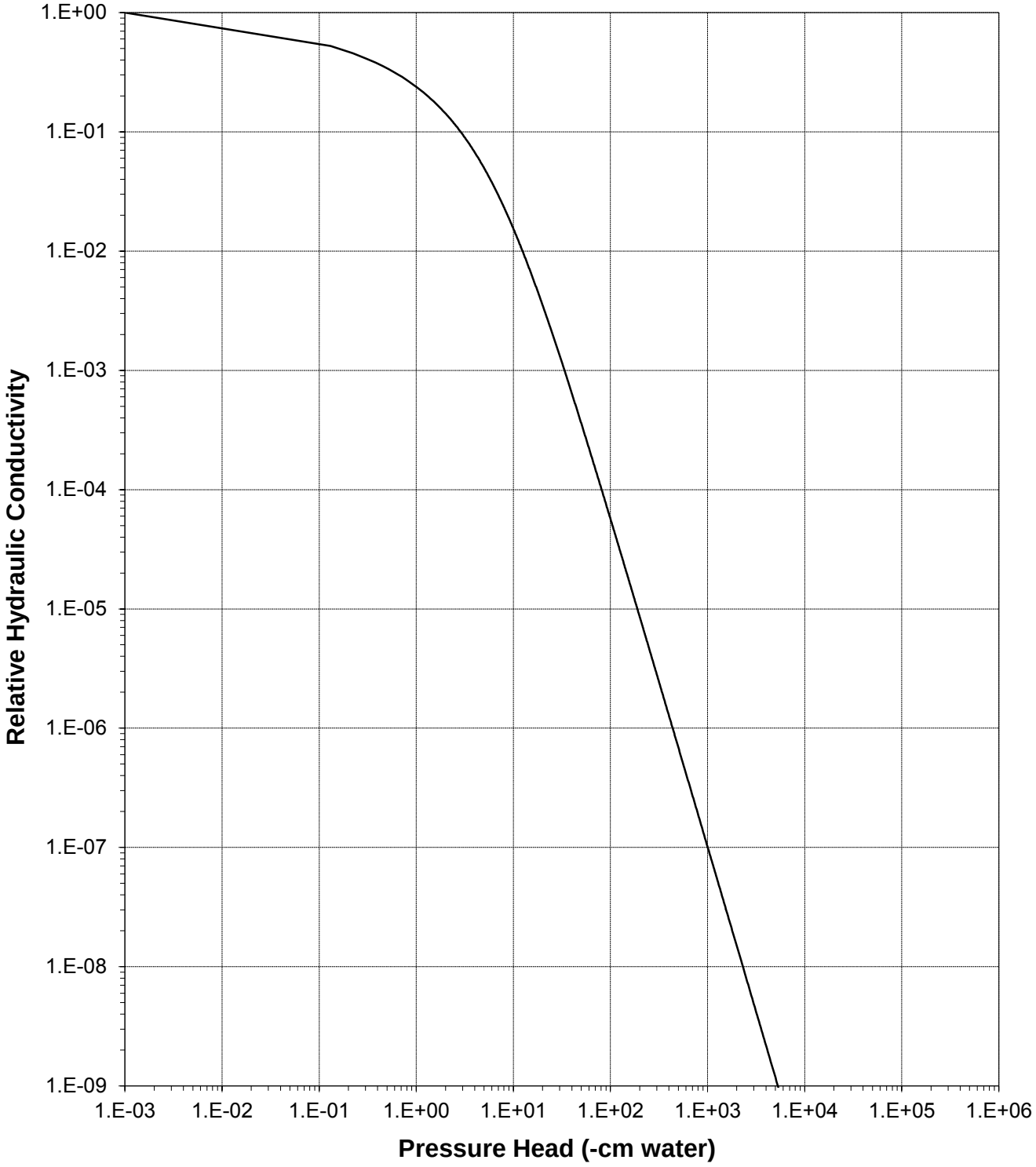
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-05 (8-10') MR*



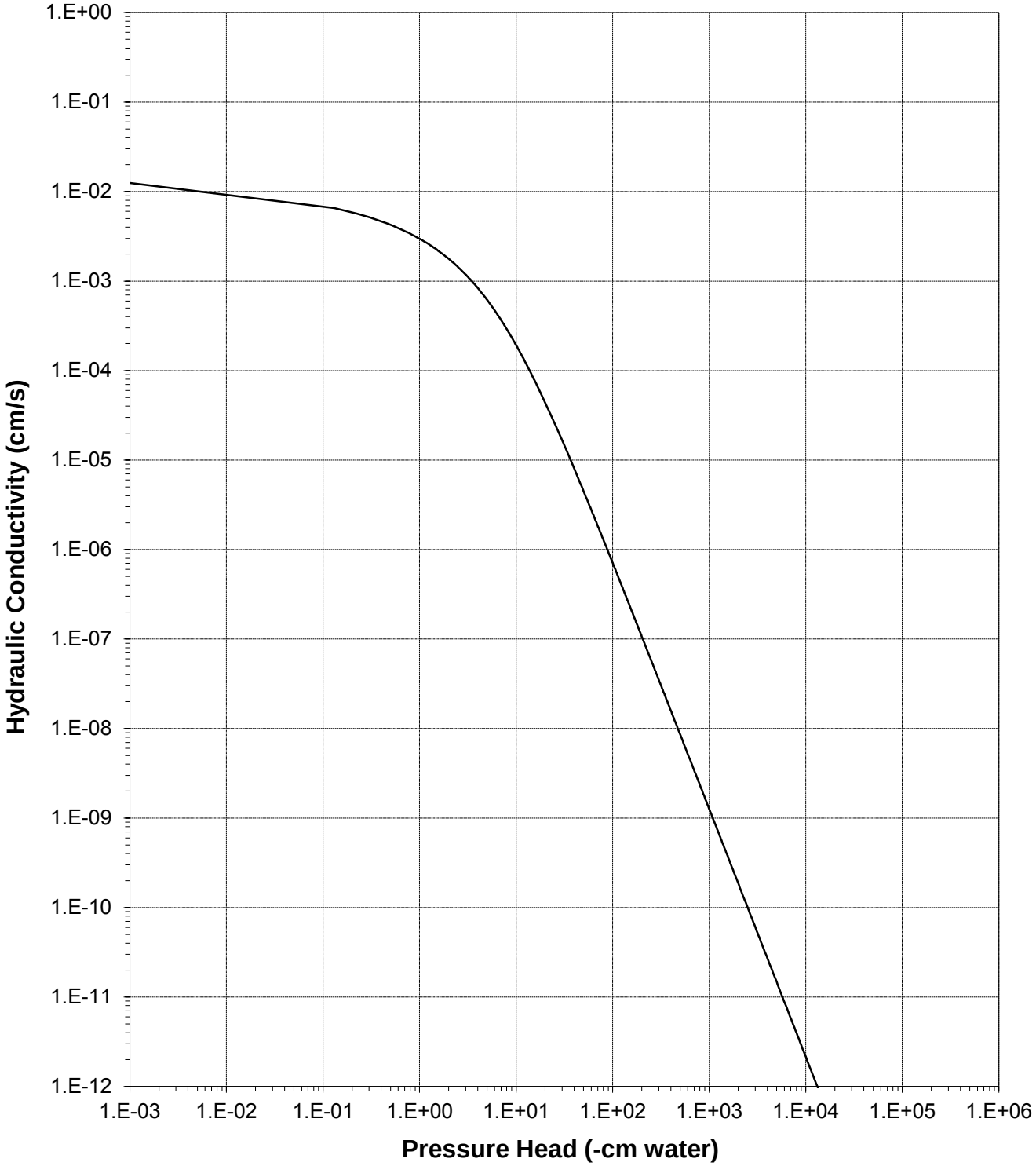
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-05 (8-10') MR*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-05 (8-10') MR*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Dry wt. of sample* (g): 496.80
*Tare wt., ring* (g): 238.41
*Tare wt., screen & clamp* (g): 28.27
*Initial sample volume* ($cm^3$): 288.28
*Initial dry bulk density* ($g/cm^3$): 1.72
*Assumed particle density* ($g/cm^3$): 2.70
*Initial calculated total porosity* (%): 36.17

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 11-Jul-14 | 13:50 | 829.80 | 0 | 23.75 | ‡‡ |
| | 21-Jul-14 | 10:00 | 821.70 | 5.5 | 20.85 | ‡‡ |
| | 28-Jul-14 | 16:00 | 819.60 | 8.0 | 20.10 | ‡‡ |
| | 4-Aug-14 | 15:30 | 806.40 | 45.0 | 15.37 | ‡‡ |
| | 11-Aug-14 | 13:00 | 802.30 | 190.0 | 13.90 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 279.25 | -3.13% | 1.78 | 34.11 |
| | 5.5 | 279.25 | -3.13% | 1.78 | 34.11 |
| | 8.0 | 279.25 | -3.13% | 1.78 | 34.11 |
| | 45.0 | 279.25 | -3.13% | 1.78 | 34.11 |
| | 190.0 | 279.25 | -3.13% | 1.78 | 34.11 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-06 (8-10') Bag/MR

*Initial sample bulk density* (g/cm$^3$)*:* 1.72

*Fraction of test sample used (<2.00mm fraction) (%):* 56.60

*Dry weight* of dew point potentiometer sample* (g)*:* 131.50

*Tare weight, jar* (g)*:* 111.65

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 12-Jul-14 | 8:40 | 132.03 | 16725 | 2.69 | ‡‡ |
| | 10-Jul-14 | 12:54 | 131.78 | 110342 | 1.42 | ‡‡ |
| | 9-Jul-14 | 9:45 | 131.69 | 495521 | 0.96 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 16725 | 279.25 | -3.13% | 1.78 | 34.11 |
| | 110342 | 279.25 | -3.13% | 1.78 | 34.11 |
| | 495521 | 279.25 | -3.13% | 1.78 | 34.11 |

*Dry weight* of relative humidity box sample* (g)*:* 60.74

*Tare weight* (g)*:* 40.70

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 8-Jul-14 | 9:15 | 60.85 | 851293 | 0.57 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 851293 | 279.25 | -3.13% | 1.78 | 34.11 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

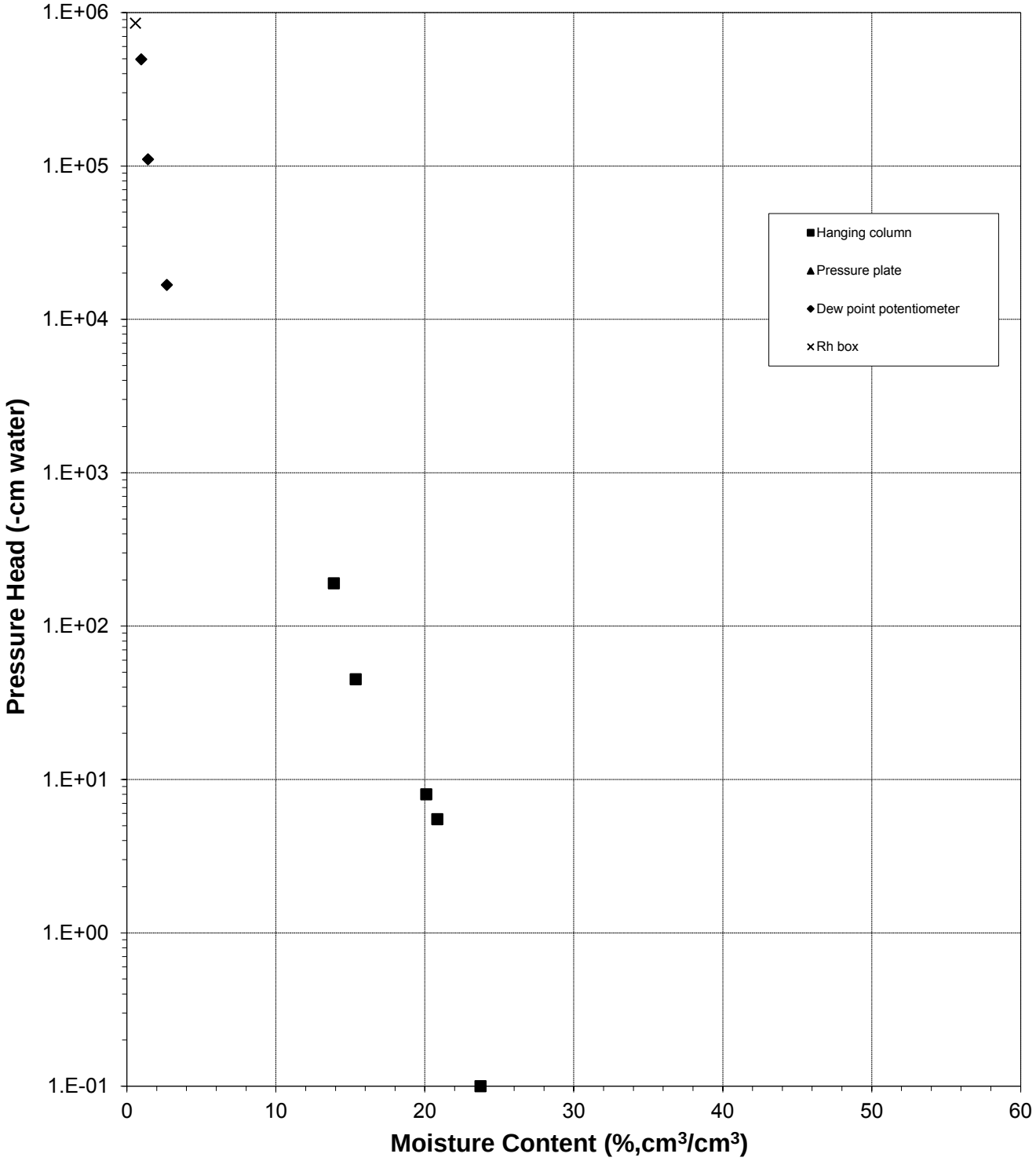
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

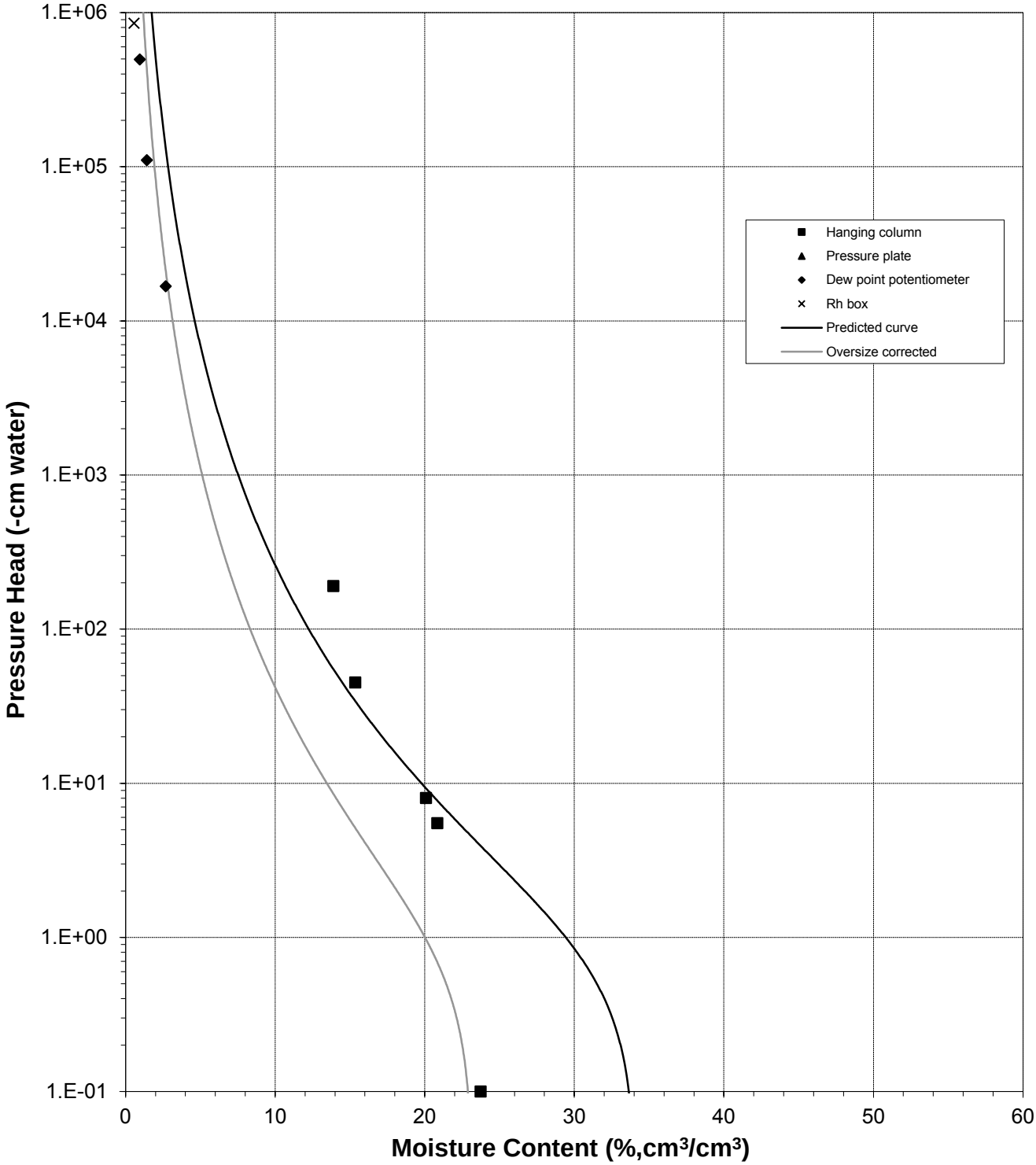
## Water Retention Data Points

*Sample Number: 200-SB-06 (8-10') Bag/MR*



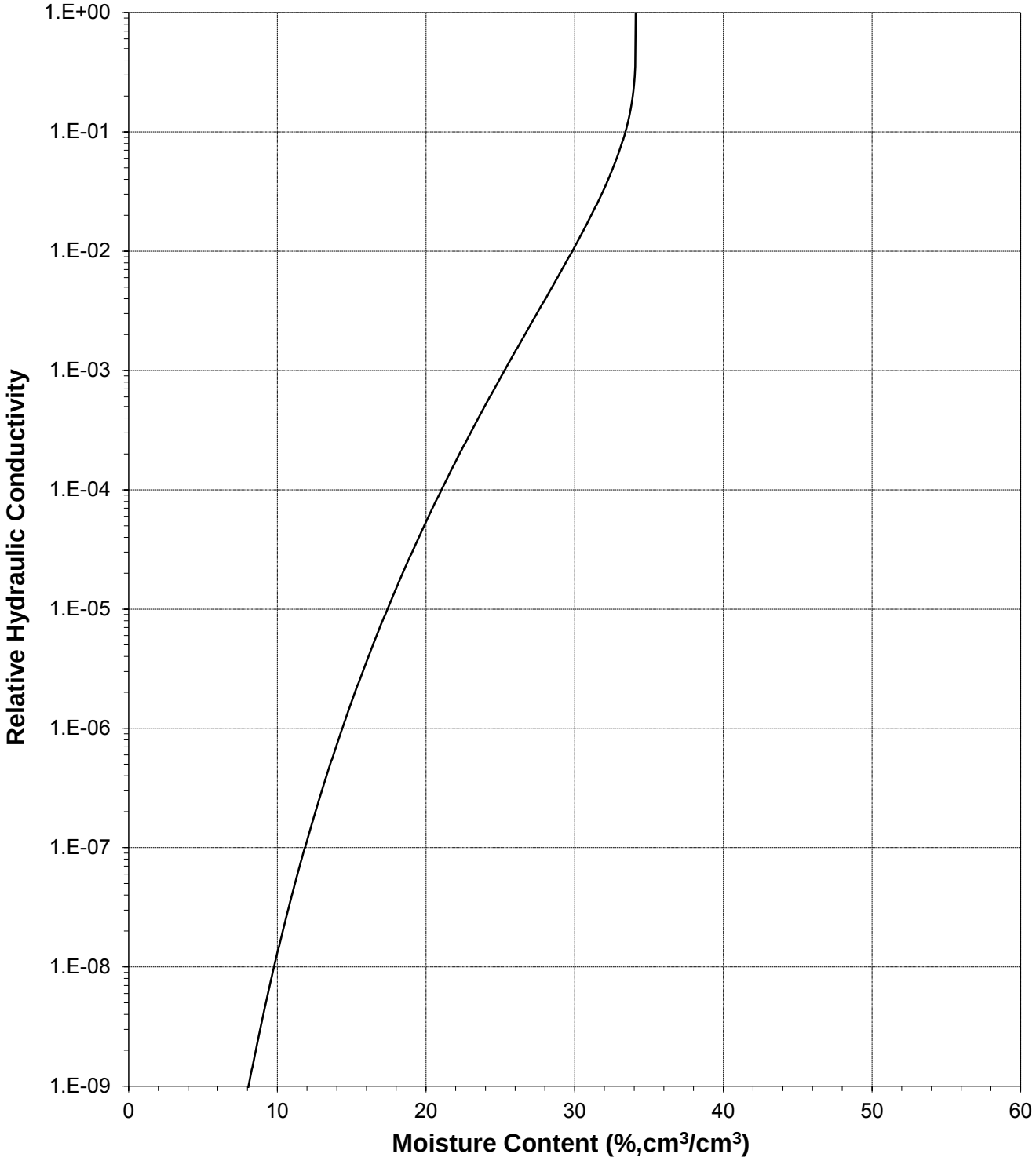
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-06 (8-10') Bag/MR*



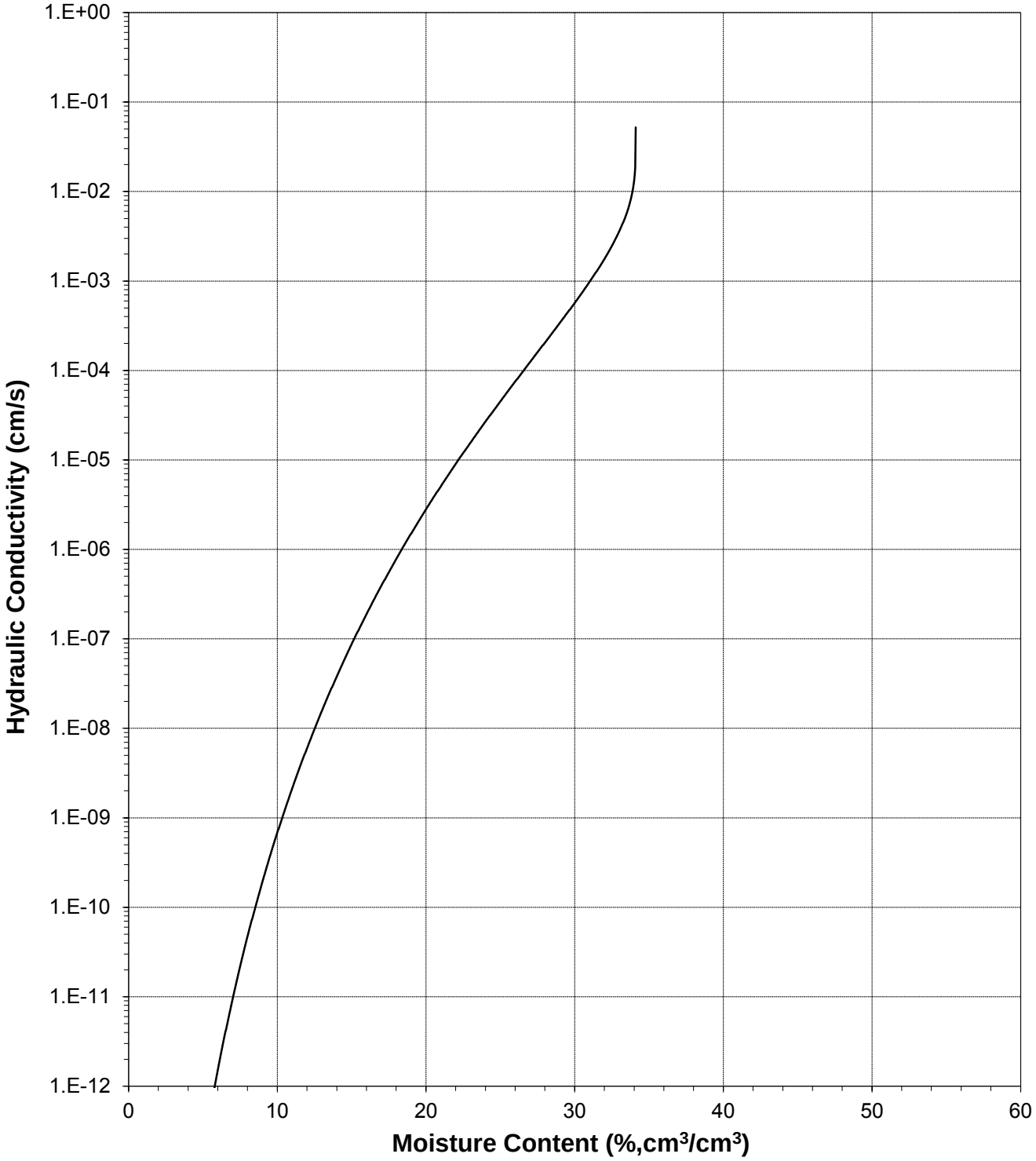
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-06 (8-10') Bag/MR*



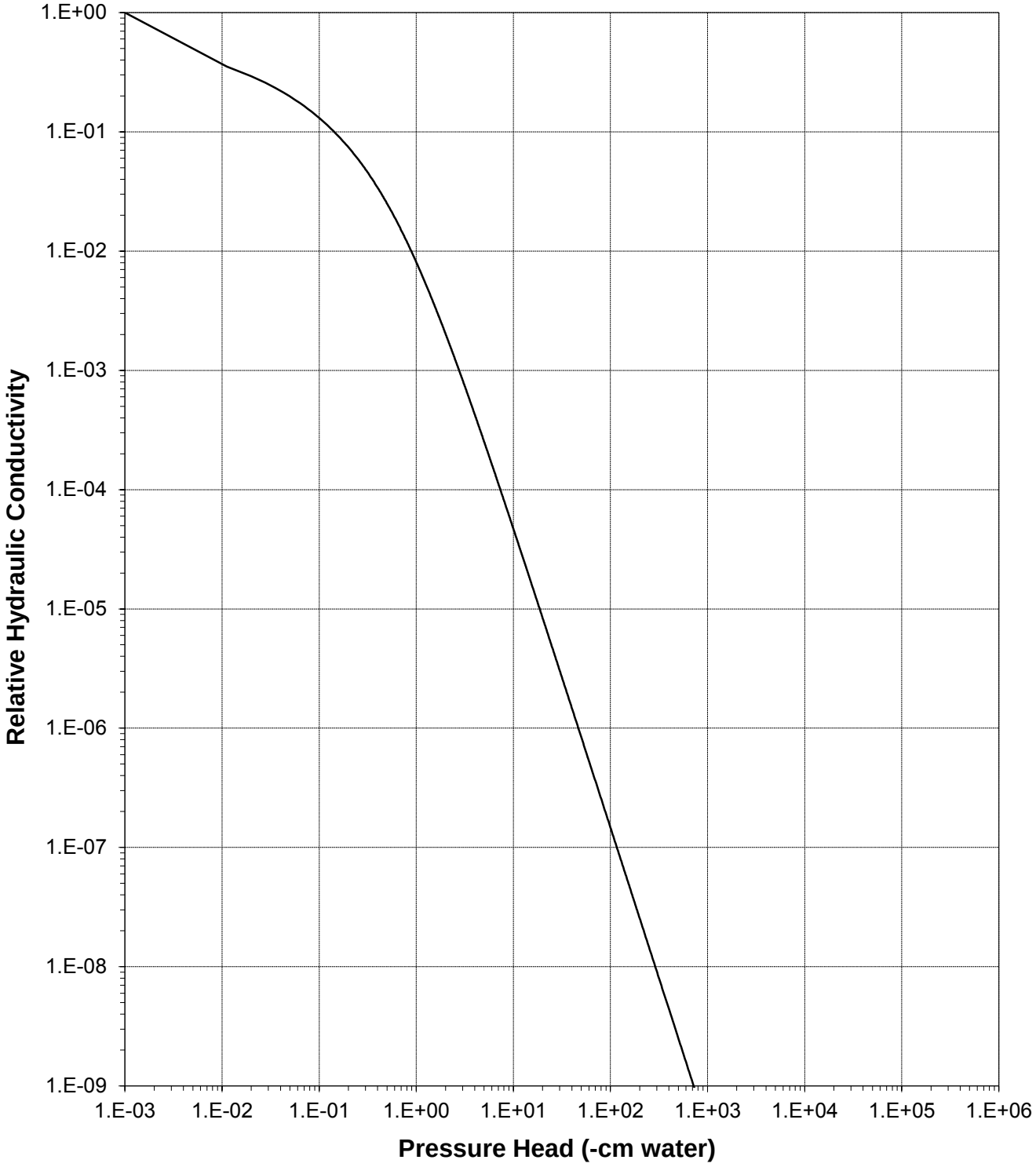
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-06 (8-10') Bag/MR*



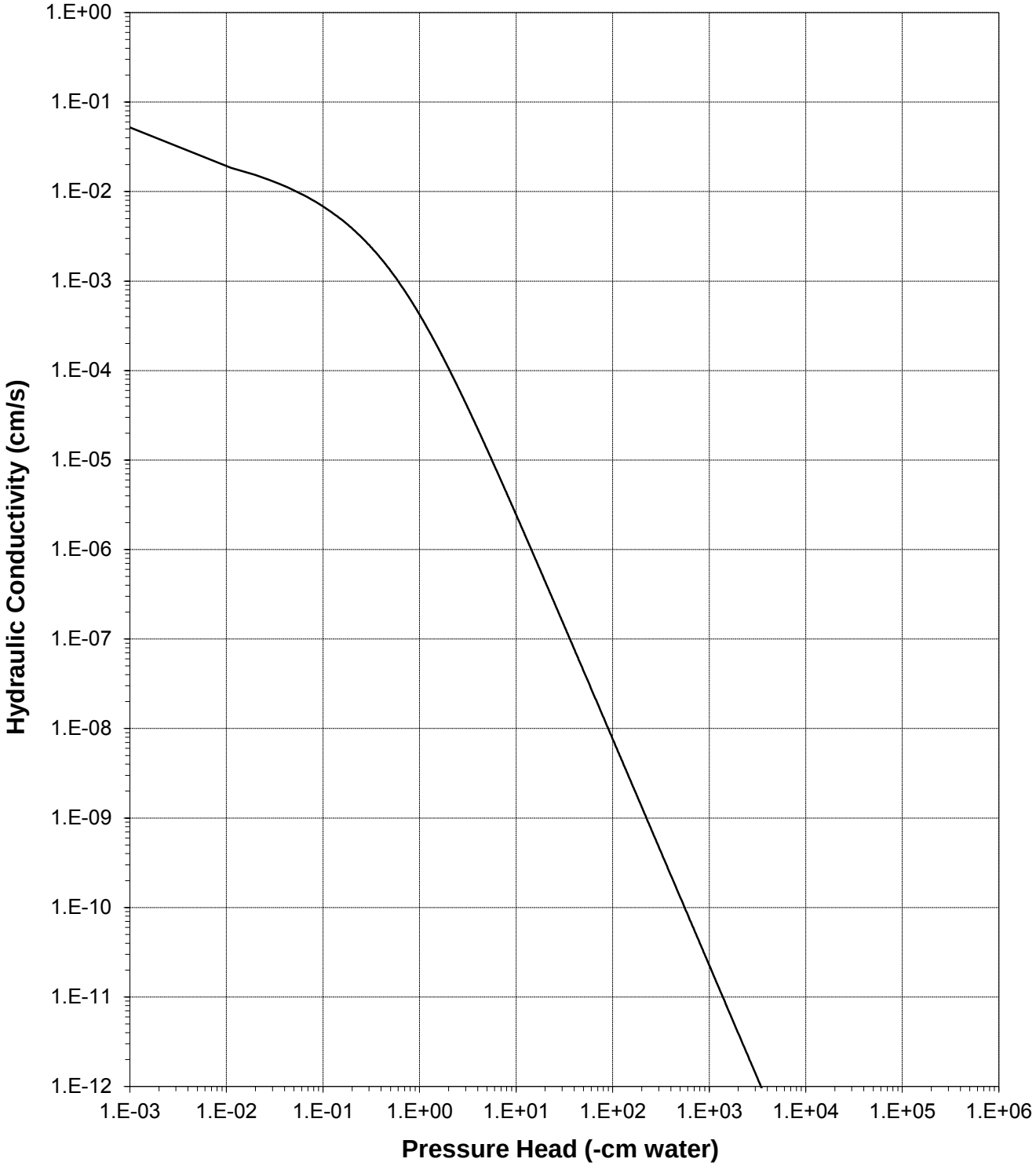
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-06 (8-10') Bag/MR*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-06 (8-10') Bag/MR*



Daniel B. Stephens & Associates, Inc.

# Oversize Correction Data Sheet

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Split (3/4", 3/8", #4):* 3/8

| | Coarse Fraction* | Fines Fraction** | Composite |
|---|---|---|---|
| *Subsample Mass* (g): | 913.31 | 1304.17 | 2217.48 |
| *Mass Fraction* (%): | 41.19 | 58.81 | 100.00 |
| *Initial Sample* $\theta_i$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.72 | 2.01 |
| *Calculated Porosity* (% vol): | 0.00 | 36.17 | 24.86 |
| *Volume of Solids* (cm$^3$): | 344.65 | 483.03 | 827.67 |
| *Volume of Voids* (cm$^3$): | 0.00 | 273.76 | 273.76 |
| *Total Volume* (cm$^3$): | 344.65 | 756.79 | 1101.43 |
| *Volumetric Fraction* (%): | 31.29 | 68.71 | 100.00 |
| *Initial Moisture Content* (% vol): | 0.00 | 14.34 | 9.85 |
| *Saturated Sample* $\theta_s$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.78 | 2.06 |
| *Calculated Porosity* (% vol): | 0.00 | 34.11 | 23.20 |
| *Volume of Solids* (cm$^3$): | 344.65 | 483.03 | 827.67 |
| *Volume of Voids* (cm$^3$): | 0.00 | 250.05 | 250.05 |
| *Total Volume* (cm$^3$): | 344.65 | 733.07 | 1077.72 |
| *Volumetric Fraction* (%): | 31.98 | 68.02 | 100.00 |
| *Saturated Moisture Content* (% vol): | 0.00 | 34.11 | 23.20 |
| *Residual Sample* $\theta_r$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.78 | 2.06 |
| *Calculated Porosity* (% vol): | 0.00 | 34.11 | 23.20 |
| *Volume of Solids* (cm$^3$): | 344.65 | 483.03 | 827.67 |
| *Volume of Voids* (cm$^3$): | 0.00 | 250.05 | 250.05 |
| *Total Volume* (cm$^3$): | 344.65 | 733.07 | 1077.72 |
| *Volumetric Fraction* (%): | 31.98 | 68.02 | 100.00 |
| *Residual Moisture Content* (% vol): | 0.00 | 0.00 | 0.00 |
| *Ksat* (cm/sec): | NM | 5.2E-02 | 3.0E-02 |

* = Porosity and moisture content of coarse fraction assumed to be zero.
** = Volume adjusted, if applicable. See notes on Moisture Retention Data pages.
NM = Not measured

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
Checked by: J. Hines

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') MR
*Project:* WSTF
*PO#:* 14EC016B

*Dry wt. of sample* (g): 347.51
*Tare wt., ring* (g): 133.80
*Tare wt., screen & clamp* (g): 27.68
*Initial sample volume* ($cm^3$): 221.22
*Initial dry bulk density* ($g/cm^3$): 1.57
*Assumed particle density* ($g/cm^3$): 2.70
*Initial calculated total porosity* (%): 41.82

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 9-Jul-14 | 11:15 | 578.49 | 0 | 32.11 | ‡‡ |
| | 17-Jul-14 | 10:10 | 576.40 | 4.5 | 31.60 | ‡‡ |
| | 25-Jul-14 | 9:20 | 555.60 | 14.5 | 21.85 | ‡‡ |
| | 1-Aug-14 | 9:50 | 542.80 | 65.0 | 15.85 | ‡‡ |
| *Pressure plate:* | 11-Aug-14 | 13:10 | 535.25 | 337 | 12.31 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 216.43 | -2.17% | 1.61 | 40.53 |
| | 4.5 | 213.30 | -3.58% | 1.63 | 39.66 |
| | 14.5 | 213.30 | -3.58% | 1.63 | 39.66 |
| | 65.0 | 213.30 | -3.58% | 1.63 | 39.66 |
| *Pressure plate:* | 337 | 213.30 | -3.58% | 1.63 | 39.66 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-07 (47-49') MR

*Initial sample bulk density* (g/cm$^3$)*:* 1.57

*Fraction of bulk sample used (<2.00mm fraction) (%):* 59.46

*Dry weight* of dew point potentiometer sample* (g)*:* 134.76

*Tare weight, jar* (g)*:* 114.11

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 11-Jul-14 | 15:40 | 135.64 | 14175 | 4.13 | ‡‡ |
| | 11-Jul-14 | 14:10 | 135.38 | 54661 | 2.91 | ‡‡ |
| | 10-Jul-14 | 10:40 | 135.17 | 315934 | 1.92 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 14175 | 213.30 | -3.58% | 1.63 | 39.66 |
| | 54661 | 213.30 | -3.58% | 1.63 | 39.66 |
| | 315934 | 213.30 | -3.58% | 1.63 | 39.66 |

*Dry weight* of relative humidity box sample* (g)*:* 62.93

*Tare weight* (g)*:* 42.91

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 8-Jul-14 | 9:15 | 63.16 | 851293 | 1.09 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 851293 | 213.30 | -3.58% | 1.63 | 39.66 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

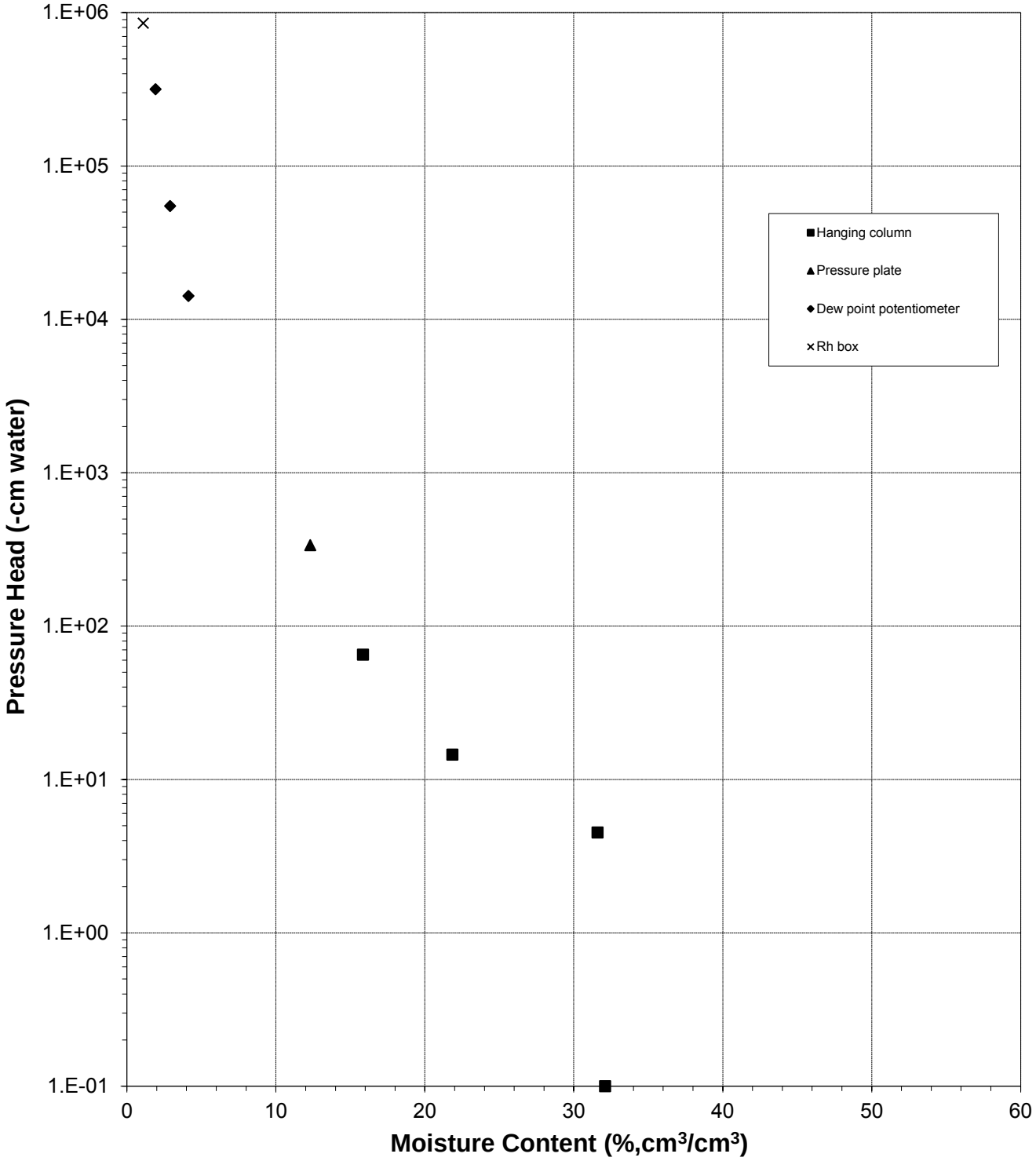
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

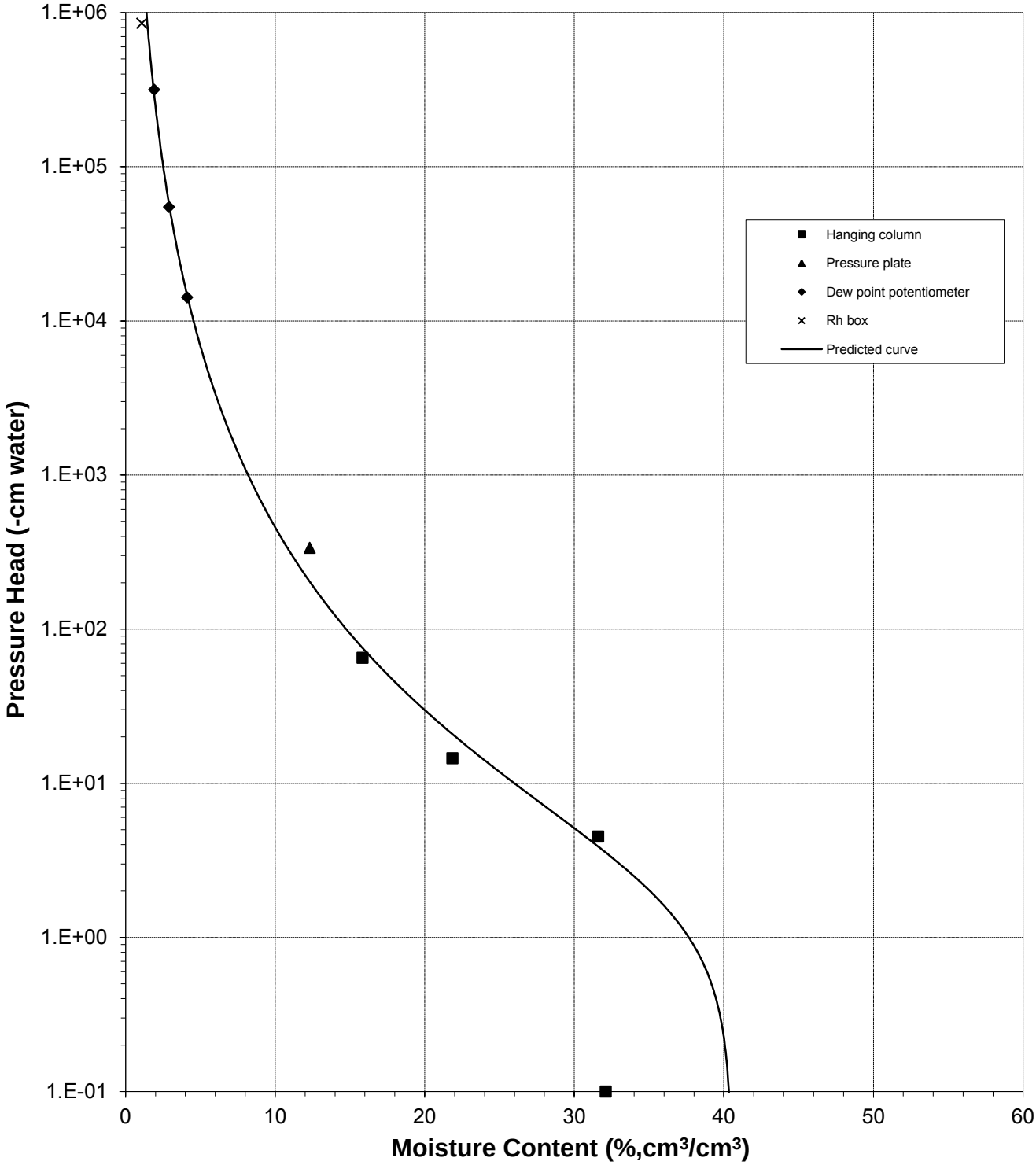
## Water Retention Data Points

*Sample Number: 200-SB-07 (47-49') MR*



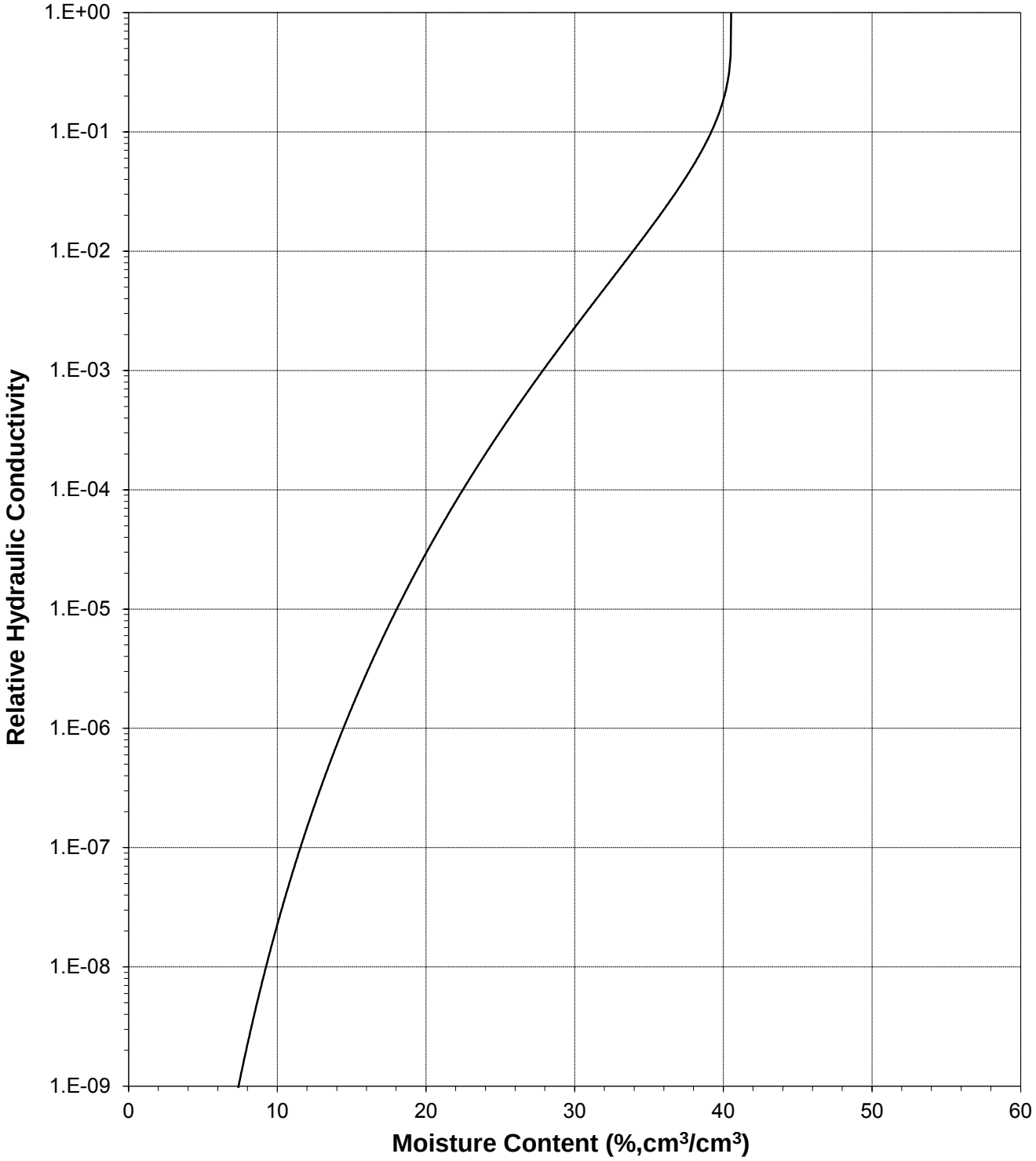
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-07 (47-49') MR*



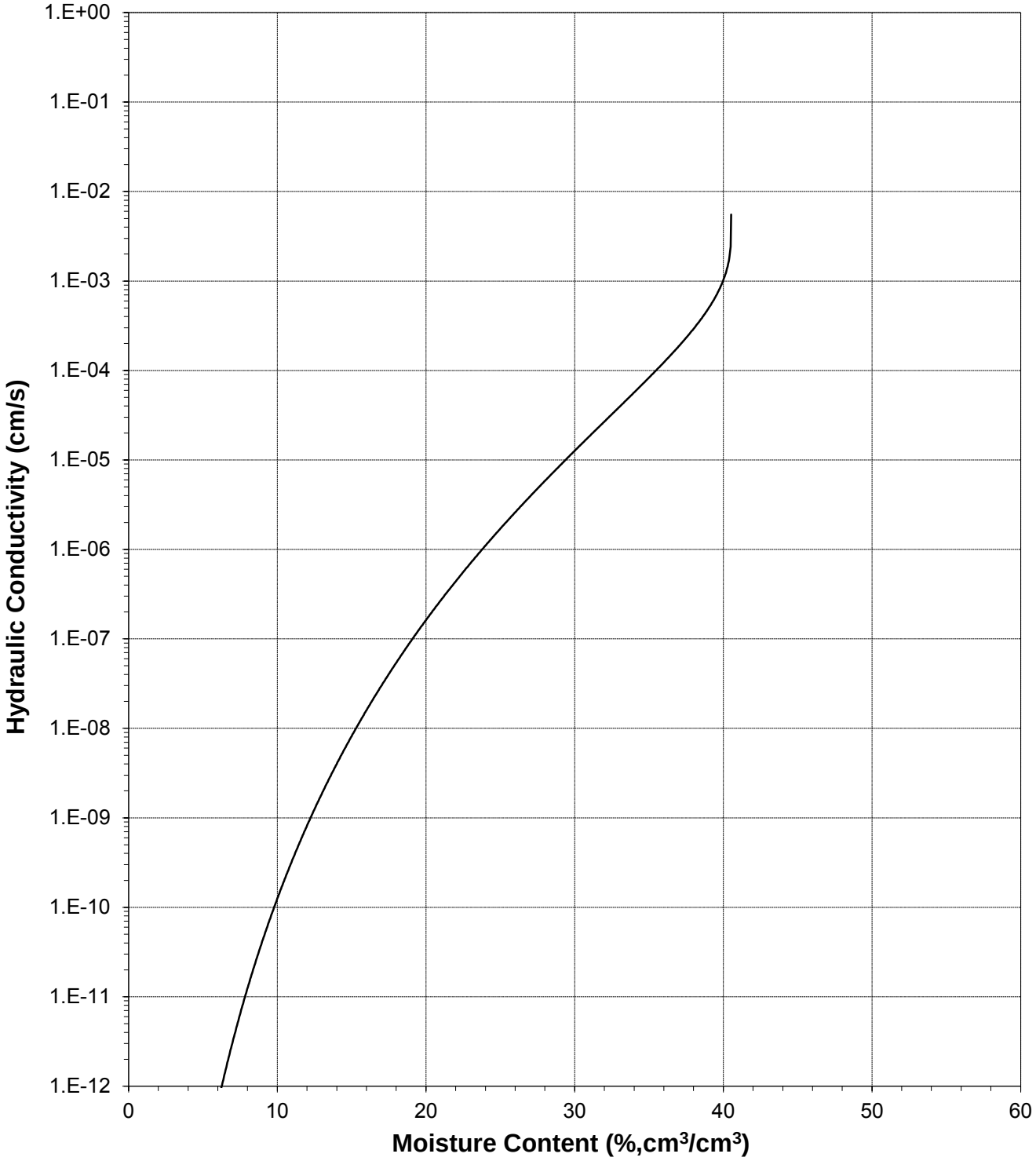
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-07 (47-49') MR*



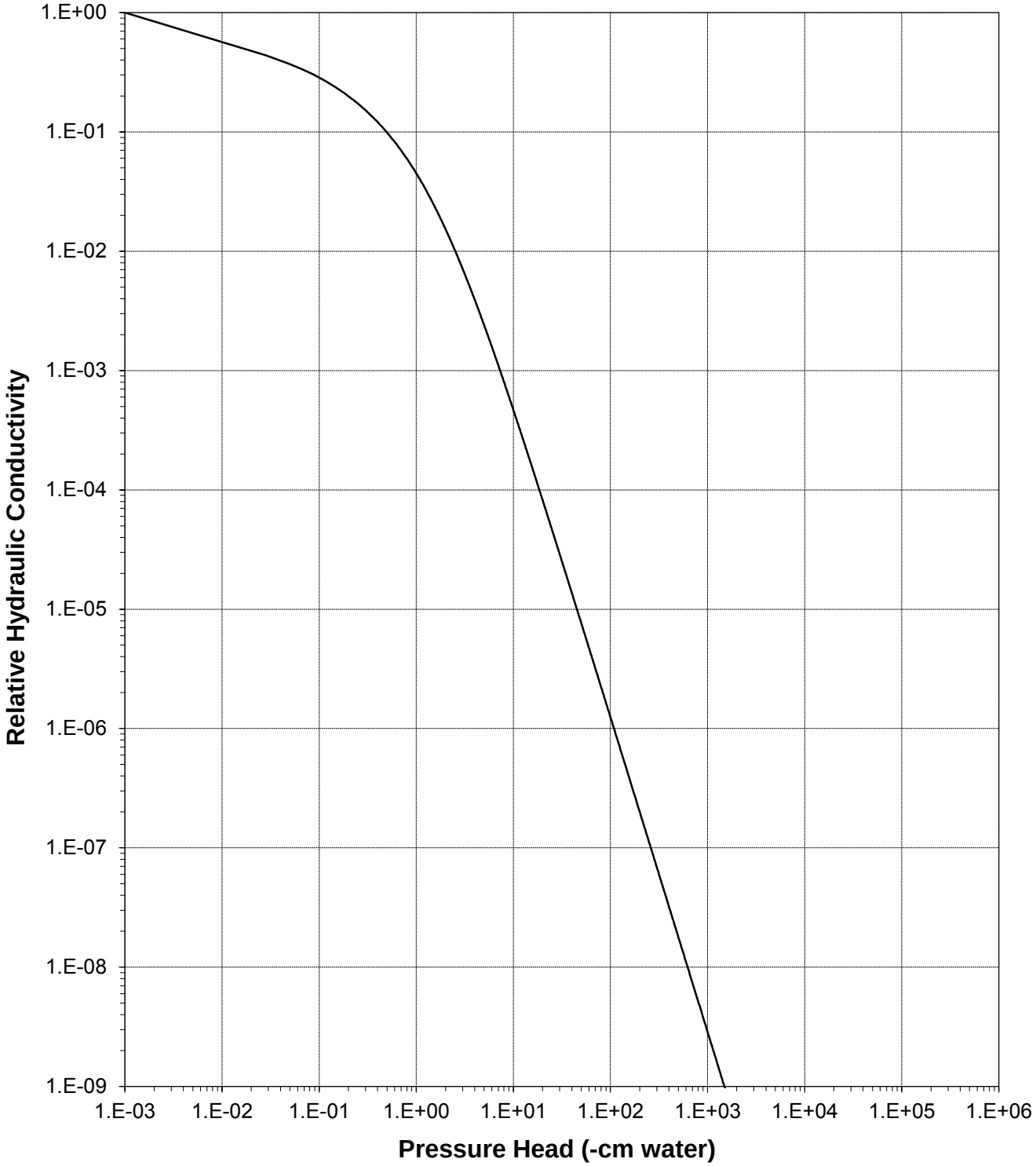
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-07 (47-49') MR*



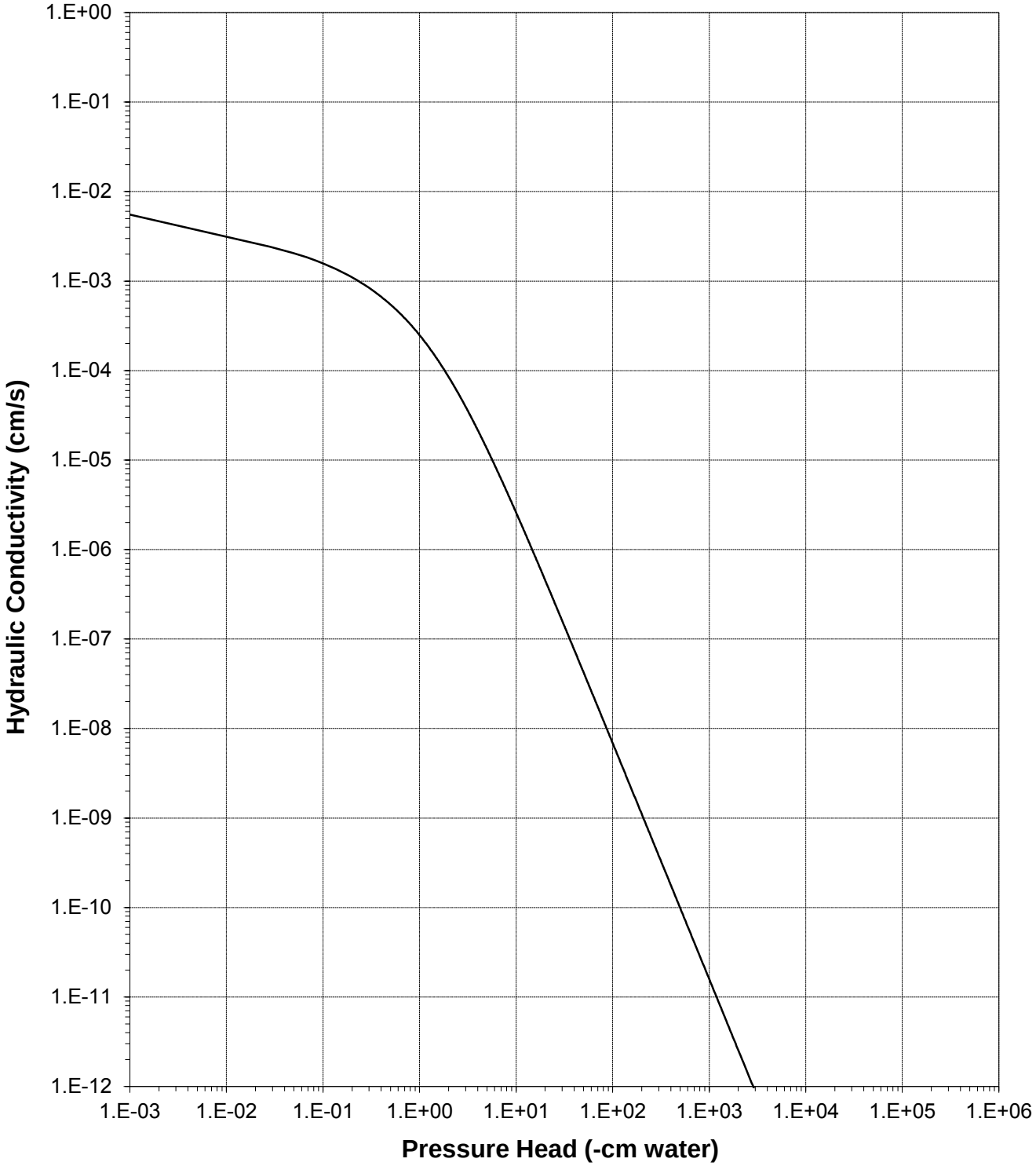
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-07 (47-49') MR*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-07 (47-49') MR*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') MR
*Project:* WSTF
*PO#:* 14EC016B

*Dry wt. of sample* (g): 368.48
*Tare wt., ring* (g): 127.42
*Tare wt., screen & clamp* (g): 27.82
*Initial sample volume* ($cm^3$): 224.34
*Initial dry bulk density* ($g/cm^3$): 1.64
*Assumed particle density* ($g/cm^3$): 2.70
*Initial calculated total porosity* (%): 39.17

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 9-Jul-14 | 11:20 | 582.39 | 0 | 30.53 | ‡‡ |
| | 17-Jul-14 | 10:15 | 578.40 | 5.0 | 29.24 | ‡‡ |
| | 25-Jul-14 | 9:25 | 576.60 | 14.0 | 28.27 | ‡‡ |
| | 1-Aug-14 | 9:56 | 560.70 | 63.0 | 19.77 | ‡‡ |
| *Pressure plate:* | 11-Aug-14 | 13:08 | 543.59 | 337 | 10.62 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 192.15 | -14.35% | 1.92 | 28.97 |
| | 5.0 | 187.03 | -16.63% | 1.97 | 27.03 |
| | 14.0 | 187.03 | -16.63% | 1.97 | 27.03 |
| | 63.0 | 187.03 | -16.63% | 1.97 | 27.03 |
| *Pressure plate:* | 337 | 187.03 | -16.63% | 1.97 | 27.03 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-08 (28-30') MR

*Initial sample bulk density* (g/cm$^3$)*:* 1.64

*Fraction of bulk sample used (<2.00mm fraction) (%):* 60.17

*Dry weight* of dew point potentiometer sample* (g)*:* 181.18

*Tare weight, jar* (g)*:* 110.85

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 12-Jul-14 | 11:00 | 183.62 | 7547 | 4.11 | ‡‡ |
| | 11-Jul-14 | 10:45 | 182.57 | 57721 | 2.34 | ‡‡ |
| | 9-Jul-14 | 14:12 | 181.84 | 371921 | 1.11 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 7547 | 187.03 | -16.63% | 1.97 | 27.03 |
| | 57721 | 187.03 | -16.63% | 1.97 | 27.03 |
| | 371921 | 187.03 | -16.63% | 1.97 | 27.03 |

*Dry weight* of relative humidity box sample* (g)*:* 78.79

*Tare weight* (g)*:* 39.38

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 8-Jul-14 | 9:15 | 79.09 | 851293 | 0.90 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 851293 | 187.03 | -16.63% | 1.97 | 27.03 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

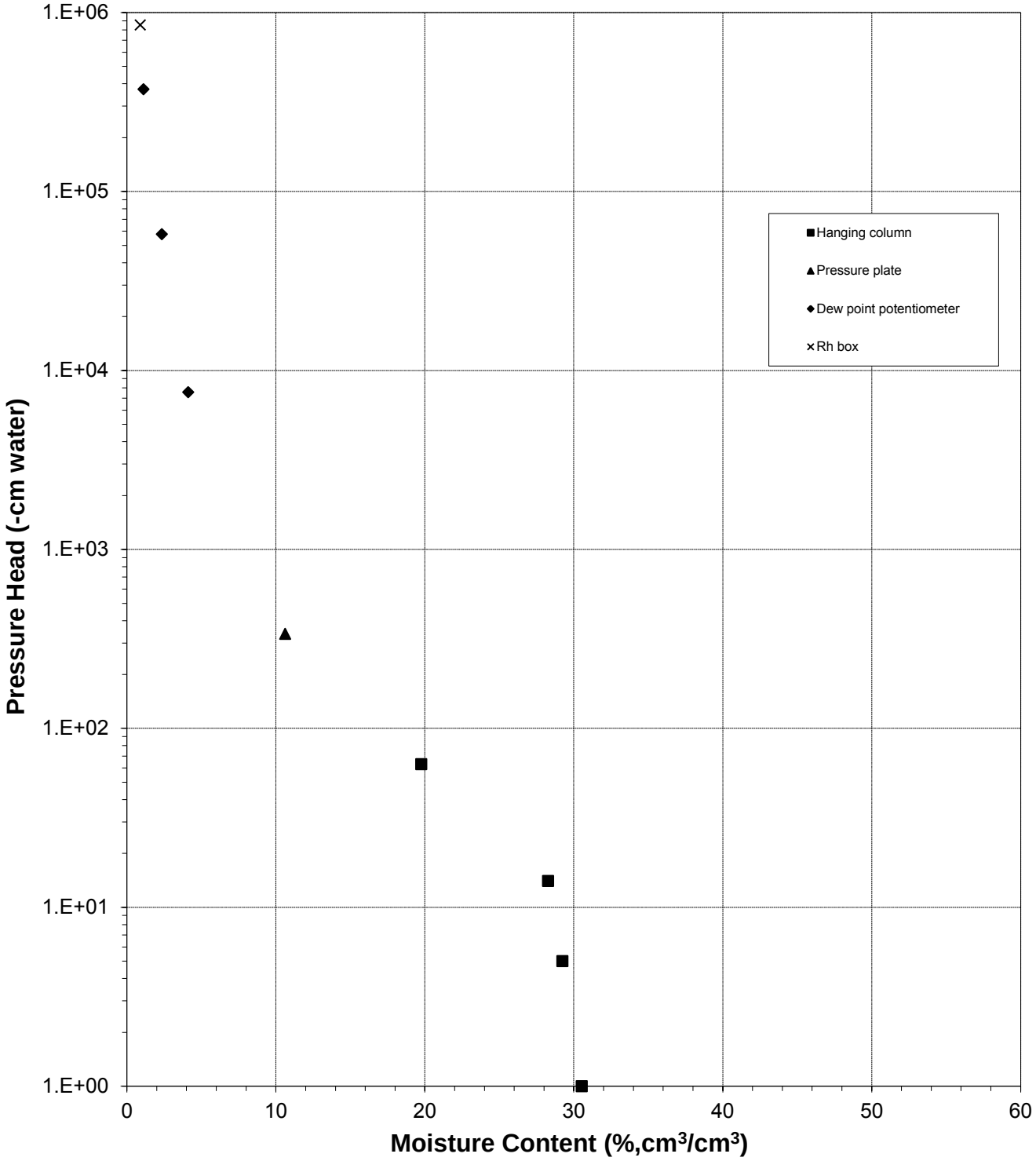
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

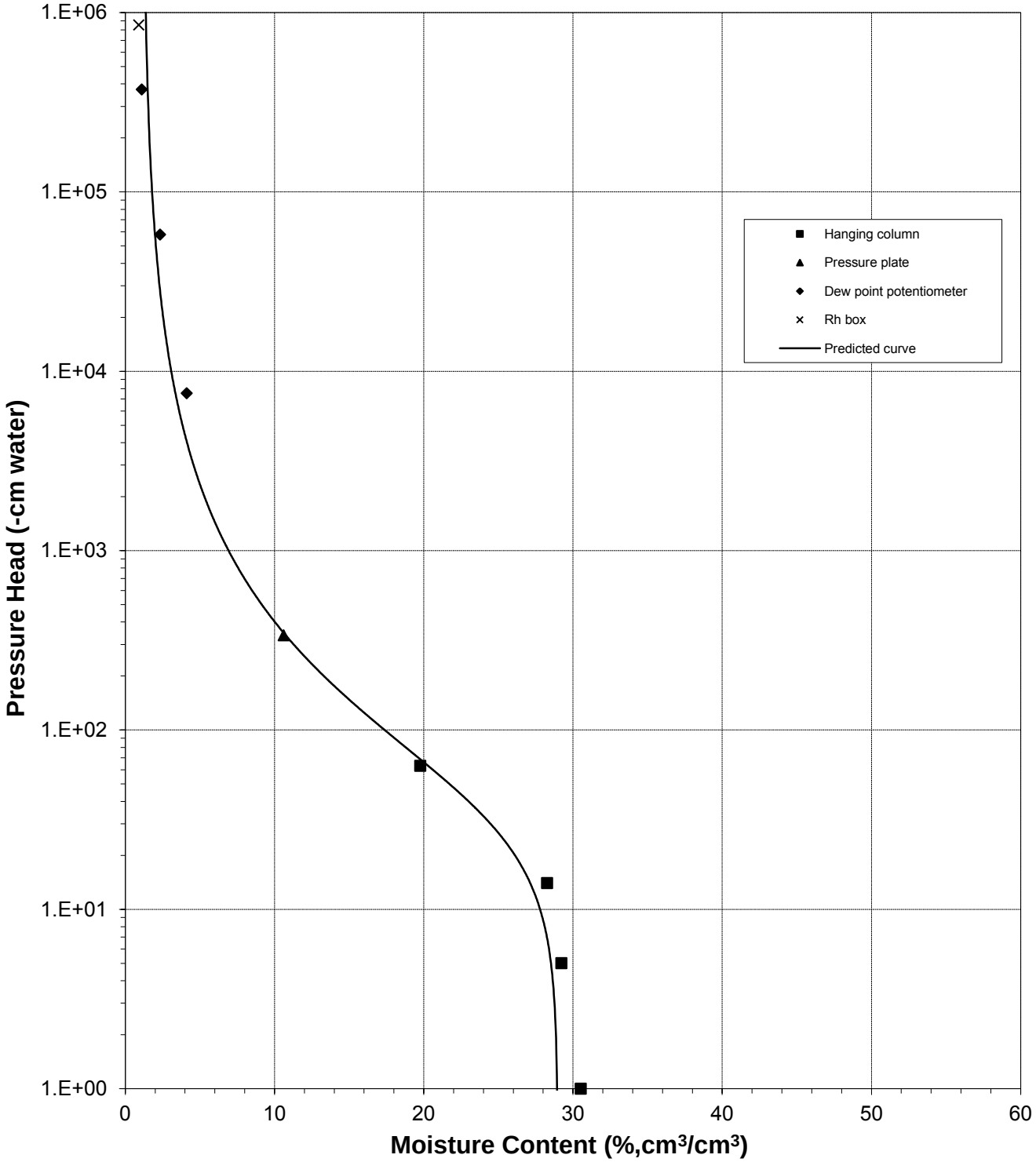
## Water Retention Data Points

*Sample Number: 200-SB-08 (28-30') MR*



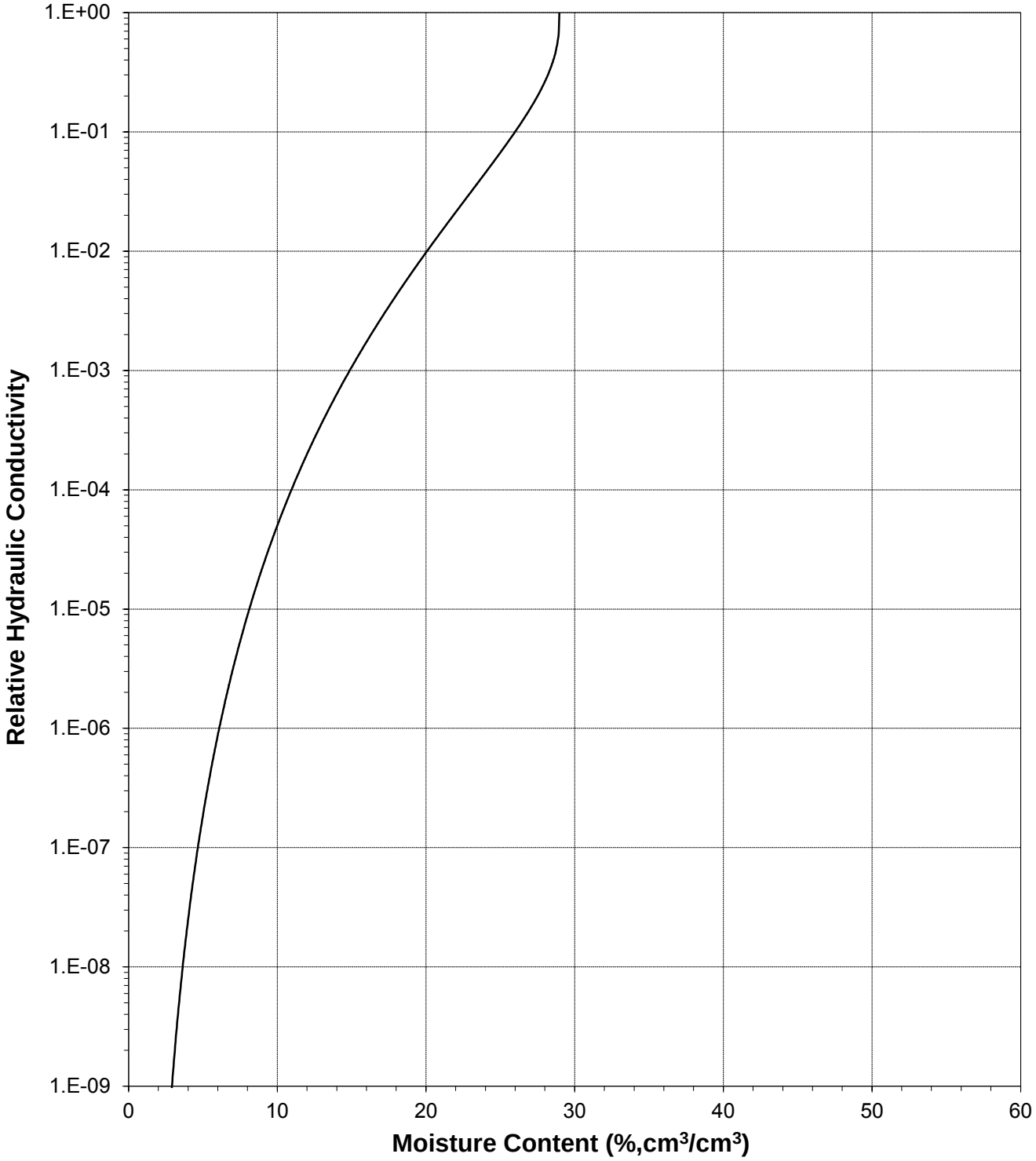
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-08 (28-30') MR*



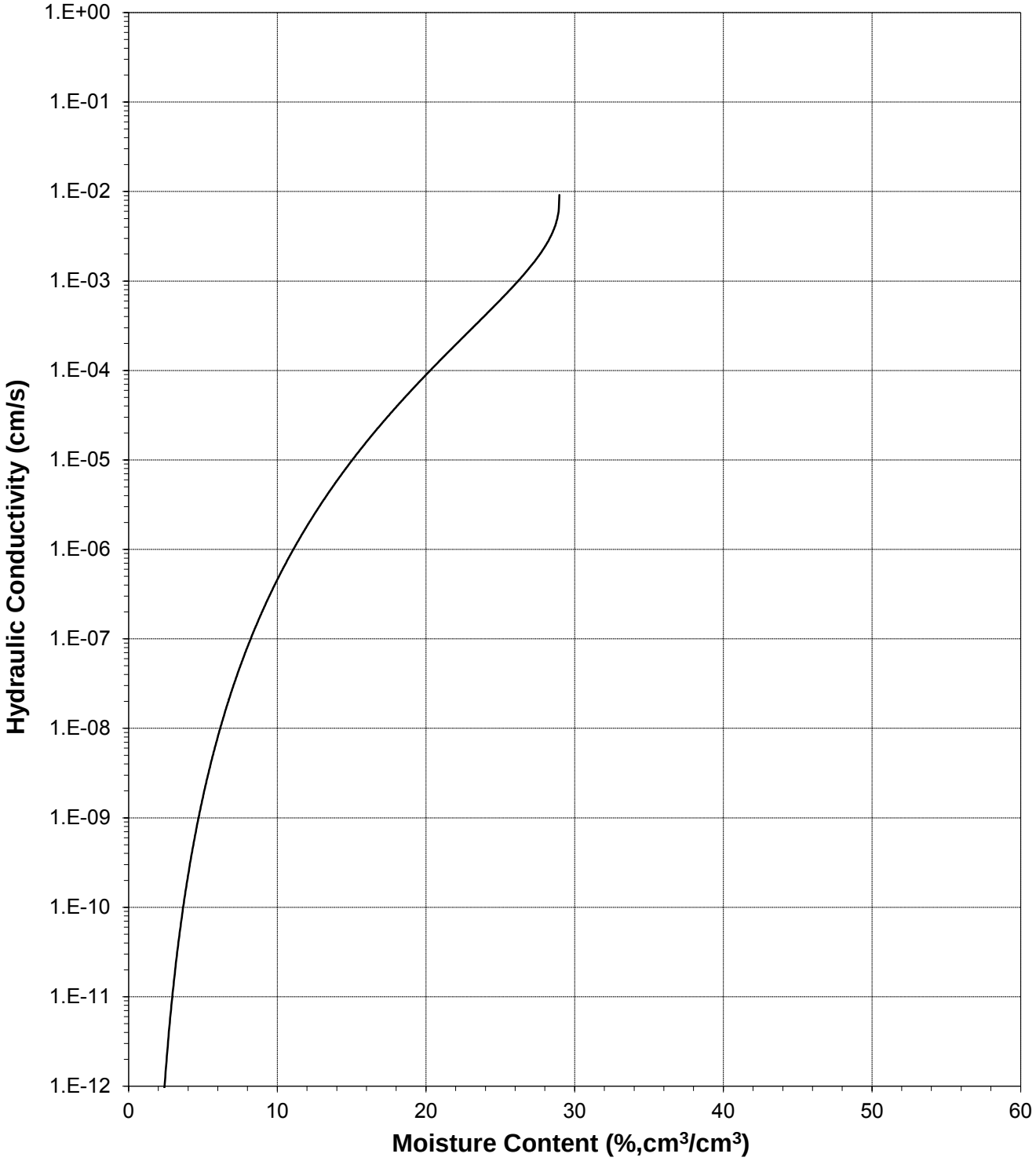
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-08 (28-30') MR*



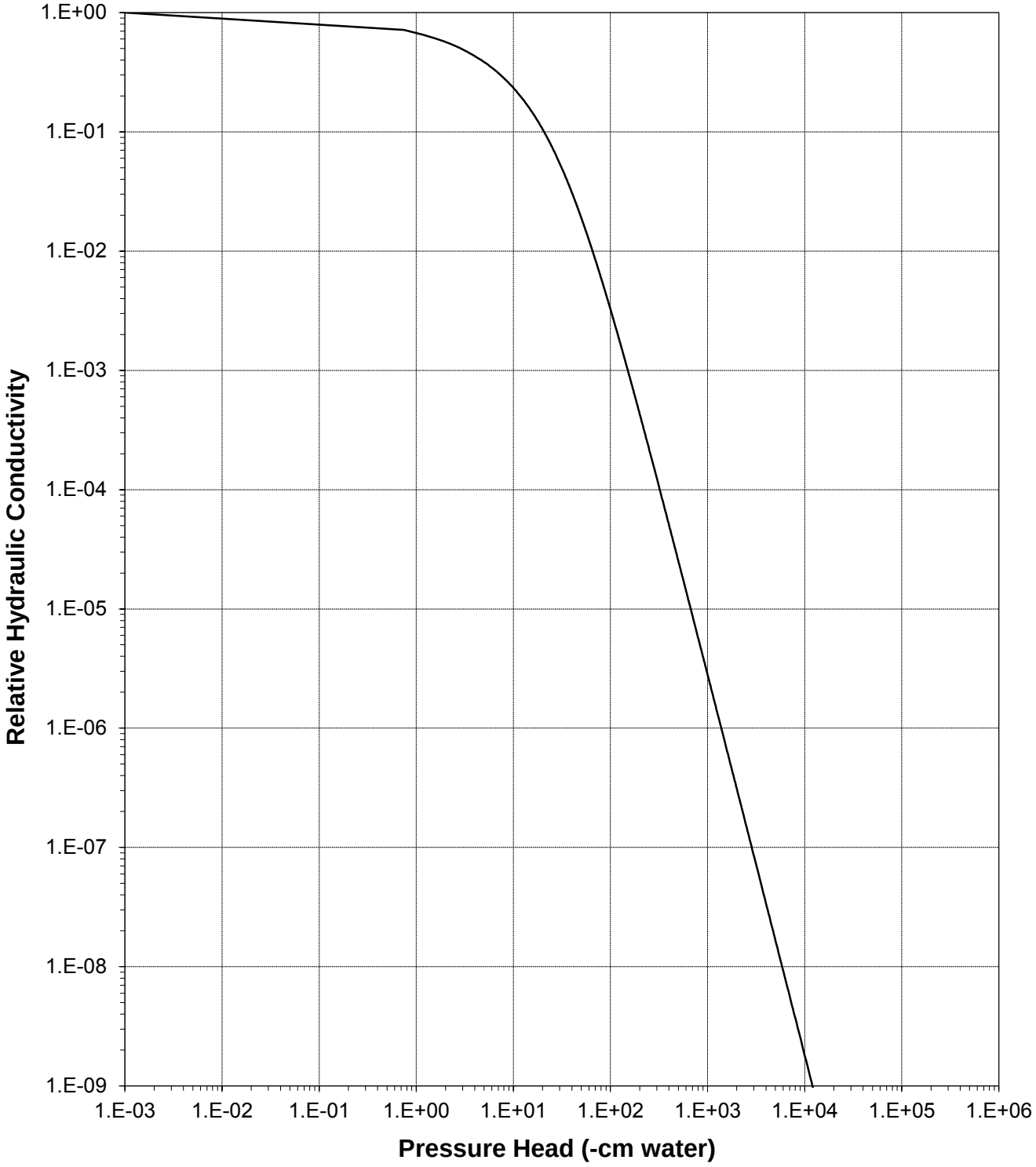
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-08 (28-30') MR*



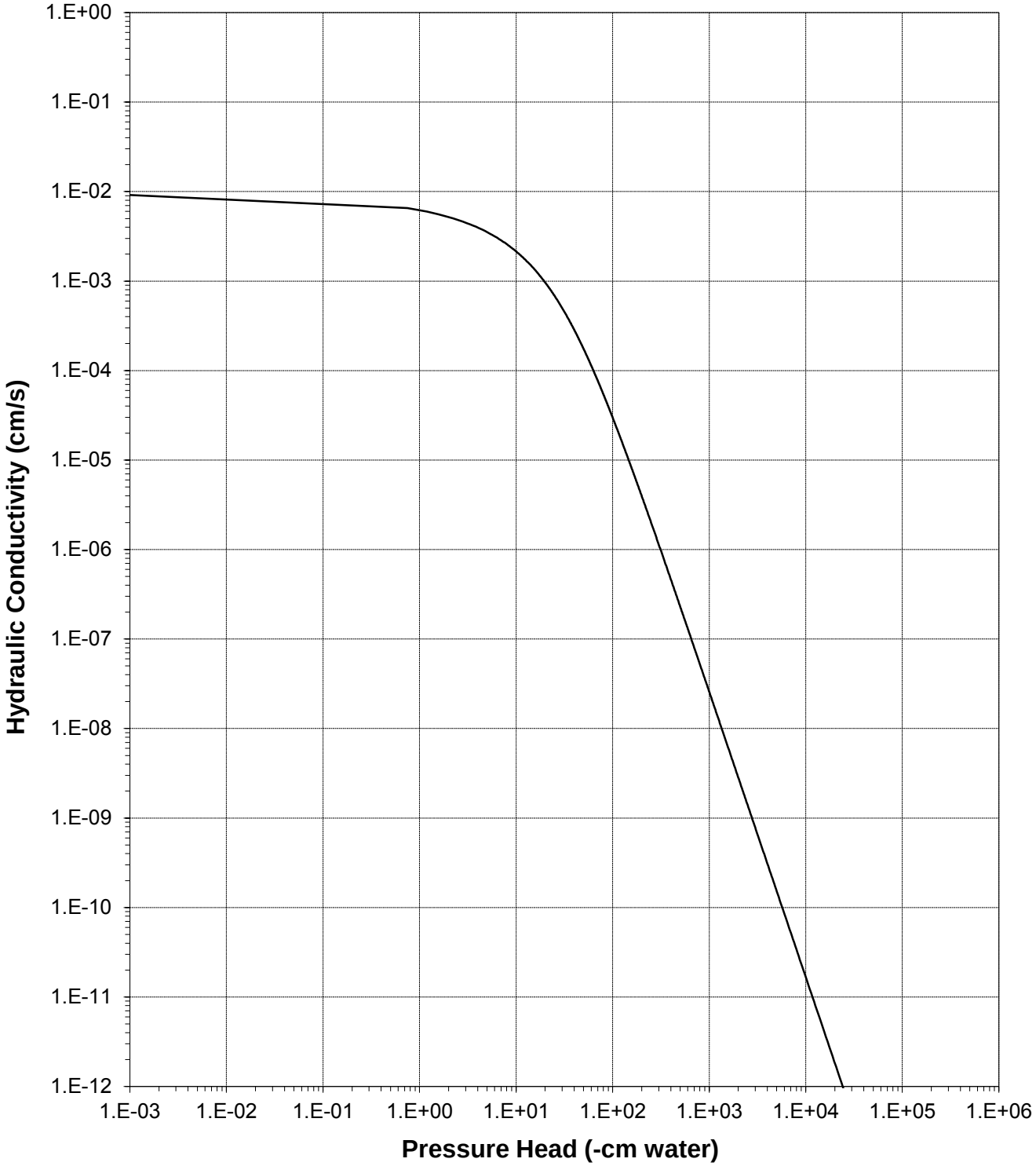
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-08 (28-30') MR*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-08 (28-30') MR*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Dry wt. of sample* (g): 3878.10
*Tare wt., ring* (g): 272.30
*Tare wt., screen & clamp* (g): 57.80
*Initial sample volume* ($cm^3$): 2205.74
*Initial dry bulk density* ($g/cm^3$): 1.76
*Assumed particle density* ($g/cm^3$): 2.70
*Initial calculated total porosity* (%): 34.88

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content† (% vol) |
|---|---|---|---|---|---|
| *Hanging column:* | 11-Jul-14 | 13:45 | 4671.00 | 0 | 20.98 |
| | 21-Jul-14 | 9:50 | 4630.62 | 6.5 | 19.15 |
| | 28-Jul-14 | 16:05 | 4570.70 | 11.0 | 16.43 |
| | 4-Aug-14 | 15:30 | 4399.00 | 45.0 | 8.65 |
| | 11-Aug-14 | 13:00 | 4336.15 | 190.0 | 5.80 |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | --- | --- | --- | --- |
| | 6.5 | --- | --- | --- | --- |
| | 11.0 | --- | --- | --- | --- |
| | 45.0 | --- | --- | --- | --- |
| | 190.0 | --- | --- | --- | --- |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-20 (28-30') Bag/MR

*Initial sample bulk density* (g/cm$^3$)*:* 1.76

*Fraction of bulk sample used (<2.00mm fraction) (%):* 58.15

*Dry weight* of dew point potentiometer sample* (g)*:* 195.02

*Tare weight, jar* (g)*:* 118.04

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 12-Jul-14 | 11:45 | 196.83 | 4181 | 2.40 |
| | 12-Jul-14 | 9:25 | 196.18 | 38548 | 1.54 |
| | 10-Jul-14 | 13:38 | 195.79 | 181116 | 1.02 |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 4181 | --- | --- | --- | --- |
| | 38548 | --- | --- | --- | --- |
| | 181116 | --- | --- | --- | --- |

*Dry weight* of relative humidity box sample* (g)*:* 79.36

*Tare weight* (g)*:* 40.00

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 8-Jul-14 | 9:15 | 79.58 | 851293 | 0.57 |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 851293 | --- | --- | --- | --- |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

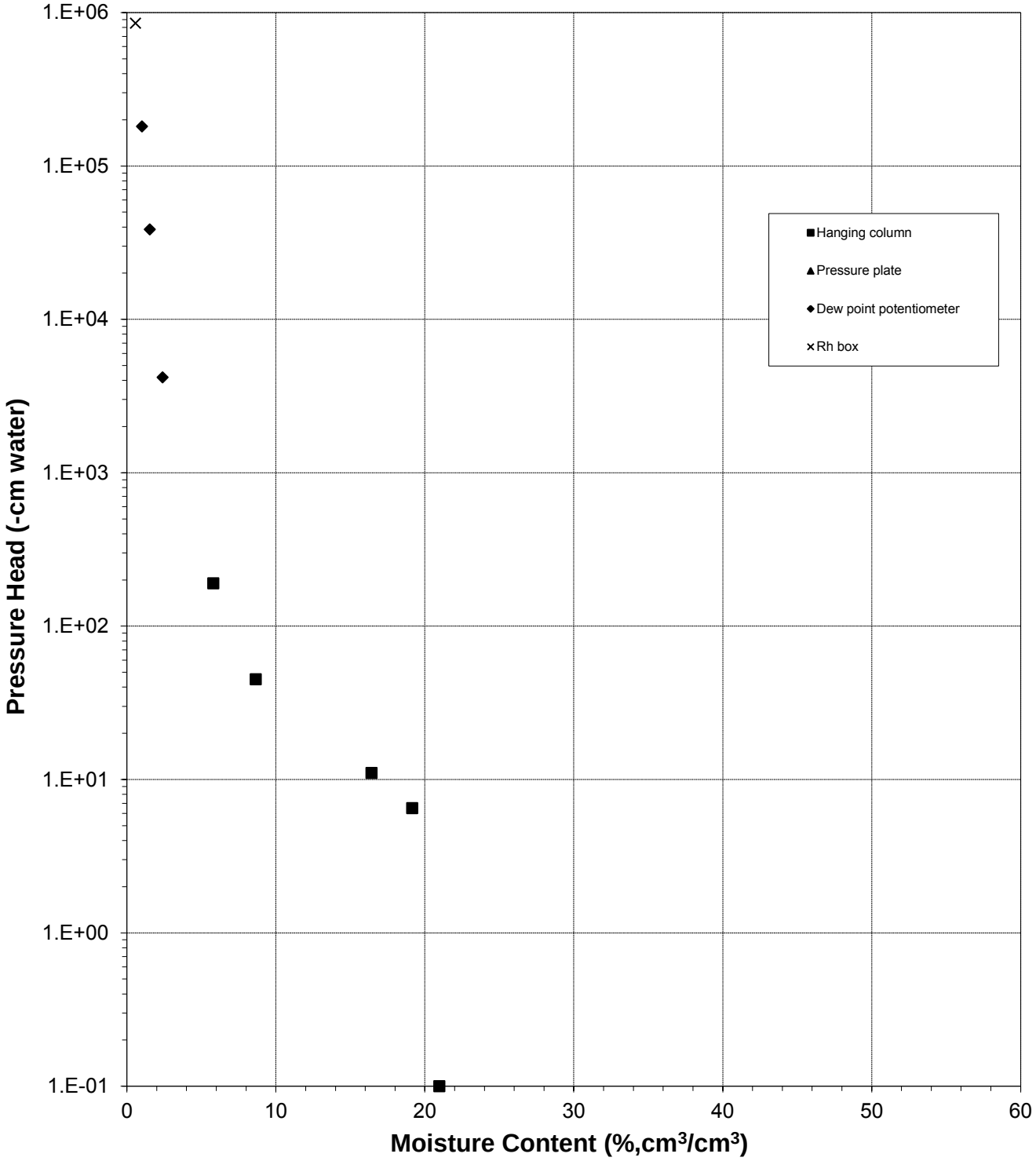
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

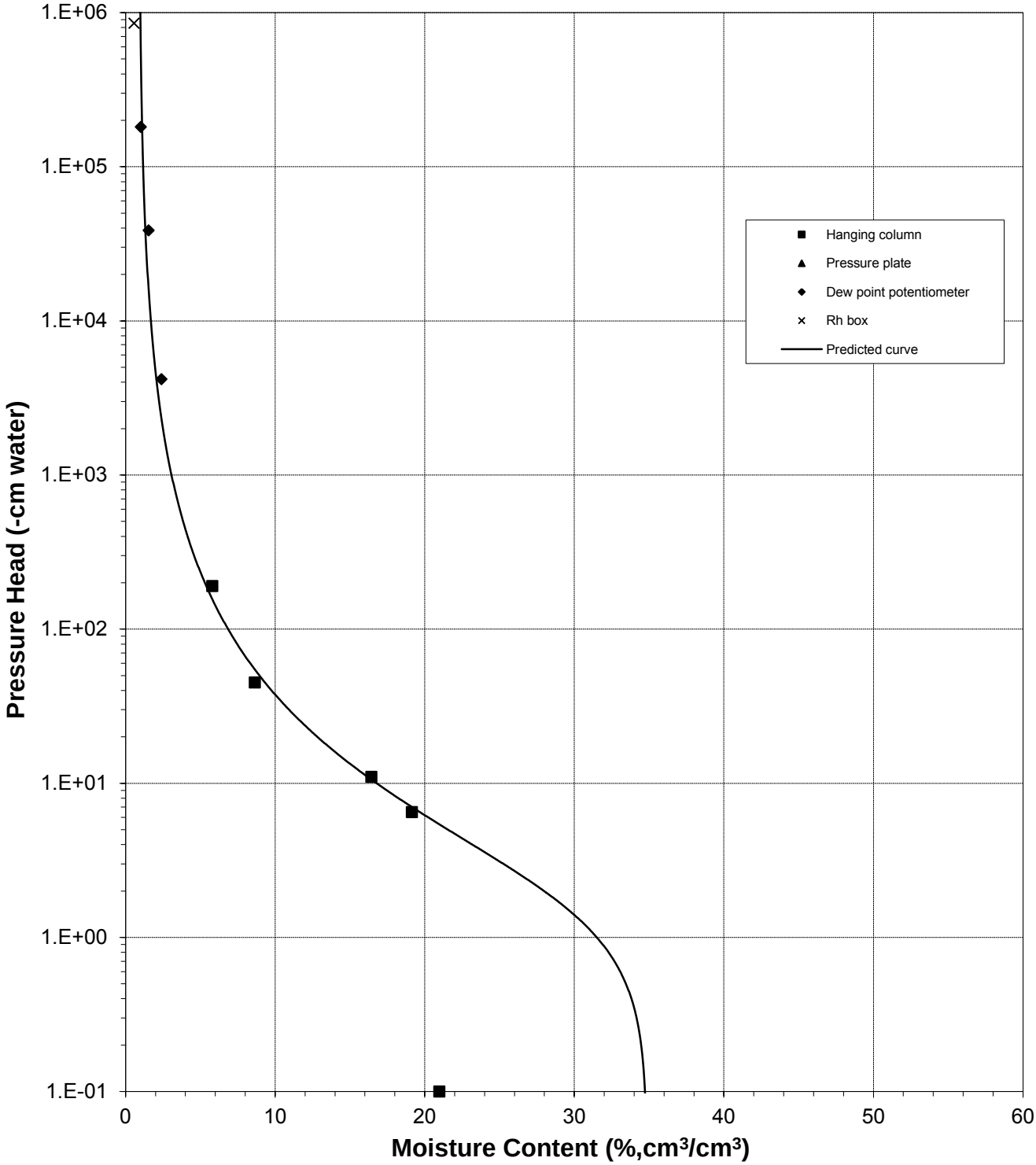
## Water Retention Data Points

*Sample Number: 200-SB-20 (28-30') Bag/MR*



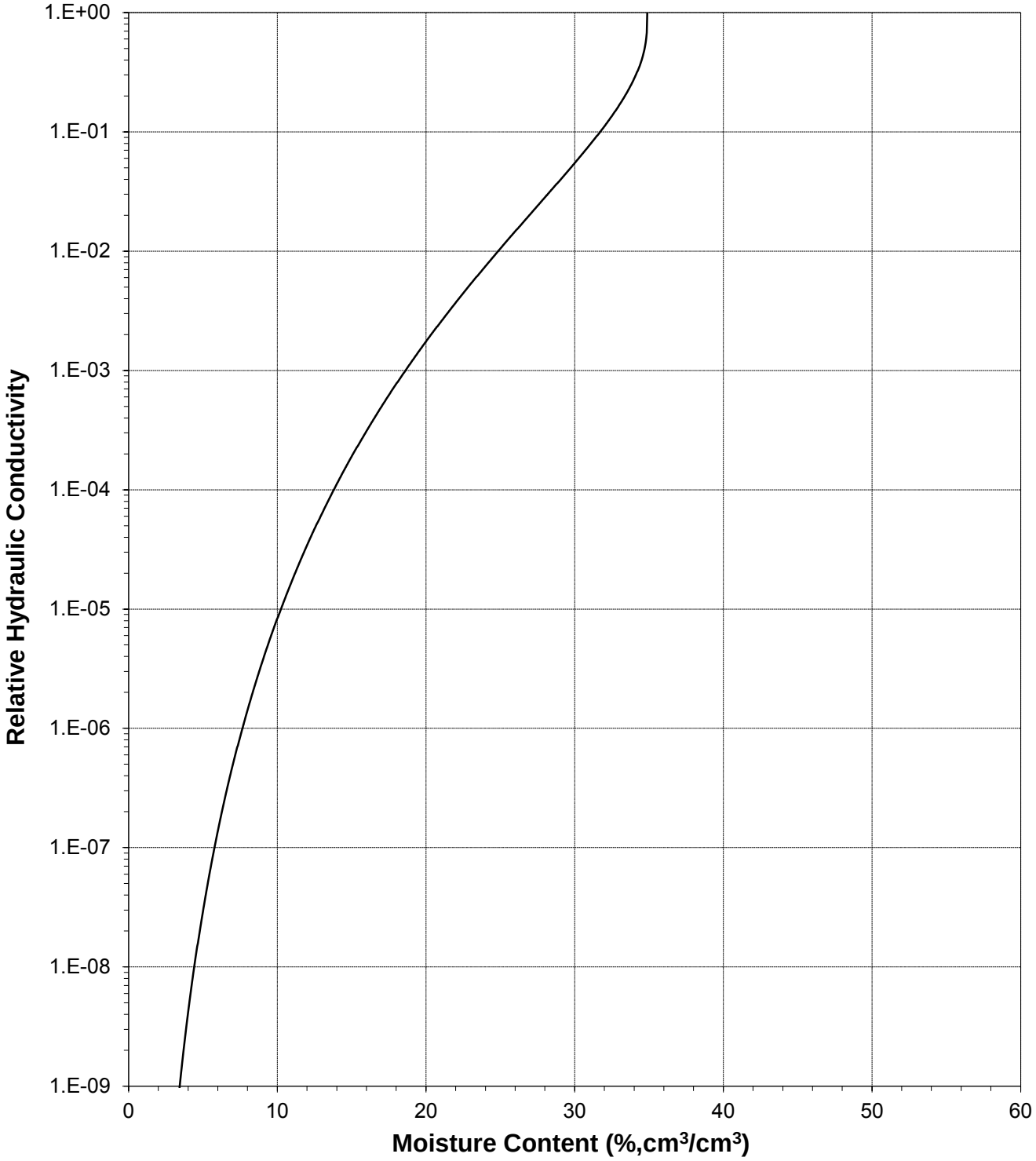
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-20 (28-30') Bag/MR*



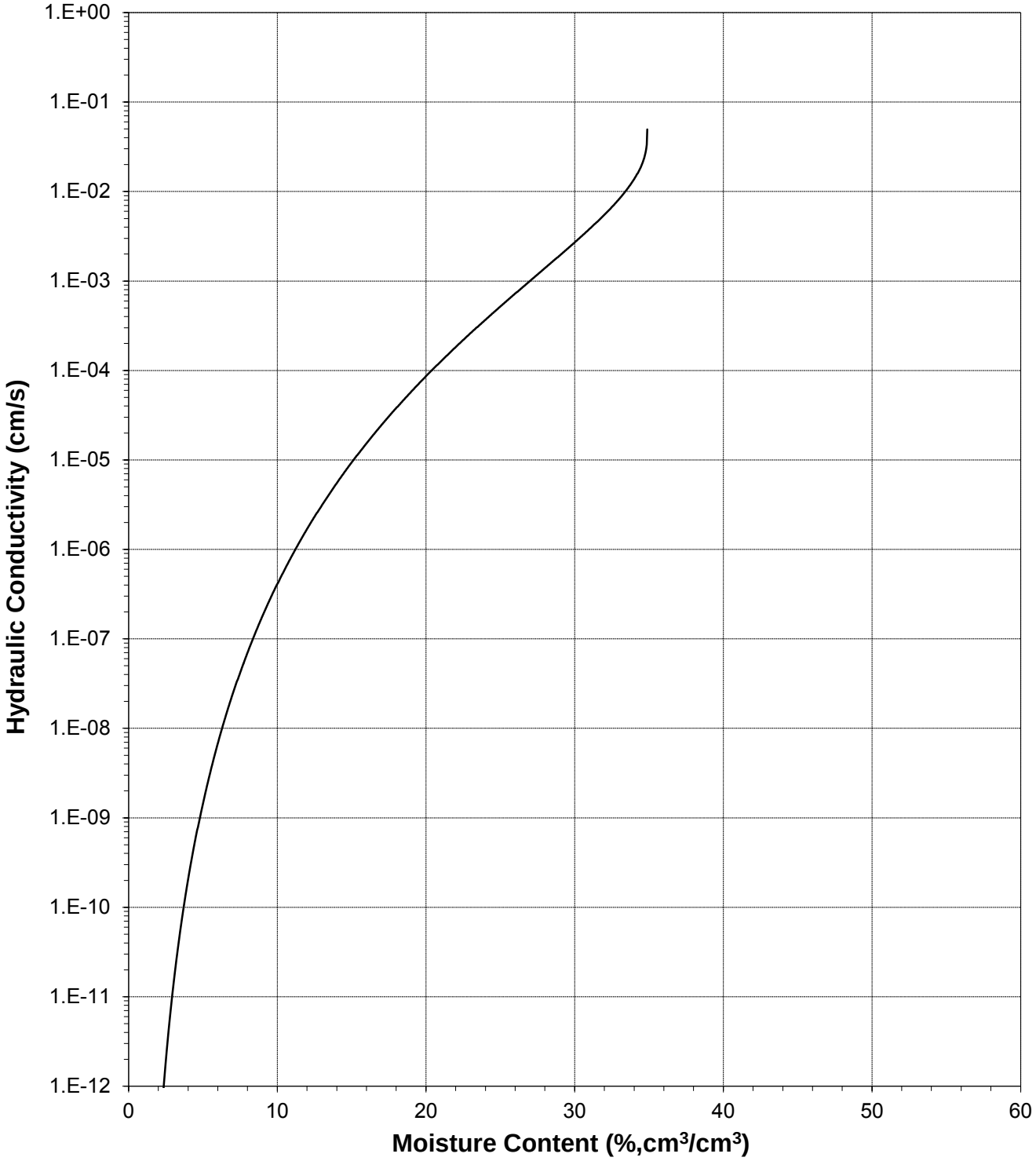
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-20 (28-30') Bag/MR*



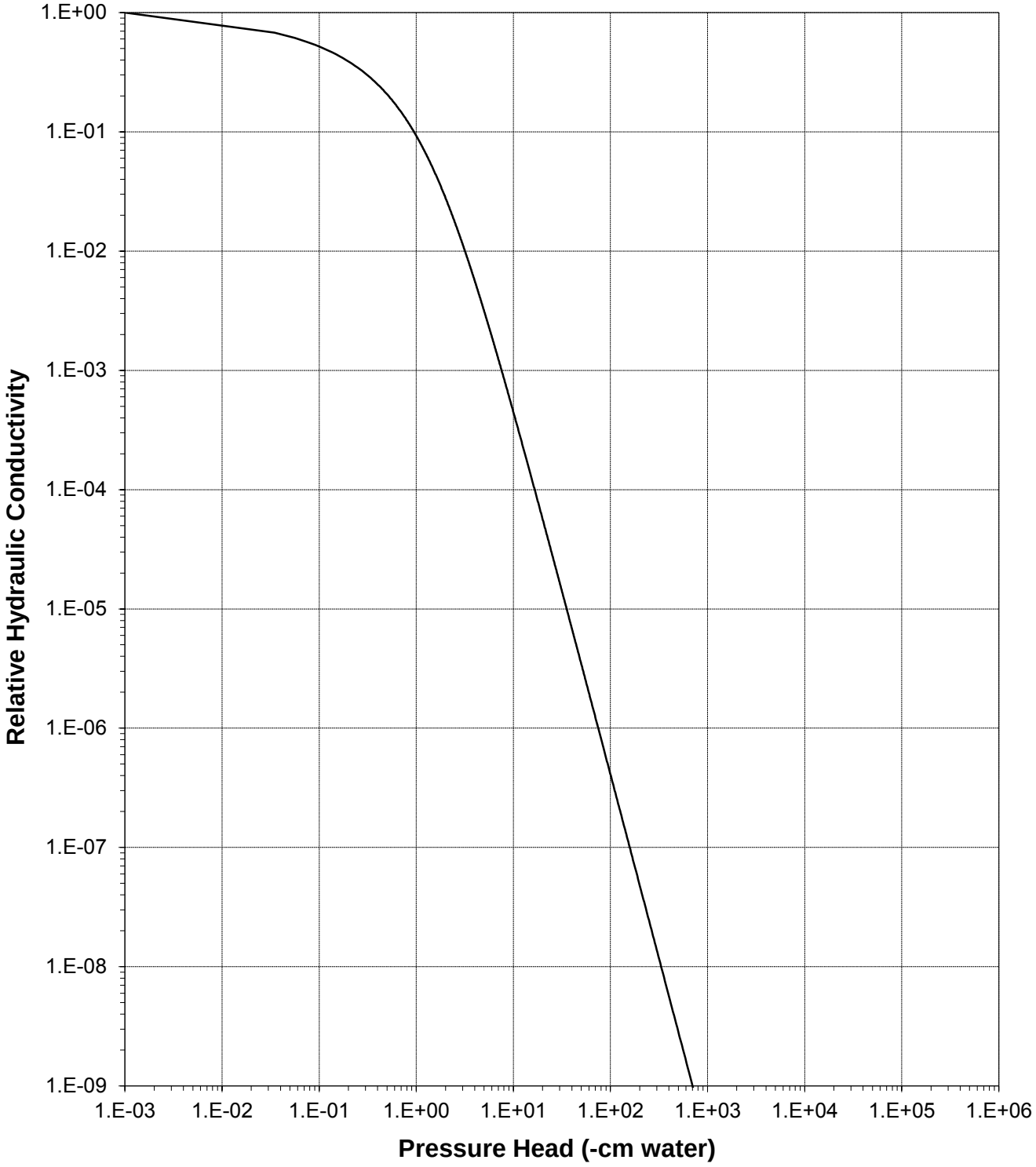
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-20 (28-30') Bag/MR*



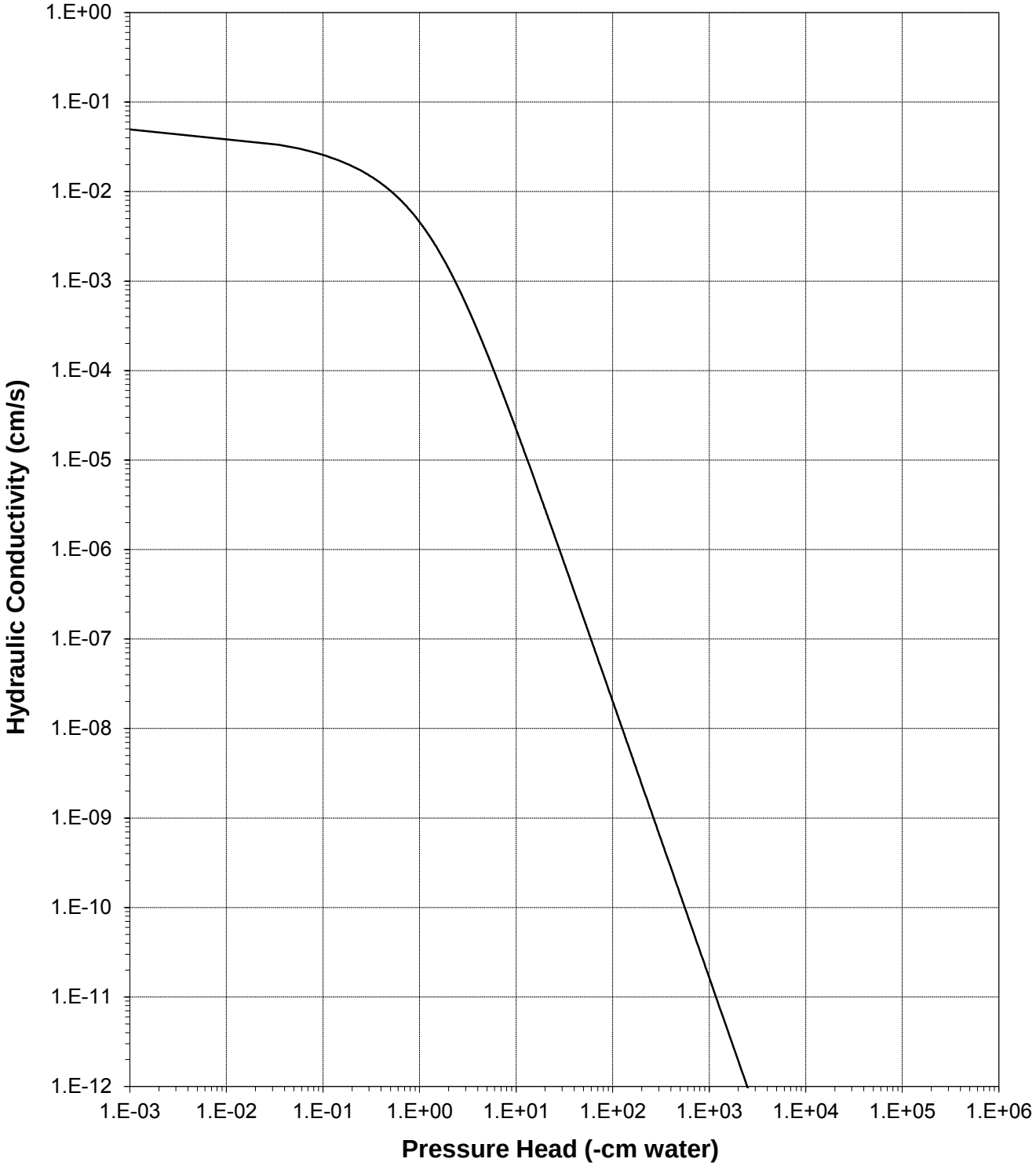
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-20 (28-30') Bag/MR*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-20 (28-30') Bag/MR*



Daniel B. Stephens & Associates, Inc.

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') MR
*Project:* WSTF
*PO#:* 14EC016B

*Dry wt. of sample* (g): 382.15
*Tare wt., ring* (g): 126.41
*Tare wt., screen & clamp* (g): 26.55
*Initial sample volume* ($cm^3$): 222.69
*Initial dry bulk density* ($g/cm^3$): 1.72
*Assumed particle density* ($g/cm^3$): 2.70
*Initial calculated total porosity* (%): 36.44

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 9-Jul-14 | 11:25 | 587.13 | 0 | 25.09 | ‡‡ |
| | 17-Jul-14 | 10:22 | 580.00 | 4.0 | 22.10 | ‡‡ |
| | 25-Jul-14 | 9:30 | 562.80 | 22.0 | 13.63 | ‡‡ |
| | 1-Aug-14 | 9:55 | 551.30 | 70.0 | 7.98 | ‡‡ |
| *Pressure plate:* | 11-Aug-14 | 13:07 | 546.02 | 337 | 5.38 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 207.34 | -6.89% | 1.84 | 31.74 |
| | 4.0 | 203.17 | -8.77% | 1.88 | 30.33 |
| | 22.0 | 203.17 | -8.77% | 1.88 | 30.33 |
| | 70.0 | 202.93 | -8.87% | 1.88 | 30.25 |
| *Pressure plate:* | 337 | 202.93 | -8.87% | 1.88 | 30.25 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-21 (32.5-33') MR

*Initial sample bulk density* (g/cm$^3$)*:* 1.72
*Fraction of bulk sample used (<2.00mm fraction) (%):* 35.21

*Dry weight* of dew point potentiometer sample* (g)*:* 145.97
*Tare weight, jar* (g)*:* 110.67

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 12-Jul-14 | 9:05 | 146.95 | 8464 | 1.84 | ‡‡ |
| | 10-Jul-14 | 13:25 | 146.44 | 50174 | 0.88 | ‡‡ |
| | 8-Jul-14 | 12:47 | 146.30 | 222928 | 0.62 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 8464 | 202.93 | -8.87% | 1.88 | 30.25 |
| | 50174 | 202.93 | -8.87% | 1.88 | 30.25 |
| | 222928 | 202.93 | -8.87% | 1.88 | 30.25 |

*Dry weight* of relative humidity box sample* (g)*:* 62.25
*Tare weight* (g)*:* 41.39

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 8-Jul-14 | 9:15 | 62.39 | 851293 | 0.43 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 851293 | 202.93 | -8.87% | 1.88 | 30.25 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

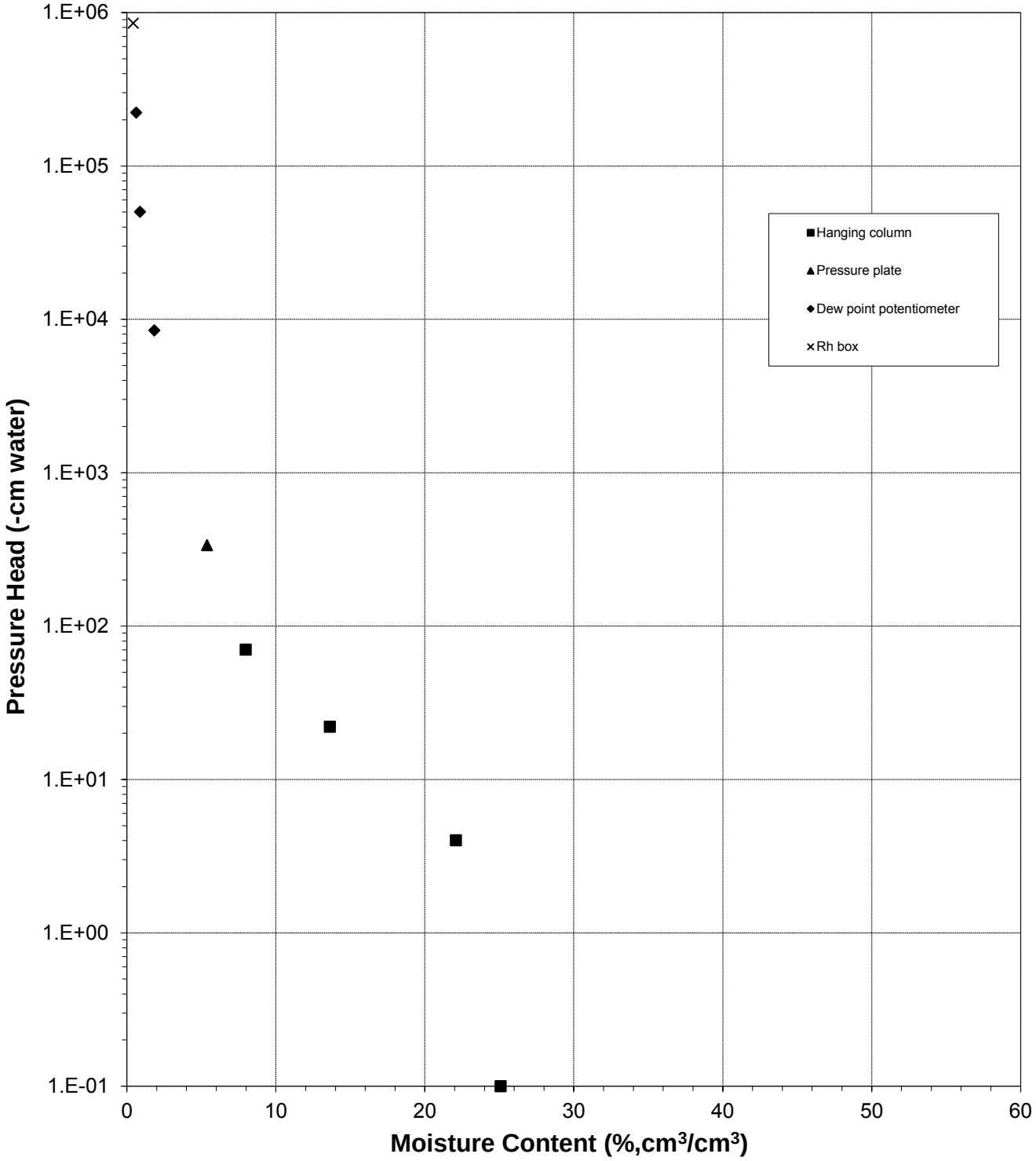
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

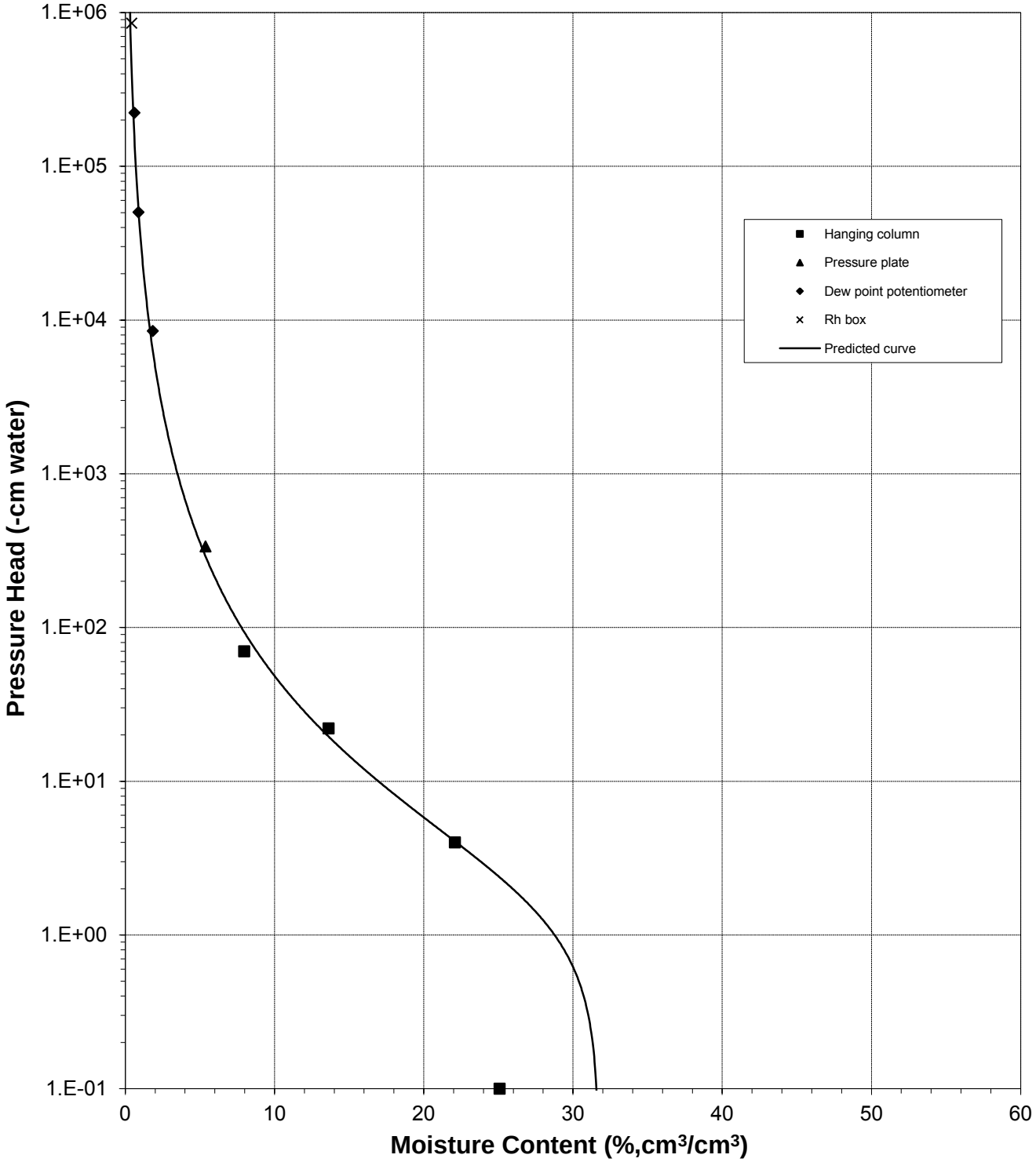
## Water Retention Data Points

*Sample Number: 200-SB-21 (32.5-33') MR*



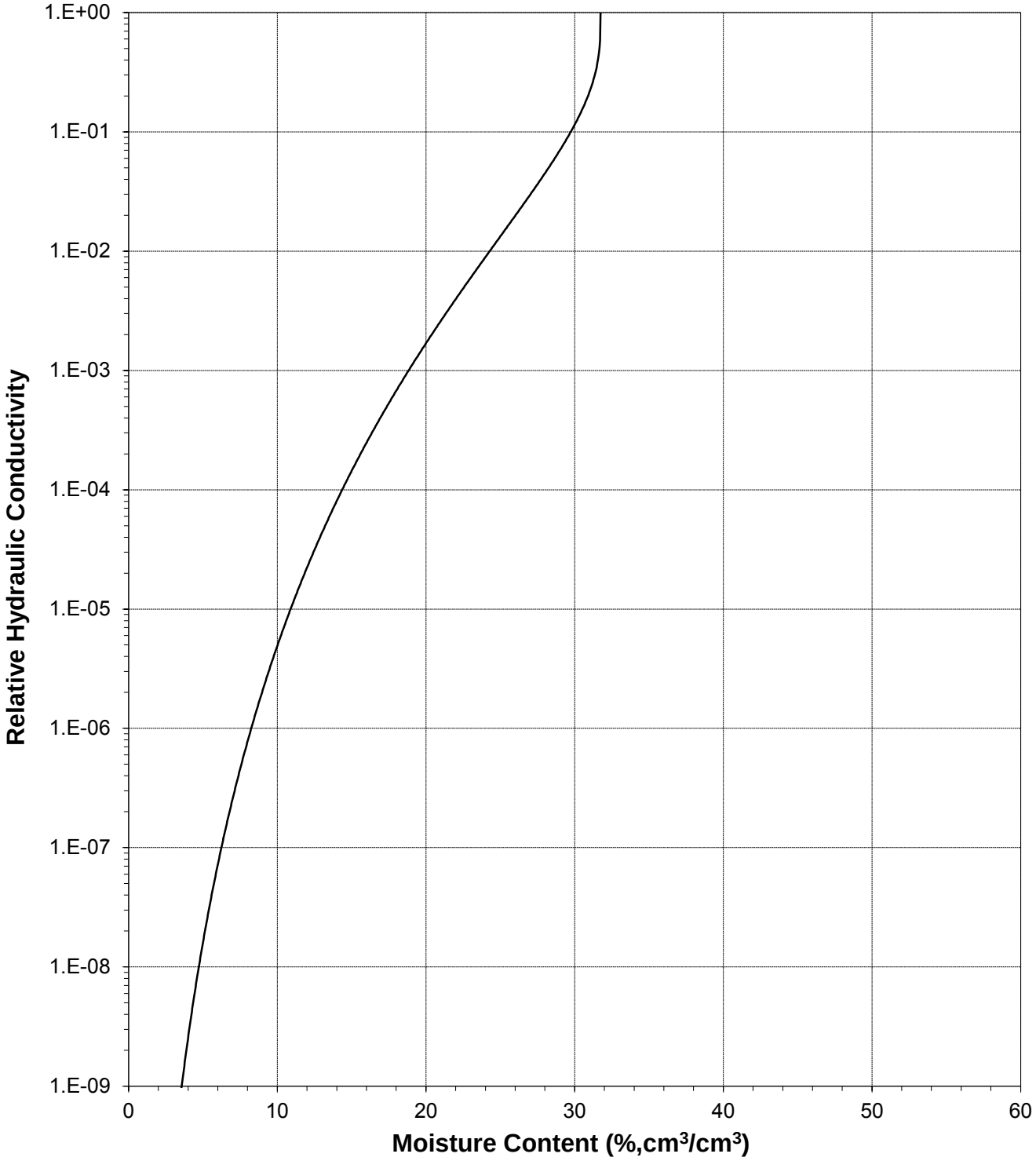
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-21 (32.5-33') MR*



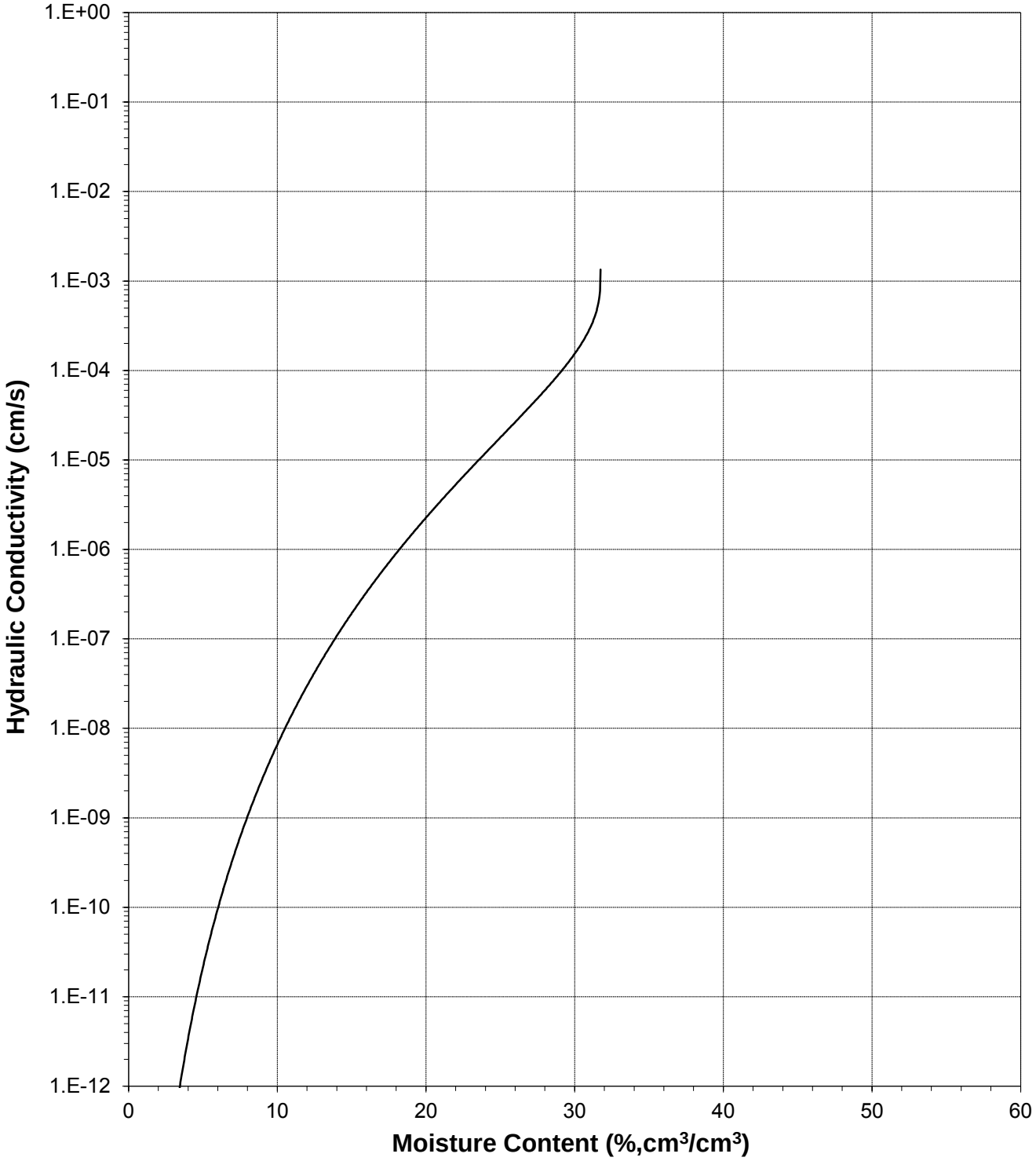
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-21 (32.5-33') MR*



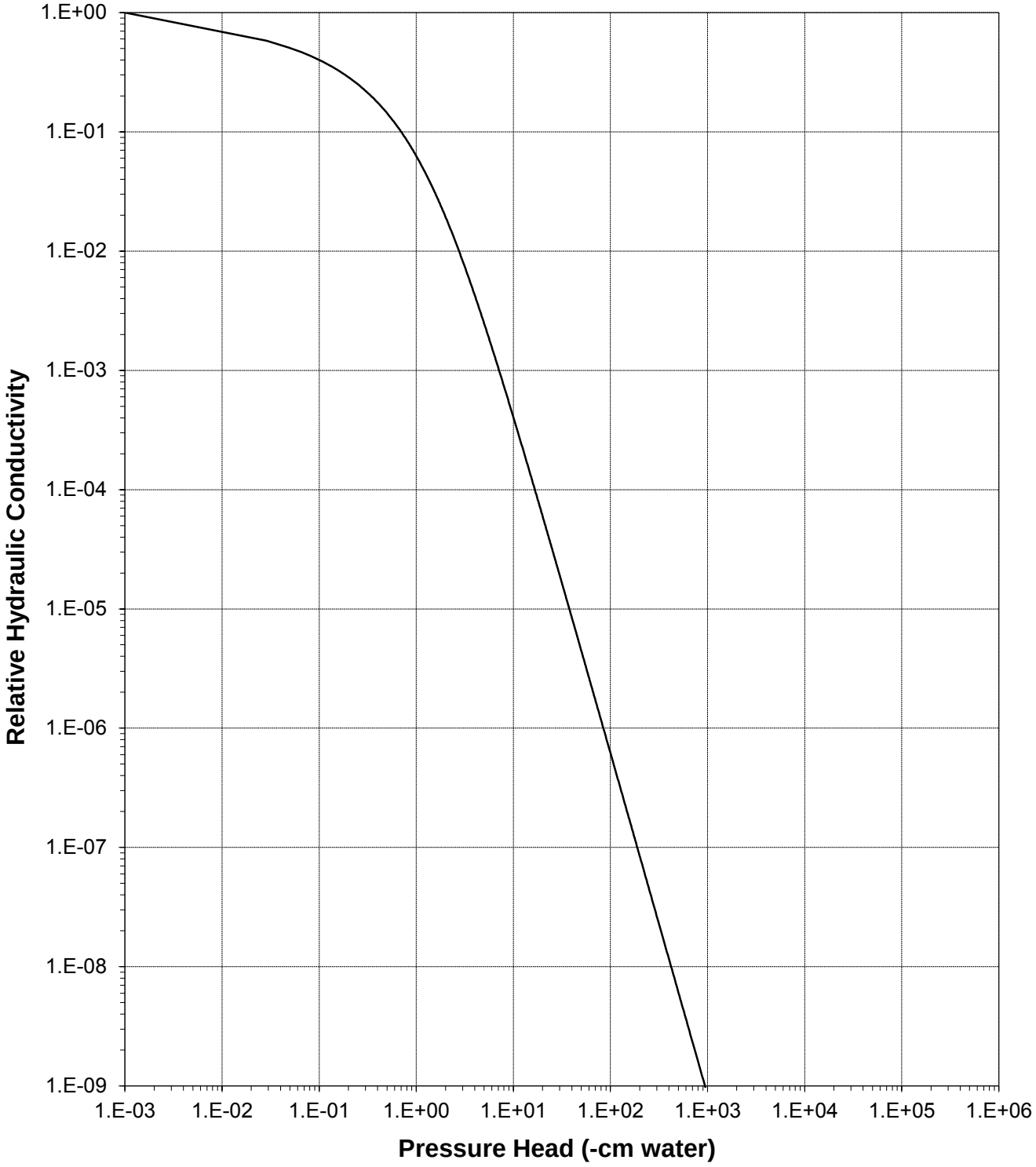
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-21 (32.5-33') MR*



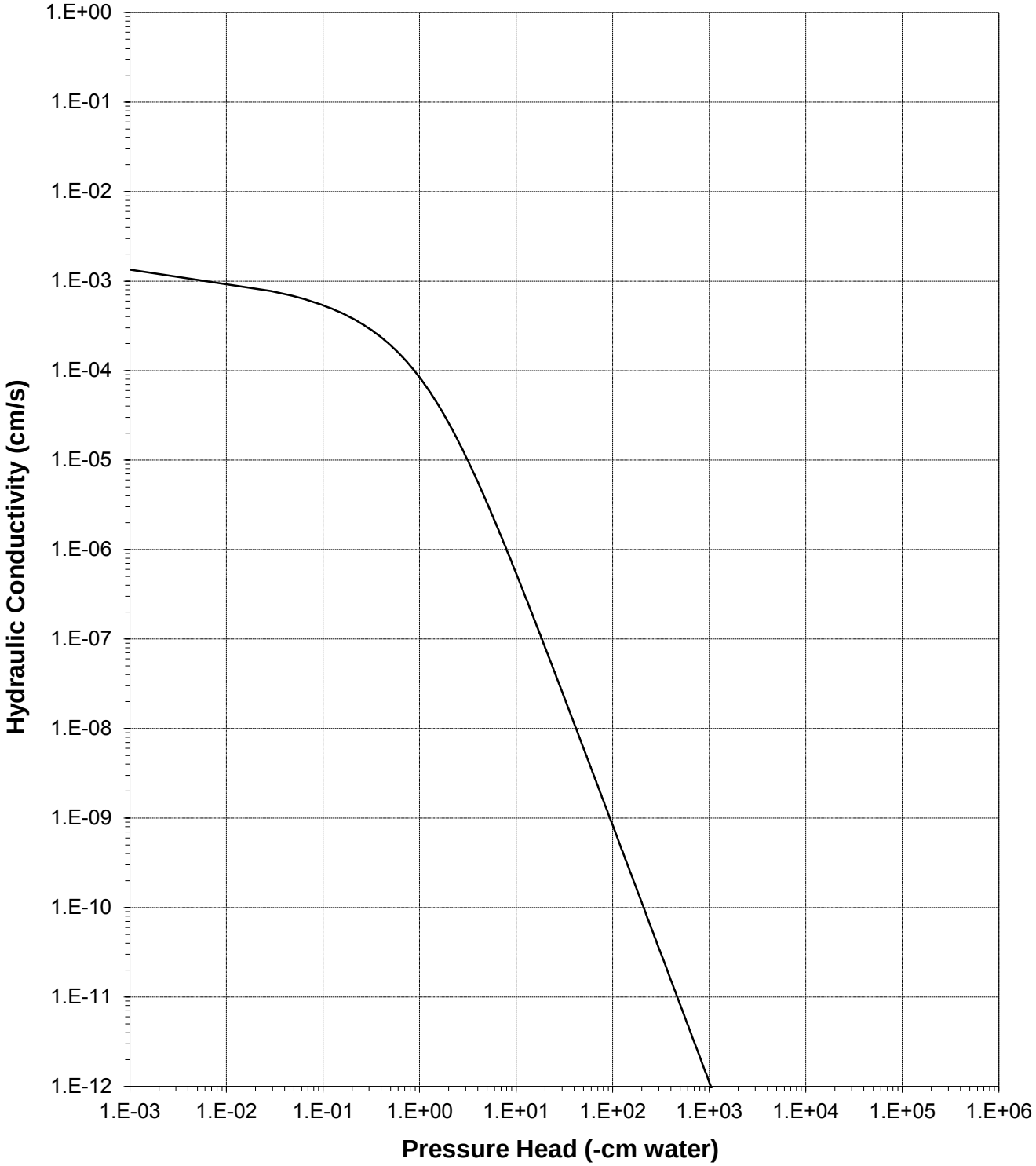
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-21 (32.5-33') MR*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-21 (32.5-33') MR*



# Particle Size Analysis

## Summary of Particle Size Characteristics

| Sample Number | $d_{10}$ (mm) | $d_{50}$ (mm) | $d_{60}$ (mm) | $C_u$ | $C_c$ | Method | ASTM Classification | USDA Classification |
|---|---|---|---|---|---|---|---|---|
| 200-SB-05 (8-10') Bag | 0.099 | 4.5 | 7.3 | 74 | 1.7 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-05 (8-10') MR | 0.075 | 3.2 | 5.4 | 72 | 2.0 | WS/H | Well-graded sand with silt and gravel (SW-SM)g | Loamy Sand † |
| 200-SB-06 (8-10') Bag/MR | 0.074 | 6.0 | 10 | 135 | 3.0 | WS/H | Poorly-graded gravel with silt and sand (GP-GM)s | Loamy Sand † |
| 200-SB-07 (47-49') Bag | 0.71 | 8.0 | 9.5 | 13 | 4.6 | WS/H | Poorly-graded gravel with clay and sand (GP-GC)s | Sandy Loam † |
| 200-SB-07 (47-49') MR | 0.0028 | 1.3 | 2.1 | 750 | 6.1 | WS/H | Silty, clayey sand with gravel (SC-SM)g | Sandy Loam † |
| 200-SB-08 (28-30') Bag | 0.0073 | 0.83 | 1.8 | 247 | 4.8 | WS/H | Silty sand with gravel (SM)g | Sandy Loam † |
| 200-SB-08 (28-30') MR | 0.014 | 0.84 | 2.0 | 143 | 1.7 | WS/H | Silty sand with gravel (SM)g | Sandy Loam † |
| 200-SB-20 (28-30') Bag/MR | 0.32 | 1.6 | 2.1 | 6.6 | 1.2 | WS/H | Well-graded sand with gravel (SW)g | Sand † |
| 200-SB-21 (32.5-33') Bag | 0.17 | 4.2 | 6.5 | 38 | 1.5 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-21 (32.5-33') MR | 0.33 | 3.6 | 5.4 | 16 | 1.3 | WS/H | Well-graded sand with gravel (SW)g | Sand † |

$d_{50}$ = Median particle diameter

Est = Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material

## Percent Gravel, Sand, Silt and Clay*

| Sample Number | % Gravel (>4.75mm) | % Sand (<4.75mm, >0.075mm) | % Silt (<0.075mm, >0.002mm) | % Clay (<0.002mm) |
|---|---|---|---|---|
| 200-SB-05 (8-10') Bag | 49.1 | 41.6 | 6.4 | 3.0 |
| 200-SB-05 (8-10') MR | 43.2 | 46.8 | 8.2 | 1.8 |
| 200-SB-06 (8-10') Bag/MR | 54.4 | 35.5 | 8.2 | 1.8 |
| 200-SB-07 (47-49') Bag | 79.0 | 15.3 | 3.7 | 2.1 |
| 200-SB-07 (47-49') MR | 22.1 | 52.8 | 17.0 | 8.1 |
| 200-SB-08 (28-30') Bag | 26.0 | 54.9 | 13.2 | 5.8 |
| 200-SB-08 (28-30') MR | 27.0 | 52.0 | 17.1 | 3.9 |
| 200-SB-20 (28-30') Bag/MR | 17.4 | 78.7 | 1.7 | 2.2 |
| 200-SB-21 (32.5-33') Bag | 47.7 | 44.8 | 4.8 | 2.7 |
| 200-SB-21 (32.5-33') MR | 43.4 | 51.6 | 3.9 | 1.0 |

*USCS classification does not classify clay fraction based on particle size. USDA definition of clay (<0.002mm) used in this table.

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') Bag
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 1-Aug-14

*Initial Dry Weight of Sample (g):* 1095.48
*Weight Passing #10 (g):* 411.42
*Weight Retained #10 (g):* 684.06
*Weight of Hydrometer Sample (g):* 65.04
*Calculated Weight of Sieve Sample (g):* 173.18

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 1095.48 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 1095.48 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 1095.48 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 1095.48 | 100.00 |
| | 3/4" | 19.0 | 88.41 | 88.41 | 1007.07 | 91.93 |
| | 3/8" | 9.5 | 286.76 | 375.17 | 720.31 | 65.75 |
| | 4 | 4.75 | 162.22 | 537.39 | 558.09 | 50.94 |
| | 10 | 2.00 | 146.67 | 684.06 | 411.42 | 37.56 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 18.83 | 126.97 | 46.21 | 26.68 |
| | 40 | 0.425 | 14.36 | 141.33 | 31.85 | 18.39 |
| | 60 | 0.250 | 7.75 | 149.08 | 24.10 | 13.92 |
| | 140 | 0.106 | 6.48 | 155.56 | 17.62 | 10.17 |
| | 200 | 0.075 | 1.47 | 157.03 | 16.15 | 9.33 |
| | dry pan | | 0.16 | 157.19 | 15.99 | |
| | wet pan | | | 15.99 | 0.00 | |

$d_{10}$ (mm): 0.099 $d_{50}$ (mm): 4.5
$d_{16}$ (mm): 0.32 $d_{60}$ (mm): 7.3
$d_{30}$ (mm): 1.1 $d_{84}$ (mm): 15

*Median Particle Diameter* --$d_{50}$ (mm): 4.5
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 74
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 1.7
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 6.6

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded gravel with silt and sand (GW-GM)s
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 30-Jul-14
*Start Time:* 9:18

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

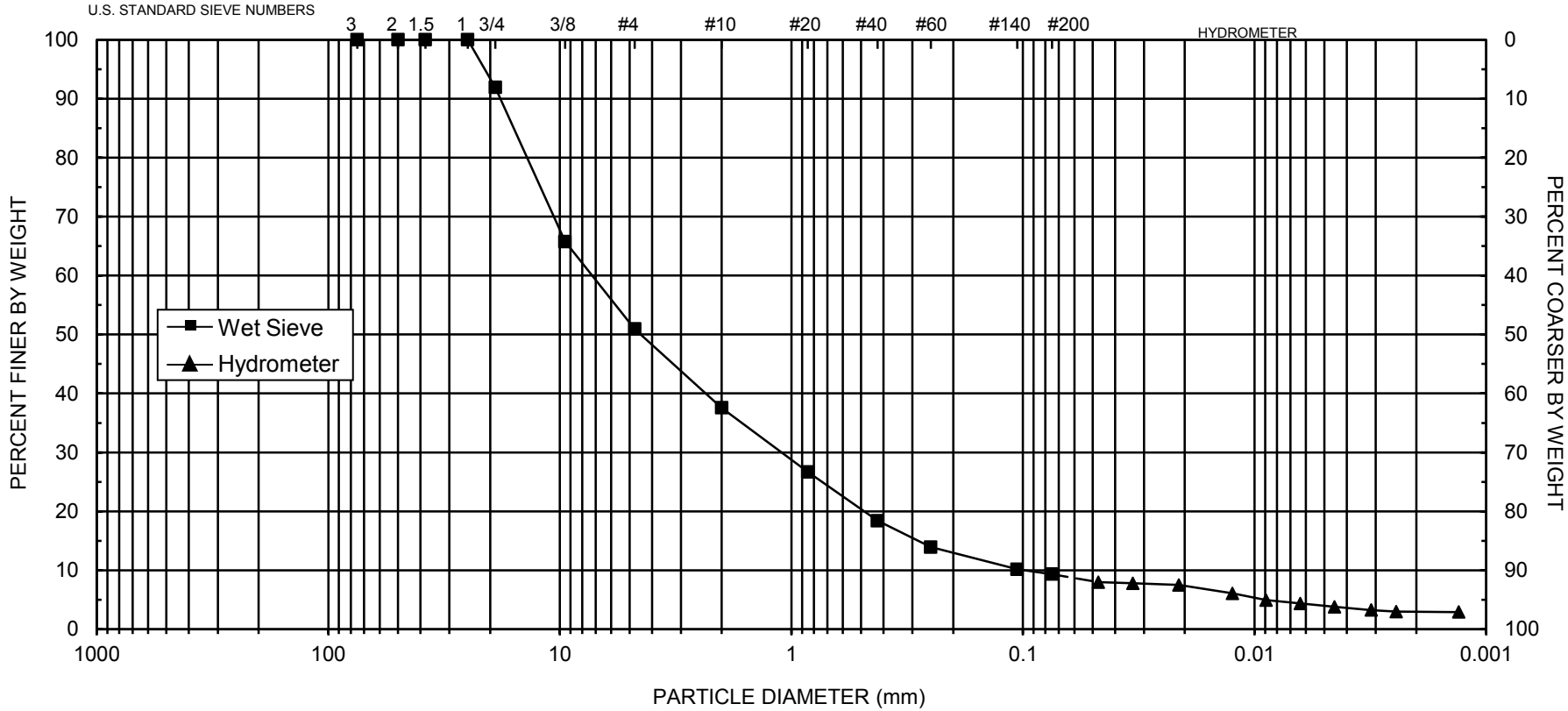
*Initial Wt.* (g)*:* 65.04
*Total Sample Wt.* (g)*:* 1095.48
*Wt. Passing #10 (g):* 411.42

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 30-Jul-14 | 1 | 21.9 | 20.4 | 6.4 | 14.0 | 13.0 | 0.04723 | 21.3 | 8.0 |
| | 2 | 21.9 | 20.0 | 6.4 | 13.6 | 13.0 | 0.03347 | 20.7 | 7.8 |
| | 5 | 21.9 | 19.5 | 6.4 | 13.1 | 13.1 | 0.02123 | 20.0 | 7.5 |
| | 15 | 22.0 | 17.0 | 6.4 | 10.6 | 13.5 | 0.01244 | 16.2 | 6.1 |
| | 30 | 22.0 | 15.0 | 6.4 | 8.6 | 13.8 | 0.00890 | 13.1 | 4.9 |
| | 60 | 22.0 | 14.0 | 6.4 | 7.6 | 14.0 | 0.00633 | 11.6 | 4.4 |
| | 120 | 21.9 | 13.0 | 6.4 | 6.6 | 14.2 | 0.00451 | 10.1 | 3.8 |
| | 250 | 22.2 | 12.0 | 6.4 | 5.7 | 14.3 | 0.00313 | 8.6 | 3.2 |
| | 408 | 22.6 | 11.5 | 6.3 | 5.2 | 14.4 | 0.00245 | 7.9 | 3.0 |
| 31-Jul-14 | 1445 | 21.8 | 11.5 | 6.4 | 5.1 | 14.4 | 0.00131 | 7.8 | 2.9 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.099** | $d_{30}$ = **1.1** | $d_{50}$ = **4.5** | $d_{60}$ = **7.3** | $C_u$ = **74** | $C_c$ = **1.7** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-05 (8-10') Bag** | **14EC016B** | **Well-graded gravel with silt and sand (GW-GM)s** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') MR
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 15-Aug-14

*Initial Dry Weight of Sample (g):* 370.24
*Weight Passing #10 (g):* 152.86
*Weight Retained #10 (g):* 217.38
*Weight of Hydrometer Sample (g):* 68.08
*Calculated Weight of Sieve Sample (g):* 164.90

*Shape:* Rounded
*Hardness:* Soft

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 370.24 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 370.24 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 370.24 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 370.24 | 100.00 |
| | 3/4" | 19.0 | 26.72 | 26.72 | 343.52 | 92.78 |
| | 3/8" | 9.5 | 72.32 | 99.04 | 271.20 | 73.25 |
| | 4 | 4.75 | 60.85 | 159.89 | 210.35 | 56.81 |
| | 10 | 2.00 | 57.49 | 217.38 | 152.86 | 41.29 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 19.64 | 116.46 | 48.44 | 29.38 |
| | 40 | 0.425 | 14.97 | 131.43 | 33.47 | 20.30 |
| | 60 | 0.250 | 8.50 | 139.93 | 24.97 | 15.14 |
| | 140 | 0.106 | 6.83 | 146.76 | 18.14 | 11.00 |
| | 200 | 0.075 | 1.67 | 148.43 | 16.47 | 9.99 |
| | dry pan | | 0.45 | 148.88 | 16.02 | |
| | wet pan | | | 16.02 | 0.00 | |

$d_{10}$ (mm): 0.075 $d_{50}$ (mm): 3.2
$d_{16}$ (mm): 0.27 $d_{60}$ (mm): 5.4
$d_{30}$ (mm): 0.89 $d_{84}$ (mm): 14

*Median Particle Diameter* --$d_{50}$ (mm): 3.2
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 72
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 2.0
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 5.8

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded sand with silt and gravel (SW-SM)g
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 14-Aug-14
*Start Time:* 9:24

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

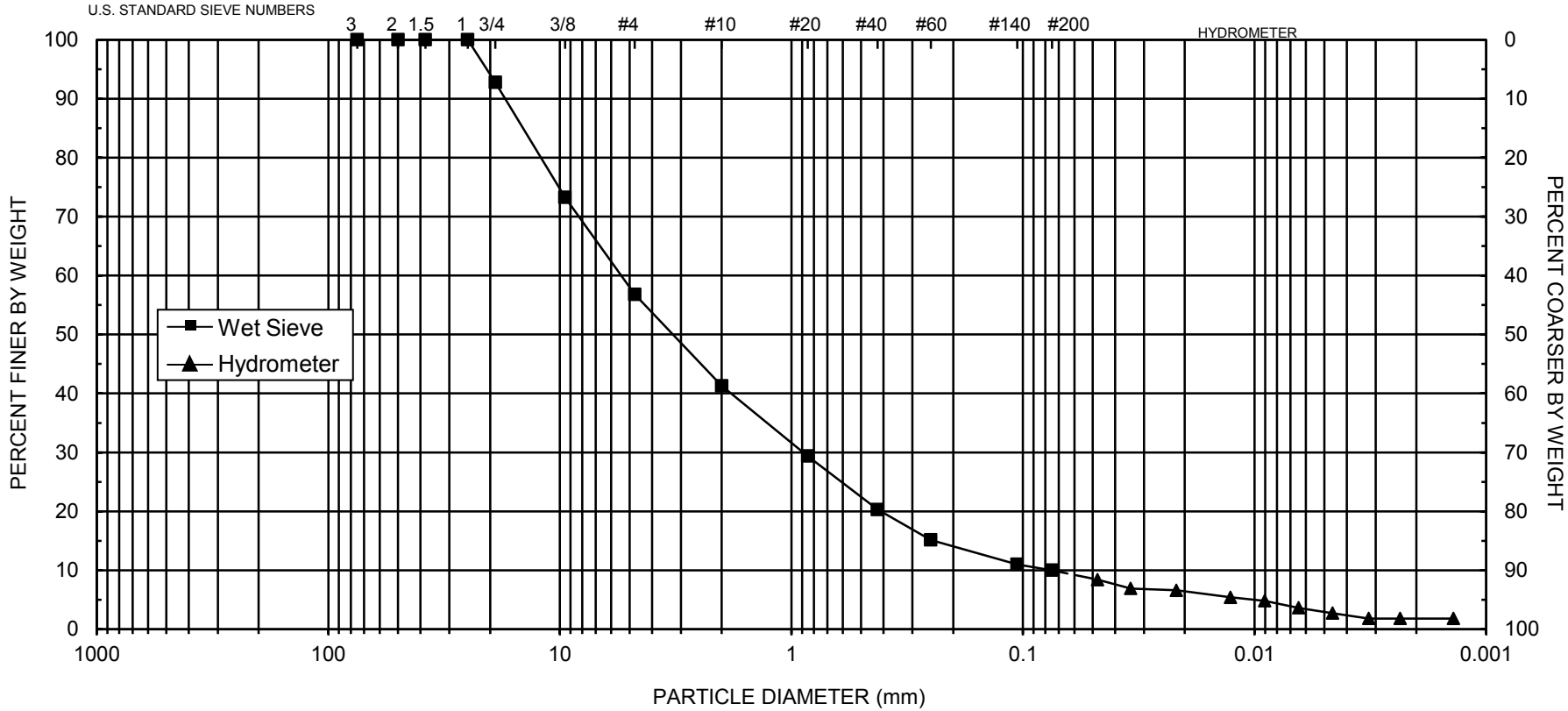
*Initial Wt.* (g)*:* 68.08
*Total Sample Wt.* (g)*:* 370.24
*Wt. Passing #10 (g):* 152.86

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 14-Aug-14 | 1 | 21.3 | 20.0 | 6.0 | 14.0 | 13.0 | 0.04767 | 20.4 | 8.4 |
| | 2 | 21.3 | 17.5 | 6.0 | 11.5 | 13.4 | 0.03423 | 16.7 | 6.9 |
| | 5 | 21.3 | 17.0 | 6.0 | 11.0 | 13.5 | 0.02172 | 16.0 | 6.6 |
| | 15 | 21.3 | 15.0 | 6.0 | 9.0 | 13.8 | 0.01269 | 13.1 | 5.4 |
| | 30 | 21.3 | 14.0 | 6.0 | 8.0 | 14.0 | 0.00903 | 11.6 | 4.8 |
| | 60 | 21.4 | 12.0 | 6.0 | 6.0 | 14.3 | 0.00645 | 8.8 | 3.6 |
| | 120 | 21.5 | 10.5 | 6.0 | 4.5 | 14.6 | 0.00459 | 6.6 | 2.7 |
| | 250 | 21.5 | 9.0 | 6.0 | 3.0 | 14.8 | 0.00321 | 4.4 | 1.8 |
| | 464 | 21.7 | 9.0 | 6.0 | 3.0 | 14.8 | 0.00235 | 4.4 | 1.8 |
| 15-Aug-14 | 1352 | 21.4 | 9.0 | 6.0 | 3.0 | 14.8 | 0.00138 | 4.4 | 1.8 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.075** | $d_{30}$ = **0.89** | $d_{50}$ = **3.2** | $d_{60}$ = **5.4** | $C_u$ = **72** | $C_c$ = **2.0** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-05 (8-10') MR** | **14EC016B** | **Well-graded sand with silt and gravel (SW-SM)g** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 15-Aug-14

*Initial Dry Weight of Sample (g):* 2217.48
*Weight Passing #10 (g):* 738.14
*Weight Retained #10 (g):* 1479.34
*Weight of Hydrometer Sample (g):* 63.89
*Calculated Weight of Sieve Sample (g):* 191.93

*Shape:* Angular
*Hardness:* Soft

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2217.48 | 100.00 |
| | 2" | 50 | 139.49 | 139.49 | 2077.99 | 93.71 |
| | 1.5" | 38.1 | 0.00 | 139.49 | 2077.99 | 93.71 |
| | 1" | 25 | 311.31 | 450.80 | 1766.68 | 79.67 |
| | 3/4" | 19.0 | 91.83 | 542.63 | 1674.85 | 75.53 |
| | 3/8" | 9.5 | 370.68 | 913.31 | 1304.17 | 58.81 |
| | 4 | 4.75 | 293.23 | 1206.54 | 1010.94 | 45.59 |
| | 10 | 2.00 | 272.79 | 1479.34 | 738.14 | 33.29 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 16.88 | 144.92 | 47.01 | 24.49 |
| | 40 | 0.425 | 11.91 | 156.83 | 35.10 | 18.29 |
| | 60 | 0.250 | 6.62 | 163.45 | 28.48 | 14.84 |
| | 140 | 0.106 | 7.01 | 170.46 | 21.47 | 11.19 |
| | 200 | 0.075 | 2.20 | 172.66 | 19.27 | 10.04 |
| | dry pan | | 0.42 | 173.08 | 18.85 | |
| | wet pan | | | 18.85 | 0.00 | |

$d_{10}$ (mm): 0.074 $d_{50}$ (mm): 6.0
$d_{16}$ (mm): 0.30 $d_{60}$ (mm): 10.0
$d_{30}$ (mm): 1.5 $d_{84}$ (mm): 28

*Median Particle Diameter* --$d_{50}$ (mm): 6.0
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 135
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 3.0
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 11

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded gravel with silt and sand (GP-GM)s
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 14-Aug-14
*Start Time:* 9:12

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

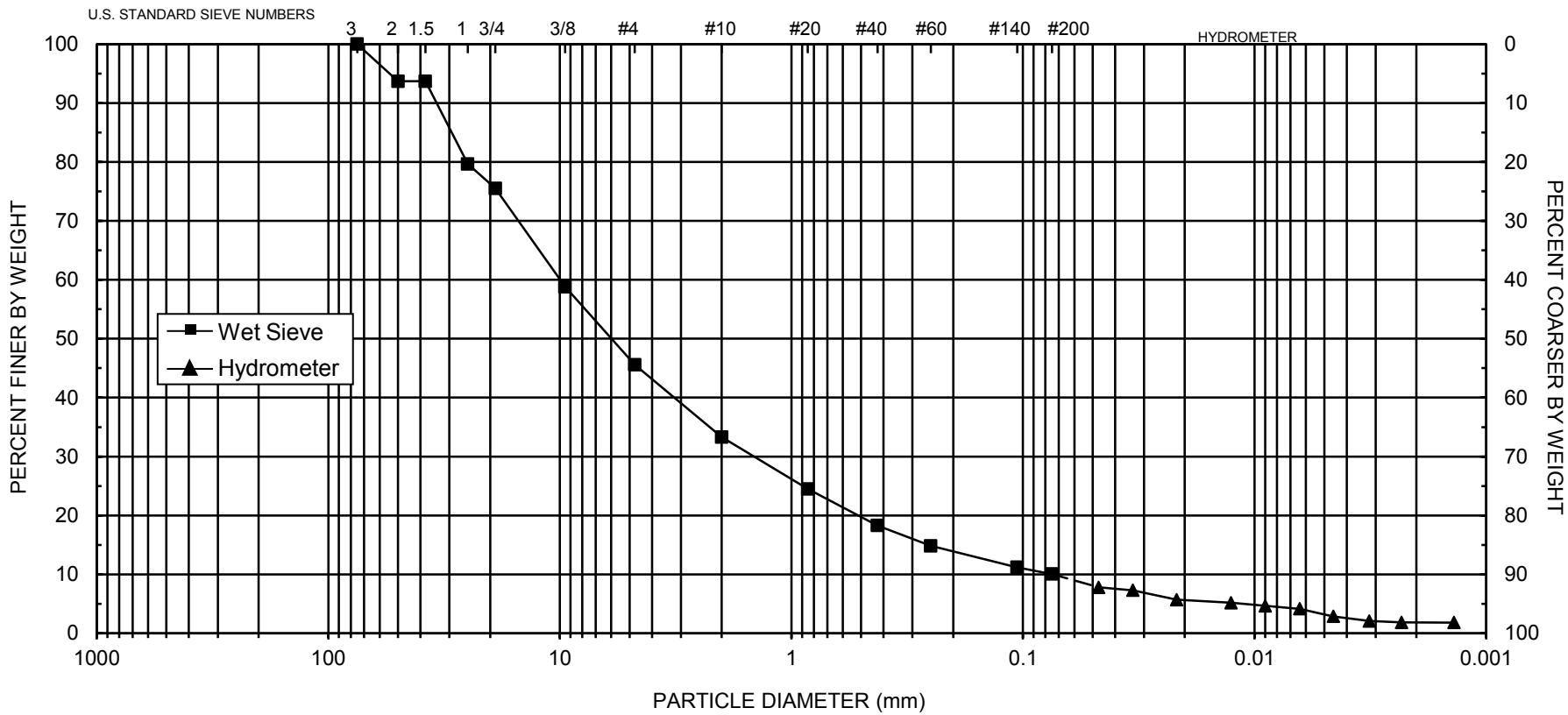
*Initial Wt.* (g)*:* 63.89
*Total Sample Wt.* (g)*:* 2217.48
*Wt. Passing #10 (g):* 738.14

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 14-Aug-14 | 1 | 21.9 | 21.0 | 5.9 | 15.1 | 12.9 | 0.04703 | 23.4 | 7.8 |
| | 2 | 21.9 | 20.0 | 5.9 | 14.1 | 13.0 | 0.03347 | 21.8 | 7.3 |
| | 5 | 21.4 | 17.0 | 6.0 | 11.0 | 13.5 | 0.02169 | 17.1 | 5.7 |
| | 15 | 21.3 | 16.0 | 6.0 | 10.0 | 13.7 | 0.01261 | 15.5 | 5.2 |
| | 30 | 21.3 | 15.0 | 6.0 | 9.0 | 13.8 | 0.00897 | 13.9 | 4.6 |
| | 60 | 21.4 | 14.0 | 6.0 | 8.0 | 14.0 | 0.00637 | 12.4 | 4.1 |
| | 120 | 21.5 | 11.5 | 6.0 | 5.5 | 14.4 | 0.00457 | 8.6 | 2.9 |
| | 250 | 21.5 | 10.0 | 6.0 | 4.0 | 14.7 | 0.00319 | 6.2 | 2.1 |
| | 474 | 21.7 | 9.5 | 5.9 | 3.6 | 14.7 | 0.00232 | 5.5 | 1.8 |
| 15-Aug-14 | 1361 | 21.4 | 9.5 | 6.0 | 3.5 | 14.7 | 0.00137 | 5.5 | 1.8 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.074** | $d_{30}$ = **1.5** | $d_{50}$ = **6.0** | $d_{60}$ = **10** | $C_u$ = **135** | $C_c$ = **3.0** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-06 (8-10') Bag/MR** | **14EC016B** | **Poorly-graded gravel with silt and sand (GP-GM)s** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 1-Aug-14

*Initial Dry Weight of Sample (g):* 2788.02
*Weight Passing #10 (g):* 393.60
*Weight Retained #10 (g):* 2394.42
*Weight of Hydrometer Sample (g):* 45.40
*Calculated Weight of Sieve Sample (g):* 321.59

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2788.02 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 2788.02 | 100.00 |
| | 1.5" | 38.1 | 135.64 | 135.64 | 2652.38 | 95.13 |
| | 1" | 25 | 47.69 | 183.33 | 2604.69 | 93.42 |
| | 3/4" | 19.0 | 82.02 | 265.35 | 2522.67 | 90.48 |
| | 3/8" | 9.5 | 850.23 | 1115.58 | 1672.44 | 59.99 |
| | 4 | 4.75 | 1086.16 | 2201.74 | 586.28 | 21.03 |
| | 10 | 2.00 | 192.68 | 2394.42 | 393.60 | 14.12 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 11.80 | 287.99 | 33.60 | 10.45 |
| | 40 | 0.425 | 5.73 | 293.72 | 27.87 | 8.67 |
| | 60 | 0.250 | 3.53 | 297.25 | 24.34 | 7.57 |
| | 140 | 0.106 | 4.30 | 301.55 | 20.04 | 6.23 |
| | 200 | 0.075 | 1.66 | 303.21 | 18.38 | 5.72 |
| | dry pan | | 0.16 | 303.37 | 18.22 | |
| | wet pan | | | 18.22 | 0.00 | |

$d_{10}$ (mm): 0.71 $d_{50}$ (mm): 8.0
$d_{16}$ (mm): 2.5 $d_{60}$ (mm): 9.5
$d_{30}$ (mm): 5.6 $d_{84}$ (mm): 16

*Median Particle Diameter* --$d_{50}$ (mm): 8.0
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 13
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 4.6
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 8.8

*Classification of fines:* CL-ML

*ASTM Soil Classification:* Poorly-graded gravel with clay and sand (GP-GC)s
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 30-Jul-14
*Start Time:* 9:12

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

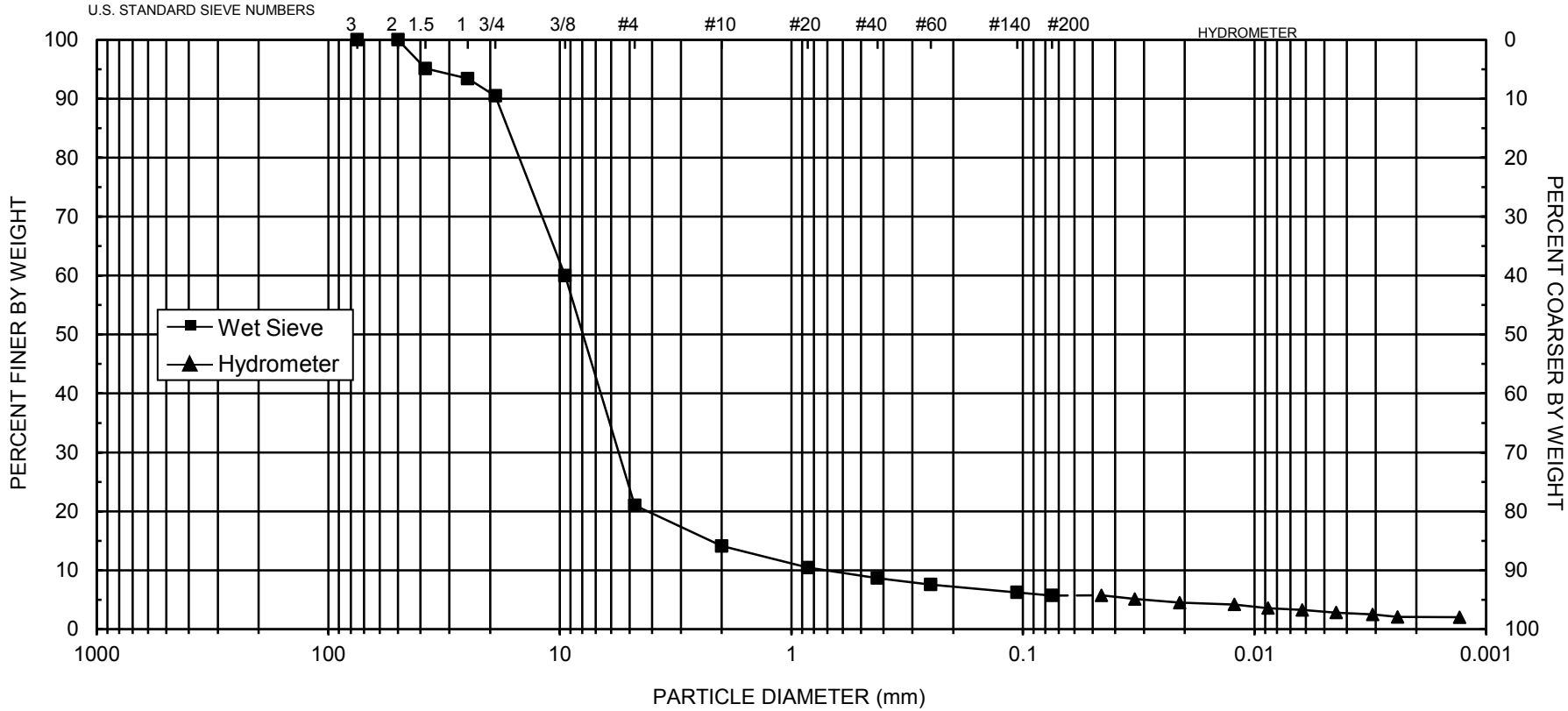
*Initial Wt.* (g)*:* 45.40
*Total Sample Wt.* (g)*:* 2788.02
*Wt. Passing #10 (g):* 393.60

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 30-Jul-14 | 1 | 21.9 | 25.0** | 6.4 | 18.6 | 12.2 | 0.04582 | 40.6 | 5.7 |
| | 2 | 21.9 | 23.0 | 6.4 | 16.6 | 12.5 | 0.03283 | 36.2 | 5.1 |
| | 5 | 21.9 | 21.0 | 6.4 | 14.6 | 12.9 | 0.02103 | 31.9 | 4.5 |
| | 15 | 21.9 | 20.0 | 6.4 | 13.6 | 13.0 | 0.01222 | 29.7 | 4.2 |
| | 30 | 22.0 | 18.0 | 6.4 | 11.6 | 13.3 | 0.00874 | 25.3 | 3.6 |
| | 60 | 22.0 | 17.0 | 6.4 | 10.6 | 13.5 | 0.00622 | 23.2 | 3.3 |
| | 120 | 21.9 | 15.5 | 6.4 | 9.1 | 13.8 | 0.00444 | 19.9 | 2.8 |
| | 250 | 22.1 | 14.5 | 6.4 | 8.2 | 13.9 | 0.00309 | 17.8 | 2.5 |
| | 413 | 22.6 | 13.0 | 6.3 | 6.7 | 14.2 | 0.00241 | 14.6 | 2.1 |
| 31-Jul-14 | 1450 | 21.8 | 13.0 | 6.4 | 6.6 | 14.2 | 0.00130 | 14.4 | 2.0 |

*Comments:*

* Dispersion device: mechanically operated stirring device
** Discontinuity in initial data points due to sample characteristics.

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.71** | $d_{30}$ = **5.6** | $d_{50}$ = **8.0** | $d_{60}$ = **9.5** | $C_u$ = **13** | $C_c$ = **4.6** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-07 (47-49') Bag** | **14EC016B** | **Poorly-graded gravel with clay and sand (GP-GC)s** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') MR
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 15-Aug-14

*Initial Dry Weight of Sample (g):* 348.01
*Weight Passing #10 (g):* 206.93
*Weight Retained #10 (g):* 141.08
*Weight of Hydrometer Sample (g):* 73.84
*Calculated Weight of Sieve Sample (g):* 124.18

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 348.01 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 348.01 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 348.01 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 348.01 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 348.01 | 100.00 |
| | 3/8" | 9.5 | 25.58 | 25.58 | 322.43 | 92.65 |
| | 4 | 4.75 | 51.34 | 76.92 | 271.09 | 77.90 |
| | 10 | 2.00 | 64.16 | 141.08 | 206.93 | 59.46 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 22.73 | 73.07 | 51.11 | 41.16 |
| | 40 | 0.425 | 8.44 | 81.51 | 42.67 | 34.36 |
| | 60 | 0.250 | 3.72 | 85.23 | 38.95 | 31.37 |
| | 140 | 0.106 | 5.25 | 90.48 | 33.70 | 27.14 |
| | 200 | 0.075 | 2.50 | 92.98 | 31.20 | 25.12 |
| | dry pan | | 0.50 | 93.48 | 30.70 | |
| | wet pan | | | 30.70 | 0.00 | |

$d_{10}$ (mm): 0.0028 $d_{50}$ (mm): 1.3
$d_{16}$ (mm): 0.012 $d_{60}$ (mm): 2.1
$d_{30}$ (mm): 0.19 $d_{84}$ (mm): 6.3

*Median Particle Diameter* --$d_{50}$ (mm): 1.3
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 750
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 6.1
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 2.5

*Classification of fines:* CL-ML

*ASTM Soil Classification:* Silty, clayey sand with gravel (SC-SM)g
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 14-Aug-14
*Start Time:* 9:00

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

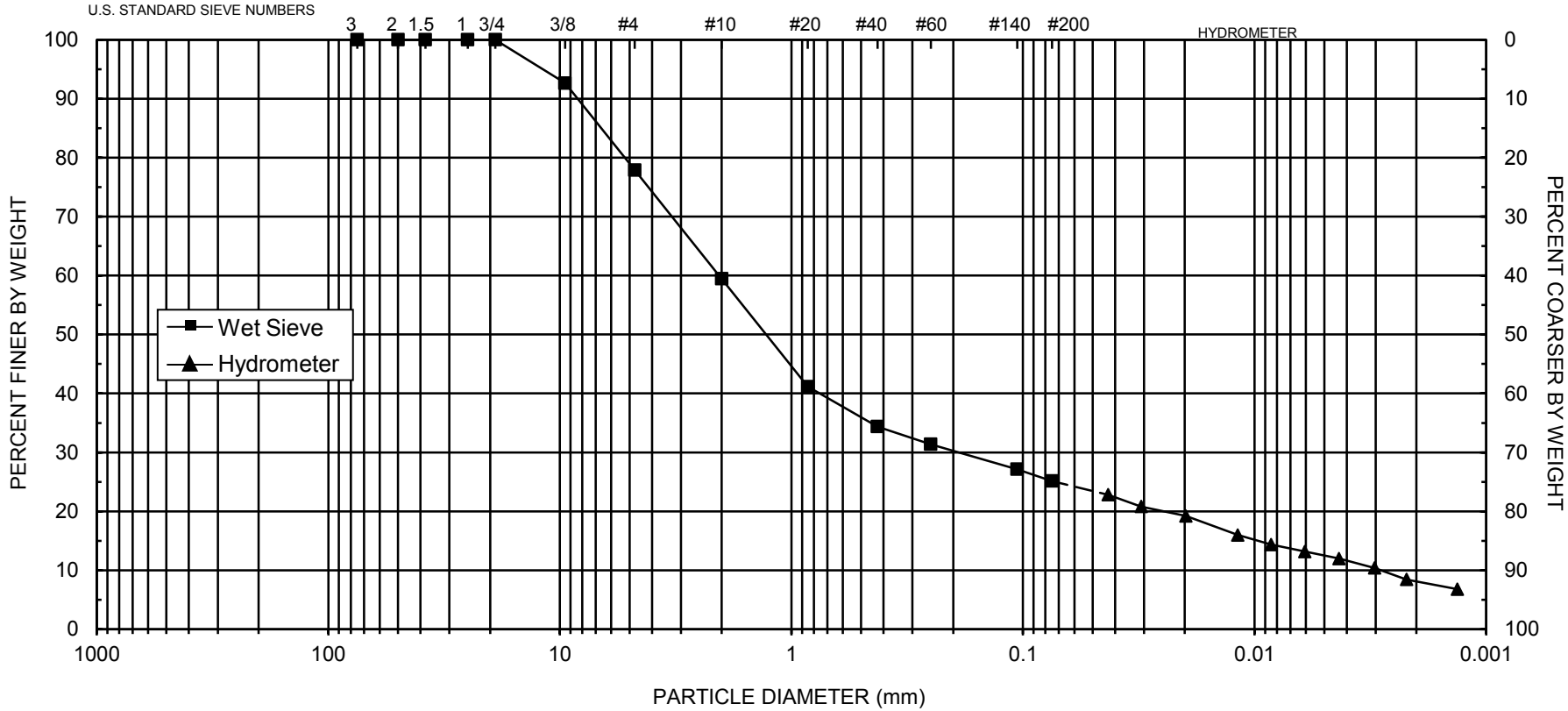
*Initial Wt.* (g)*:* 73.84
*Total Sample Wt.* (g)*:* 348.01
*Wt. Passing #10 (g):* 206.93

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 14-Aug-14 | 1 | 21.9 | 34.5 | 5.9 | 28.6 | 10.6 | 0.04279 | 38.3 | 22.8 |
| | 2 | 21.9 | 32.0 | 5.9 | 26.1 | 11.1 | 0.03084 | 35.0 | 20.8 |
| | 5 | 21.9 | 30.0 | 5.9 | 24.1 | 11.4 | 0.01979 | 32.3 | 19.2 |
| | 15 | 21.5 | 26.0 | 6.0 | 20.0 | 12.0 | 0.01181 | 26.9 | 16.0 |
| | 30 | 21.3 | 24.0 | 6.0 | 18.0 | 12.4 | 0.00848 | 24.1 | 14.3 |
| | 60 | 21.3 | 22.5 | 6.0 | 16.5 | 12.6 | 0.00606 | 22.1 | 13.2 |
| | 120 | 21.5 | 21.0 | 6.0 | 15.0 | 12.9 | 0.00431 | 20.2 | 12.0 |
| | 250 | 21.5 | 19.0 | 6.0 | 13.0 | 13.2 | 0.00303 | 17.5 | 10.4 |
| | 484 | 21.7 | 16.5 | 5.9 | 10.6 | 13.6 | 0.00220 | 14.2 | 8.4 |
| 15-Aug-14 | 1370 | 21.4 | 14.5 | 6.0 | 8.5 | 13.9 | 0.00133 | 11.4 | 6.8 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.0028** | $d_{30}$ = **0.19** | $d_{50}$ = **1.3** | $d_{60}$ = **2.1** | $C_u$ = **750** | $C_c$ = **6.1** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-07 (47-49') MR** | **14EC016B** | **Silty, clayey sand with gravel (SC-SM)g** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') Bag
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 1-Aug-14

*Initial Dry Weight of Sample (g):* 784.05
*Weight Passing #10 (g):* 483.50
*Weight Retained #10 (g):* 300.55
*Weight of Hydrometer Sample (g):* 59.70
*Calculated Weight of Sieve Sample (g):* 96.81

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 784.05 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 784.05 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 784.05 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 784.05 | 100.00 |
| | 3/4" | 19.0 | 17.25 | 17.25 | 766.80 | 97.80 |
| | 3/8" | 9.5 | 100.74 | 117.99 | 666.06 | 84.95 |
| | 4 | 4.75 | 85.98 | 203.97 | 580.08 | 73.99 |
| | 10 | 2.00 | 96.58 | 300.55 | 483.50 | 61.67 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 10.96 | 48.07 | 48.74 | 50.35 |
| | 40 | 0.425 | 11.07 | 59.14 | 37.67 | 38.91 |
| | 60 | 0.250 | 8.75 | 67.89 | 28.92 | 29.87 |
| | 140 | 0.106 | 8.49 | 76.38 | 20.43 | 21.10 |
| | 200 | 0.075 | 1.99 | 78.37 | 18.44 | 19.05 |
| | dry pan | | 0.20 | 78.57 | 18.24 | |
| | wet pan | | | 18.24 | 0.00 | |

$d_{10}$ (mm): 0.0073 $d_{50}$ (mm): 0.83
$d_{16}$ (mm): 0.028 $d_{60}$ (mm): 1.8
$d_{30}$ (mm): 0.25 $d_{84}$ (mm): 8.9

*Median Particle Diameter* --$d_{50}$ (mm): 0.83
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 247
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 4.8
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 3.3

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Silty sand with gravel (SM)g
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 30-Jul-14
*Start Time:* 9:00

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

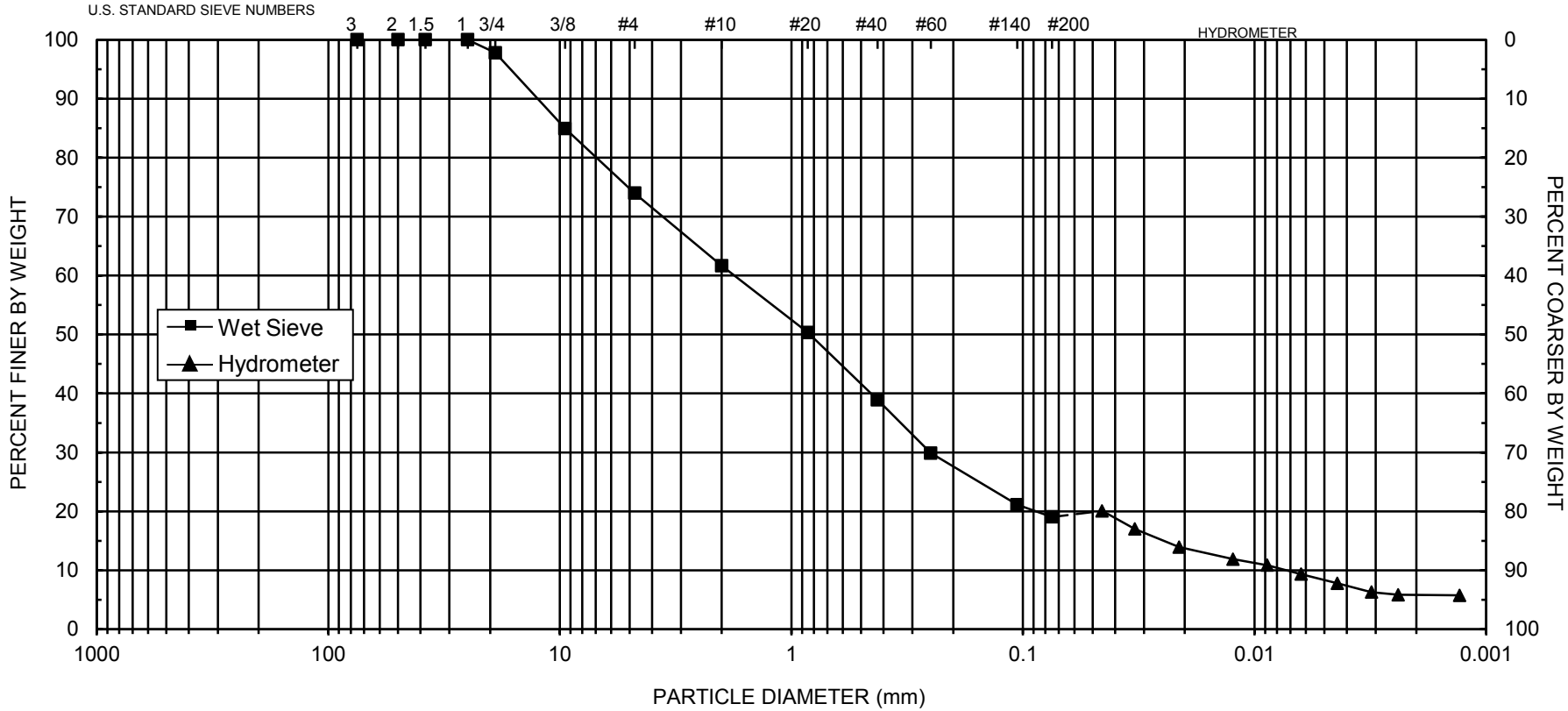
*Initial Wt.* (g)*:* 59.70
*Total Sample Wt.* (g)*:* 784.05
*Wt. Passing #10 (g):* 483.50

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 30-Jul-14 | 1 | 21.9 | 26.0** | 6.4 | 19.6 | 12.0 | 0.04551 | 32.5 | 20.1 |
| | 2 | 21.9 | 23.0 | 6.4 | 16.6 | 12.5 | 0.03283 | 27.6 | 17.0 |
| | 5 | 21.9 | 20.0 | 6.4 | 13.6 | 13.0 | 0.02117 | 22.6 | 13.9 |
| | 15 | 21.9 | 18.0 | 6.4 | 11.6 | 13.3 | 0.01237 | 19.3 | 11.9 |
| | 30 | 21.9 | 17.0 | 6.4 | 10.6 | 13.5 | 0.00880 | 17.6 | 10.9 |
| | 60 | 22.0 | 15.5 | 6.4 | 9.1 | 13.8 | 0.00628 | 15.1 | 9.3 |
| | 125 | 21.9 | 14.0 | 6.4 | 7.6 | 14.0 | 0.00439 | 12.6 | 7.8 |
| | 250 | 22.1 | 12.5 | 6.4 | 6.1 | 14.3 | 0.00312 | 10.2 | 6.3 |
| | 423 | 22.6 | 12.0 | 6.3 | 5.7 | 14.3 | 0.00239 | 9.5 | 5.8 |
| 31-Jul-14 | 1459 | 21.8 | 12.0 | 6.4 | 5.6 | 14.3 | 0.00130 | 9.3 | 5.7 |

*Comments:*

* Dispersion device: mechanically operated stirring device
** Discontinuity in initial data points due to sample characteristics.

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0073** | $d_{30}$ = **0.25** | $d_{50}$ = **0.83** | $d_{60}$ = **1.8** | $C_u$ = **247** | $C_c$ = **4.8** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-08 (28-30') Bag** | **14EC016B** | **Silty sand with gravel (SM)g** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') MR
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 15-Aug-14

*Initial Dry Weight of Sample (g):* 368.82
*Weight Passing #10 (g):* 221.92
*Weight Retained #10 (g):* 146.90
*Weight of Hydrometer Sample (g):* 61.39
*Calculated Weight of Sieve Sample (g):* 102.03

*Shape:* Angular
*Hardness:* Soft

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 368.82 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 368.82 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 368.82 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 368.82 | 100.00 |
| | 3/4" | 19.0 | 12.31 | 12.31 | 356.51 | 96.66 |
| | 3/8" | 9.5 | 42.83 | 55.14 | 313.68 | 85.05 |
| | 4 | 4.75 | 44.58 | 99.72 | 269.10 | 72.96 |
| | 10 | 2.00 | 47.18 | 146.90 | 221.92 | 60.17 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 10.23 | 50.87 | 51.16 | 50.14 |
| | 40 | 0.425 | 11.36 | 62.23 | 39.80 | 39.01 |
| | 60 | 0.250 | 8.04 | 70.27 | 31.76 | 31.13 |
| | 140 | 0.106 | 8.37 | 78.64 | 23.39 | 22.93 |
| | 200 | 0.075 | 1.97 | 80.61 | 21.42 | 20.99 |
| | dry pan | | 0.59 | 81.20 | 20.83 | |
| | wet pan | | | 20.83 | 0.00 | |

$d_{10}$ (mm): 0.014 $d_{50}$ (mm): 0.84
$d_{16}$ (mm): 0.053 $d_{60}$ (mm): 2.0
$d_{30}$ (mm): 0.22 $d_{84}$ (mm): 8.9

*Median Particle Diameter* --$d_{50}$ (mm): 0.84
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 143
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 1.7
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 3.3

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Silty sand with gravel (SM)g
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 14-Aug-14
*Start Time:* 9:18

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

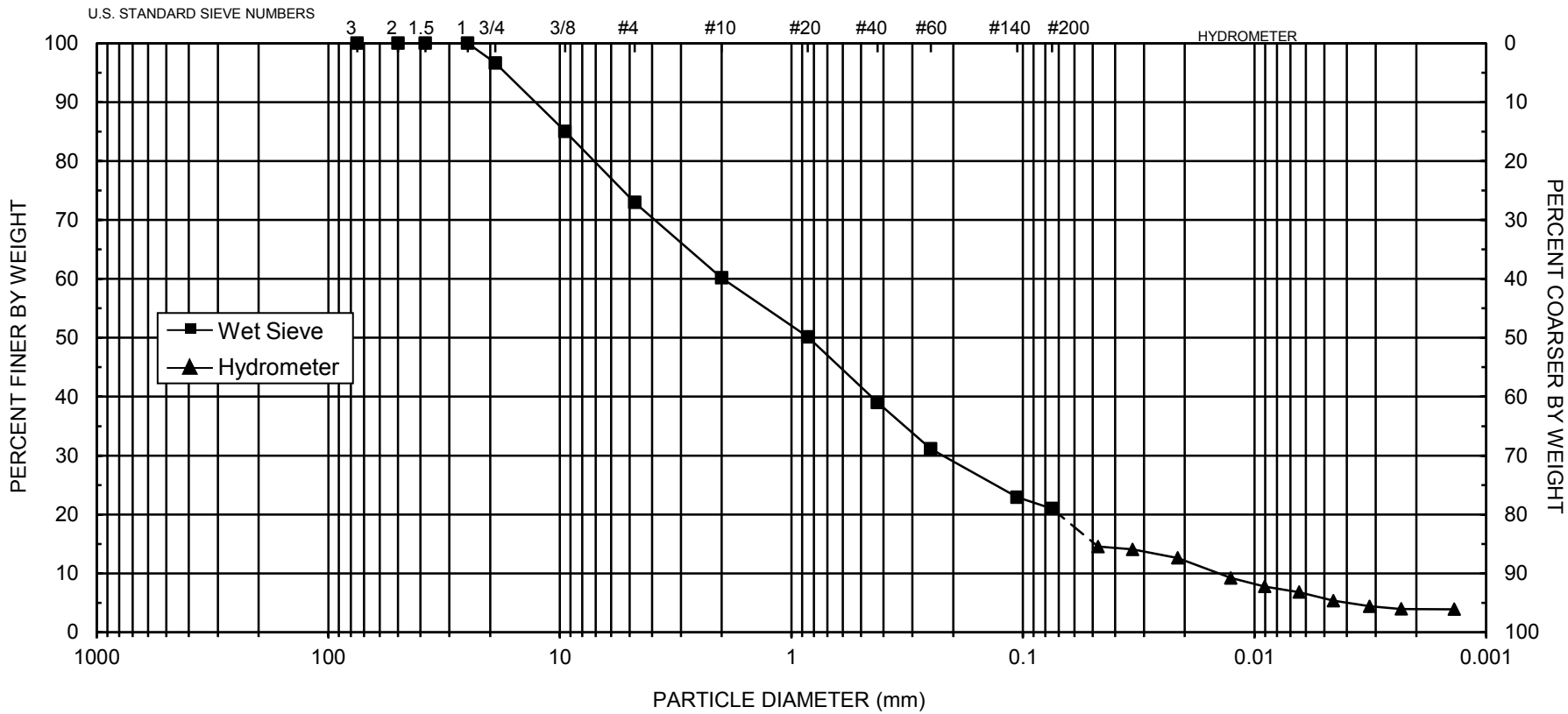
*Initial Wt.* (g)*:* 61.39
*Total Sample Wt.* (g)*:* 368.82
*Wt. Passing #10 (g):* 221.92

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 14-Aug-14 | 1 | 21.3 | 21.0 | 6.0 | 15.0 | 12.9 | 0.04737 | 24.2 | 14.6 |
| | 2 | 21.3 | 20.5 | 6.0 | 14.5 | 12.9 | 0.03360 | 23.4 | 14.1 |
| | 5 | 21.3 | 19.0 | 6.0 | 13.0 | 13.2 | 0.02145 | 21.0 | 12.6 |
| | 15 | 21.3 | 15.5 | 6.0 | 9.5 | 13.8 | 0.01265 | 15.3 | 9.2 |
| | 30 | 21.3 | 14.0 | 6.0 | 8.0 | 14.0 | 0.00903 | 12.9 | 7.8 |
| | 60 | 21.4 | 13.0 | 6.0 | 7.0 | 14.2 | 0.00641 | 11.3 | 6.8 |
| | 120 | 21.5 | 11.5 | 6.0 | 5.5 | 14.4 | 0.00457 | 8.9 | 5.4 |
| | 250 | 21.5 | 10.5 | 6.0 | 4.5 | 14.6 | 0.00318 | 7.3 | 4.4 |
| | 469 | 21.7 | 10.0 | 5.9 | 4.1 | 14.7 | 0.00232 | 6.6 | 3.9 |
| 15-Aug-14 | 1357 | 21.4 | 10.0 | 6.0 | 4.0 | 14.7 | 0.00137 | 6.5 | 3.9 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.014** | $d_{30}$ = **0.22** | $d_{50}$ = **0.84** | $d_{60}$ = **2.0** | $C_u$ = **143** | $C_c$ = **1.7** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-08 (28-30') MR** | **14EC016B** | **Silty sand with gravel (SM)g** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 1-Aug-14

*Initial Dry Weight of Sample (g):* 1380.93
*Weight Passing #10 (g):* 803.00
*Weight Retained #10 (g):* 577.93
*Weight of Hydrometer Sample (g):* 69.73
*Calculated Weight of Sieve Sample (g):* 119.92

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 1380.93 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 1380.93 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 1380.93 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 1380.93 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 1380.93 | 100.00 |
| | 3/8" | 9.5 | 120.13 | 120.13 | 1260.80 | 91.30 |
| | 4 | 4.75 | 120.83 | 240.96 | 1139.97 | 82.55 |
| | 10 | 2.00 | 336.97 | 577.93 | 803.00 | 58.15 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 36.15 | 86.34 | 33.58 | 28.00 |
| | 40 | 0.425 | 18.70 | 105.04 | 14.88 | 12.41 |
| | 60 | 0.250 | 5.54 | 110.58 | 9.34 | 7.79 |
| | 140 | 0.106 | 3.73 | 114.31 | 5.61 | 4.68 |
| | 200 | 0.075 | 0.96 | 115.27 | 4.65 | 3.88 |
| | dry pan | | 0.12 | 115.39 | 4.53 | |
| | wet pan | | | 4.53 | 0.00 | |

$d_{10}$ (mm): 0.32 $d_{50}$ (mm): 1.6
$d_{16}$ (mm): 0.50 $d_{60}$ (mm): 2.1
$d_{30}$ (mm): 0.90 $d_{84}$ (mm): 5.3

*Median Particle Diameter* --$d_{50}$ (mm): 1.6
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 6.6
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.2
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 2.5

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded sand with gravel (SW)g
*USDA Soil Classification:* Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 30-Jul-14
*Start Time:* 9:06

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

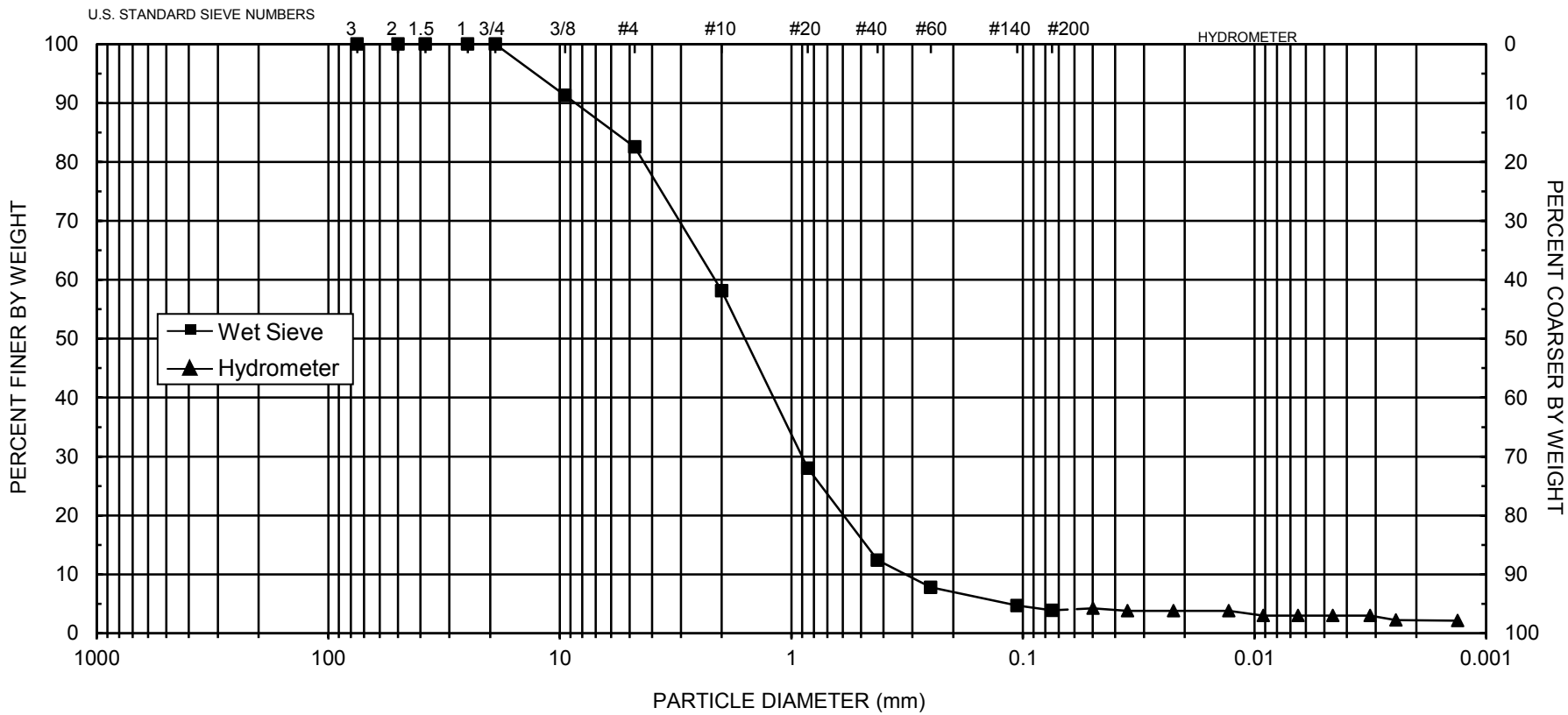
*Initial Wt.* (g)*:* 69.73
*Total Sample Wt.* (g)*:* 1380.93
*Wt. Passing #10 (g):* 803.00

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 30-Jul-14 | 1 | 21.9 | 11.5** | 6.4 | 5.1 | 14.4 | 0.04980 | 7.3 | 4.2 |
| | 2 | 21.9 | 11.0 | 6.4 | 4.6 | 14.5 | 0.03531 | 6.6 | 3.8 |
| | 5 | 21.9 | 11.0 | 6.4 | 4.6 | 14.5 | 0.02233 | 6.6 | 3.8 |
| | 15 | 21.9 | 11.0 | 6.4 | 4.6 | 14.5 | 0.01289 | 6.6 | 3.8 |
| | 30 | 22.0 | 10.0 | 6.4 | 3.6 | 14.7 | 0.00916 | 5.1 | 3.0 |
| | 60 | 22.0 | 10.0 | 6.4 | 3.6 | 14.7 | 0.00648 | 5.1 | 3.0 |
| | 120 | 21.9 | 10.0 | 6.4 | 3.6 | 14.7 | 0.00458 | 5.1 | 3.0 |
| | 250 | 22.1 | 10.0 | 6.4 | 3.6 | 14.7 | 0.00317 | 5.1 | 3.0 |
| | 418 | 22.6 | 9.0 | 6.3 | 2.7 | 14.8 | 0.00245 | 3.8 | 2.2 |
| 31-Jul-14 | 1455 | 21.8 | 9.0 | 6.4 | 2.6 | 14.8 | 0.00133 | 3.7 | 2.1 |

*Comments:*

* Dispersion device: mechanically operated stirring device
** Discontinuity in initial data points due to sample characteristics.

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.32** | $d_{30}$ = **0.90** | $d_{50}$ = **1.6** | $d_{60}$ = **2.1** | $C_u$ = **6.6** | $C_c$ = **1.2** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-20 (28-30') Bag/MR** | **14EC016B** | **Well-graded sand with gravel (SW)g** | **Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 1-Aug-14

*Initial Dry Weight of Sample (g):* 2616.36
*Weight Passing #10 (g):* 960.15
*Weight Retained #10 (g):* 1656.21
*Weight of Hydrometer Sample (g):* 56.28
*Calculated Weight of Sieve Sample (g):* 153.36

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2616.36 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 2616.36 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 2616.36 | 100.00 |
| | 1" | 25 | 85.23 | 85.23 | 2531.13 | 96.74 |
| | 3/4" | 19.0 | 211.05 | 296.28 | 2320.08 | 88.68 |
| | 3/8" | 9.5 | 514.37 | 810.65 | 1805.71 | 69.02 |
| | 4 | 4.75 | 438.16 | 1248.81 | 1367.55 | 52.27 |
| | 10 | 2.00 | 407.40 | 1656.21 | 960.15 | 36.70 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 19.07 | 116.15 | 37.21 | 24.26 |
| | 40 | 0.425 | 13.08 | 129.23 | 24.13 | 15.73 |
| | 60 | 0.250 | 6.60 | 135.83 | 17.53 | 11.43 |
| | 140 | 0.106 | 4.95 | 140.78 | 12.58 | 8.20 |
| | 200 | 0.075 | 1.10 | 141.88 | 11.48 | 7.49 |
| | dry pan | | 0.15 | 142.03 | 11.33 | |
| | wet pan | | | 11.33 | 0.00 | |

$d_{10}$ (mm): 0.17 $d_{50}$ (mm): 4.2
$d_{16}$ (mm): 0.43 $d_{60}$ (mm): 6.5
$d_{30}$ (mm): 1.3 $d_{84}$ (mm): 16

*Median Particle Diameter* --$d_{50}$ (mm): 4.2
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 38
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.5
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 6.9

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded gravel with silt and sand (GW-GM)s
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 30-Jul-14
*Start Time:* 9:24

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

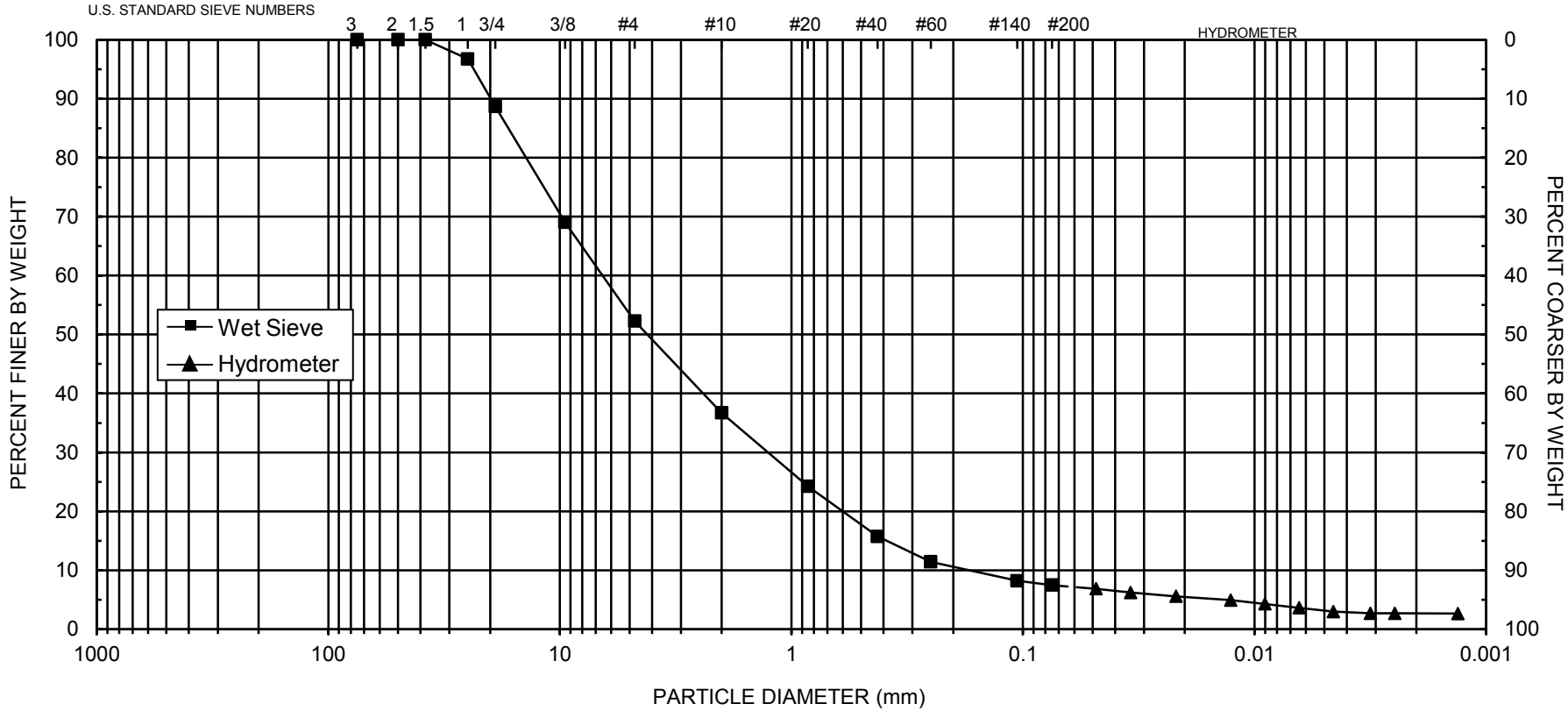
*Initial Wt.* (g)*:* 56.28
*Total Sample Wt.* (g)*:* 2616.36
*Wt. Passing #10 (g):* 960.15

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 30-Jul-14 | 1 | 21.9 | 17.0 | 6.4 | 10.6 | 13.5 | 0.04822 | 18.7 | 6.9 |
| | 2 | 21.9 | 16.0 | 6.4 | 9.6 | 13.7 | 0.03430 | 16.9 | 6.2 |
| | 5 | 21.9 | 15.0 | 6.4 | 8.6 | 13.8 | 0.02182 | 15.2 | 5.6 |
| | 15 | 22.0 | 14.0 | 6.4 | 7.6 | 14.0 | 0.01267 | 13.4 | 4.9 |
| | 30 | 22.0 | 13.0 | 6.4 | 6.6 | 14.2 | 0.00901 | 11.6 | 4.3 |
| | 60 | 22.0 | 12.0 | 6.4 | 5.6 | 14.3 | 0.00641 | 9.9 | 3.6 |
| | 120 | 21.9 | 11.0 | 6.4 | 4.6 | 14.5 | 0.00456 | 8.1 | 3.0 |
| | 250 | 22.2 | 10.5 | 6.4 | 4.2 | 14.6 | 0.00316 | 7.3 | 2.7 |
| | 403 | 22.6 | 10.5 | 6.4 | 4.2 | 14.6 | 0.00247 | 7.3 | 2.7 |
| 31-Jul-14 | 1440 | 21.8 | 10.5 | 6.4 | 4.1 | 14.6 | 0.00132 | 7.2 | 2.6 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.17** | $d_{30}$ = **1.3** | $d_{50}$ = **4.2** | $d_{60}$ = **6.5** | $C_u$ = **38** | $C_c$ = **1.5** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-21 (32.5-33') Bag** | **14EC016B** | **Well-graded gravel with silt and sand (GW-GM)s** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') MR
*Project:* WSTF
*PO#:* 14EC016B
*Test Date:* 15-Aug-14

*Initial Dry Weight of Sample (g):* 382.61
*Weight Passing #10 (g):* 134.72
*Weight Retained #10 (g):* 247.89
*Weight of Hydrometer Sample (g):* 63.73
*Calculated Weight of Sieve Sample (g):* 181.00

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 382.61 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 382.61 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 382.61 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 382.61 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 382.61 | 100.00 |
| | 3/8" | 9.5 | 92.21 | 92.21 | 290.40 | 75.90 |
| | 4 | 4.75 | 73.95 | 166.16 | 216.45 | 56.57 |
| | 10 | 2.00 | 81.73 | 247.89 | 134.72 | 35.21 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 26.07 | 143.34 | 37.66 | 20.81 |
| | 40 | 0.425 | 16.26 | 159.60 | 21.40 | 11.82 |
| | 60 | 0.250 | 6.80 | 166.40 | 14.60 | 8.07 |
| | 140 | 0.106 | 4.77 | 171.17 | 9.83 | 5.43 |
| | 200 | 0.075 | 0.87 | 172.04 | 8.96 | 4.95 |
| | dry pan | | 0.17 | 172.21 | 8.79 | |
| | wet pan | | | 8.79 | 0.00 | |

$d_{10}$ (mm): 0.33
$d_{16}$ (mm): 0.59
$d_{30}$ (mm): 1.5
$d_{50}$ (mm): 3.6
$d_{60}$ (mm): 5.4
$d_{84}$ (mm): 12

*Median Particle Diameter* --$d_{50}$ (mm): 3.6
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 16
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.3
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 5.4

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded sand with gravel (SW)g
*USDA Soil Classification:* Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 14-Aug-14
*Start Time:* 9:06

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.70

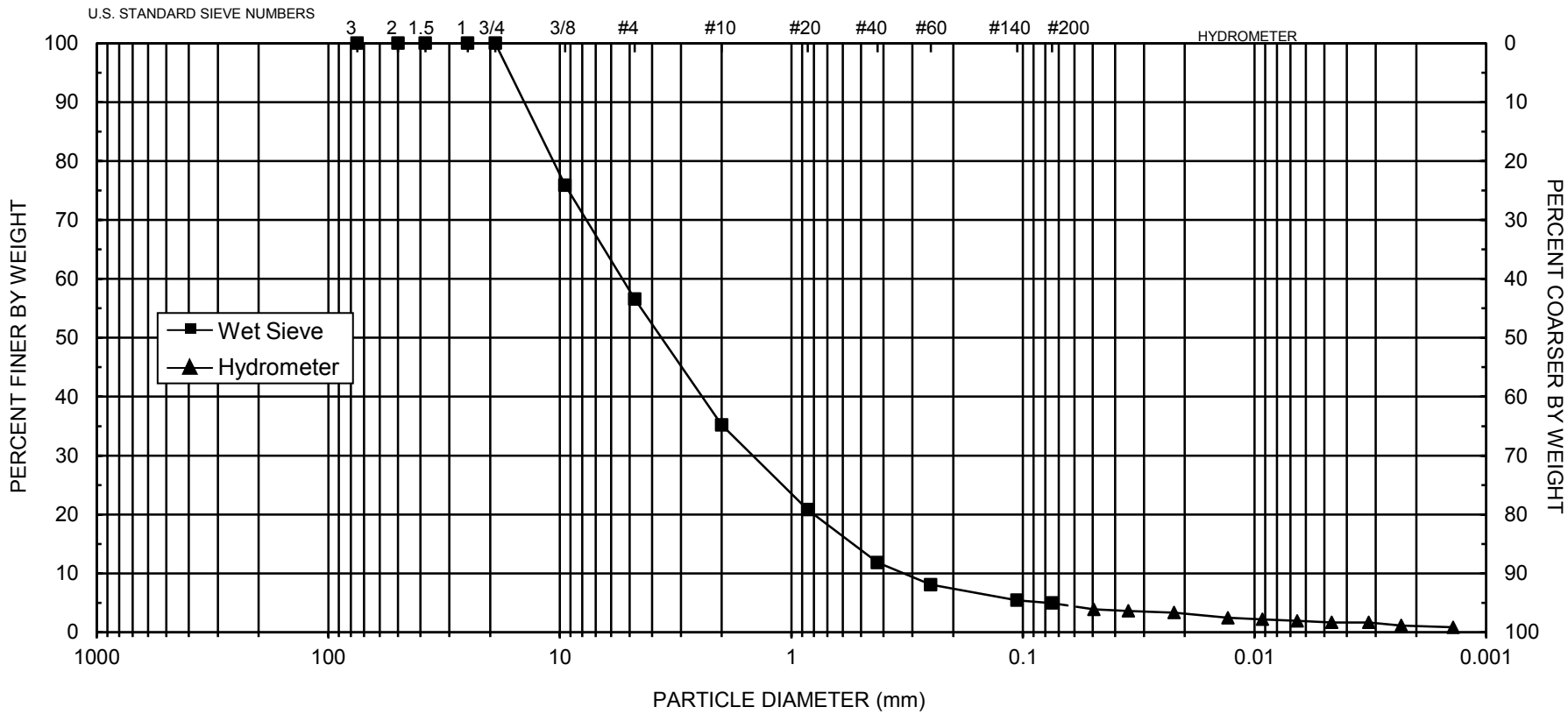
*Initial Wt.* (g)*:* 63.73
*Total Sample Wt.* (g)*:* 382.61
*Wt. Passing #10 (g):* 134.72

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 14-Aug-14 | 1 | 21.9 | 13.0 | 5.9 | 7.1 | 14.2 | 0.04937 | 11.0 | 3.9 |
| | 2 | 21.9 | 12.5 | 5.9 | 6.6 | 14.3 | 0.03501 | 10.3 | 3.6 |
| | 5 | 21.9 | 12.0 | 5.9 | 6.1 | 14.3 | 0.02221 | 9.5 | 3.3 |
| | 15 | 21.3 | 10.5 | 6.0 | 4.5 | 14.6 | 0.01302 | 7.0 | 2.5 |
| | 30 | 21.3 | 10.0 | 6.0 | 4.0 | 14.7 | 0.00923 | 6.2 | 2.2 |
| | 60 | 21.4 | 9.5 | 6.0 | 3.5 | 14.7 | 0.00654 | 5.5 | 1.9 |
| | 120 | 21.5 | 9.0 | 6.0 | 3.0 | 14.8 | 0.00463 | 4.7 | 1.7 |
| | 250 | 21.5 | 9.0 | 6.0 | 3.0 | 14.8 | 0.00321 | 4.7 | 1.7 |
| | 479 | 21.7 | 8.0 | 5.9 | 2.1 | 15.0 | 0.00233 | 3.2 | 1.1 |
| 15-Aug-14 | 1366 | 21.4 | 7.5 | 6.0 | 1.5 | 15.1 | 0.00139 | 2.4 | 0.8 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* S. Hanhardt
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.33** | $d_{30}$ = **1.5** | $d_{50}$ = **3.6** | $d_{60}$ = **5.4** | $C_u$ = **16** | $C_c$ = **1.3** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO# | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-21 (32.5-33') MR** | **14EC016B** | **Well-graded sand with gravel (SW)g** | **Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

# Atterberg Limits/ Identification of Fines

## Summary of Atterberg Tests

| Sample Number | Liquid Limit | Plastic Limit | Plasticity Index | Classification |
|---|---|---|---|---|
| 200-SB-05 (8-10') Bag | --- | --- | --- | ML |
| 200-SB-06 (8-10') Bag/MR | --- | --- | --- | ML |
| 200-SB-07 (47-49') Bag | 21 | 14 | 7 | CL-ML |
| 200-SB-08 (28-30') Bag | --- | --- | --- | ML |
| 200-SB-20 (28-30') Bag/MR | --- | --- | --- | ML |
| 200-SB-21 (32.5-33') Bag | --- | --- | --- | ML |

--- = Soil requires visual-manual classification due to non-plasticity

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-05 (8-10') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5 YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Medium
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-06 (8-10') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 13-Aug-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Dark Yellowish Brown (10YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Medium
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-07 (47-49') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | 30 | 24 | 17 |
| *Pan number:* | LL1 | LL2 | LL3 |
| *Weight of pan plus moist soil (g):* | 125.04 | 126.82 | 132.38 |
| *Weight of pan plus dry soil (g)* | 123.62 | 124.98 | 130.47 |
| *Weight of pan (g):* | 116.80 | 116.46 | 121.84 |
| *Gravimetric moisture content (% g/g):* | 20.82 | 21.60 | 22.13 |
| *Liquid Limit:* | 21 | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | PL1 | PL2 |
| *Weight of pan plus moist soil (g):* | 119.62 | 117.89 |
| *Weight of pan plus dry soil (g)* | 118.97 | 117.22 |
| *Weight of pan (g):* | 114.22 | 112.27 |
| *Gravimetric moisture content (% g/g):* | 13.68 | 13.54 |
| *Plastic Limit:* | 14 | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* 21
*Plastic Limit:* 14
*Plasticity Index:* 7

*Classification:* CL-ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-08 (28-30') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5 YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Weak

## Preliminary Identification:

Dry Strength: Low
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-20 (28-30') Bag/MR
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Dark Yellowish Brown (10 YR 4/4)
Odor: None
Moisture Condition: Wet
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: None
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 29-Jul-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-21 (32.5-33') Bag
*Project:* WSTF
*PO#:* 14EC016B

*Test Date:* 30-Jul-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5 YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Low
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Laboratory Tests and Methods

# Tests and Methods

| | |
|---|---|
| Dry Bulk Density: | ASTM D7263 |
| Moisture Content: | ASTM D7263 |
| Calculated Porosity: | ASTM D7263 |
| Saturated Hydraulic Conductivity: | |
| Constant Head: (Rigid Wall) | ASTM D 2434 (modified apparatus) |
| Hanging Column Method: | ASTM D6836 (modified apparatus) |
| Pressure Plate Method: | ASTM D6836 (modified apparatus) |
| Water Potential (Dewpoint Potentiometer) Method: | ASTM D6836 |
| Relative Humidity (Box) Method: | Campbell, G. and G. Gee. 1986. Water Potential: Miscellaneous Methods. Chp. 25, pp. 631-632, in A. Klute (ed.), Methods of Soil Analysis. Part 1. American Society of Agronomy, Madison, WI; Karathanasis & Hajek. 1982. Quantitative Evaluation of Water Adsorption on Soil Clays. SSA Journal 46:1321-1325 |
| Moisture Retention Characteristics & Calculated Unsaturated Hydraulic Conductivity: | ASTM D6836; van Genuchten, M.T. 1980. A closed-form equation for predicting the hydraulic conductivity of unsaturated soils. SSSAJ 44:892-898; van Genuchten, M.T., F.J. Leij, and S.R. Yates. 1991. The RETC code for quantifying the hydraulic functions of unsaturated soils. Robert S. Kerr Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Ada, Oklahoma. EPA/600/2091/065. December 1991 |
| Particle Size Analysis: | ASTM D422 |
| USCS (ASTM) Classification: | ASTM D422, ASTM D2487 |
| USDA Classification: | ASTM D422, USDA Soil Textural Triangle |
| Atterberg Limits: | ASTM D4318 |
| Visual-Manual Description: | ASTM D2488 |
| Coarse Fraction (Gravel) Correction (calc): | ASTM D4718; Bouwer, H. and Rice, R.C. 1984. Hydraulic Properties of Stony Vadose Zones. Groundwater Vol. 22, No. 6 |

# Laboratory Report for

# Navarro Research and Engineering, Inc.

**Project Number: 8752-028 47**

**PO Number: 14EC016B**

**November 14, 2014**

*Daniel B. Stephens & Associates, Inc.*

4400 Alameda Blvd. NE, Suite C • Albuquerque, New Mexico 87113

November 14, 2014

Geoffrey Giles
Navarro Research and Engineering, Inc.
White Sands Test Facility
PO Box 20
Las Cruces, NM 88004
(575) 524-5352

Re: DBS&A Laboratory Report for the Navarro Research and Engineering, Inc., Project: 8752-028 47

Dear Mr. Giles:

Enclosed is the report for the Navarro Research and Engineering, Inc., project: 8752-028 47 samples. Please review this report and provide any comments as samples will be held for a maximum of 30 days. After 30 days samples will be returned or disposed of in an appropriate manner.

All testing results were evaluated subjectively for consistency and reasonableness, and the results appear to be reasonably representative of the material tested. However, DBS&A does not assume any responsibility for interpretations or analyses based on the data enclosed, nor can we guarantee that these data are fully representative of the undisturbed materials at the field site. We recommend that careful evaluation of these laboratory results be made for your particular application.

The testing utilized to generate the enclosed report employs methods that are standard for the industry. The results do not constitute a professional opinion by DBS&A, nor can the results affect any professional or expert opinions rendered with respect thereto by DBS&A. You have acknowledged that all the testing undertaken by us, and the report provided, constitutes mere test results using standardized methods, and cannot be used to disqualify DBS&A from rendering any professional or expert opinion, having waived any claim of conflict of interest by DBS&A.

We are pleased to provide this service to Navarro and look forward to future laboratory testing on other projects. If you have any questions about the enclosed data, please do not hesitate to call.

Sincerely,

DANIEL B. STEPHENS & ASSOCIATES, INC.
SOIL TESTING & RESEARCH LABORATORY

Crystal Krous

Crystal Krous
Quality Analyst; for Joleen Hines
Enclosure

***Daniel B. Stephens & Associates, Inc.***
***Soil Testing & Research Laboratory***
4400 Alameda Blvd. NE, Suite C
Albuquerque, NM 87113
505-889-7752
FAX 505-889-0258

# Summaries

# Summary of Tests Performed

| Laboratory Sample Number | Initial Soil Properties[1] | | | Saturated Hydraulic Conductivity[2] | | | Moisture Characteristics[3] | | | | | | | | Particle Size[4] | | | Specific Gravity[5] | | Air Perm-eability | Atterberg Limits | Proctor Compaction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G | VM | VD | CH | FH | FW | HC | PP | FP | DPP | RH | EP | WHC | $K_{unsat}$ | DS | WS | H | F | C | | | |
| 200-SB-09 (8-10) Core | X | X | | X | | | X | | | X | X | | | X | | X | X | | | | | |
| 200-SB-09 (8-10) Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-10 (16-18) Core | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |
| 200-SB-10 (16-18) Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-11 (28-30) Core | X | X | | X | | | X | | | X | X | | | X | | X | X | | | | X | |
| 200-SB-12 (8-10') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-15 (8-10) Core | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |
| 200-SB-15 (8-10) Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-15 (66-68') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-15 (98-100') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-16 (18-20) Core | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | X | |
| 200-SB-16 (58-60) Core | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |
| 200-SB-16 (58-60) Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-17 (8-12) Bag | X | X | | X | | | X | | | X | X | | | X | | X | X | | | | X | |
| 200-SB-18 (48-50') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |

[1] G = Gravimetric Moisture Content, VM = Volume Measurement Method, VD = Volume Displacement Method
[2] CH = Constant Head Rigid Wall, FH = Falling Head Rigid Wall, FW = Falling Head Rising Tail Flexible Wall
[3] HC = Hanging Column, PP = Pressure Plate, FP = Filter Paper, DPP = Dew Point Potentiometer, RH = Relative Humidity Box, EP = Effective Porosity, WHC = Water Holding Capacity, Kunsat = Calculated Unsaturated Hydraulic Conductivity
[4] DS = Dry Sieve, WS = Wet Sieve, H = Hydrometer
[5] F = Fine (<4.75mm), C = Coarse (>4.75mm)

## Summary of Tests Performed (Continued)

| Laboratory Sample Number | Initial Soil Properties[1] | | | Saturated Hydraulic Conductivity[2] | | | Moisture Characteristics[3] | | | | | | | | Particle Size[4] | | | Specific Gravity[5] | | Air Perm-eability | Atterberg Limits | Proctor Compaction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | G | VM | VD | CH | FH | FW | HC | PP | FP | DPP | RH | EP | WHC | $K_{unsat}$ | DS | WS | H | F | C | | | |
| 200-SB-18 (58-60') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |
| 200-SB-18 (88-90) Bag | X | X | | | X | | X | X | | X | X | | | X | | X | X | | | | X | |
| 200-SB-19 (8-10) Core | X | X | | X | | | X | X | | X | X | | | X | | X | X | | | | | |
| 200-SB-19 (8-10') Bag | | | | | | | | | | | | | | | | X | X | | | | X | |

[1] G = Gravimetric Moisture Content, VM = Volume Measurement Method, VD = Volume Displacement Method
[2] CH = Constant Head Rigid Wall, FH = Falling Head Rigid Wall, FW = Falling Head Rising Tail Flexible Wall
[3] HC = Hanging Column, PP = Pressure Plate, FP = Filter Paper, DPP = Dew Point Potentiometer, RH = Relative Humidity Box, EP = Effective Porosity, WHC = Water Holding Capacity, Kunsat = Calculated Unsaturated Hydraulic Conductivity
[4] DS = Dry Sieve, WS = Wet Sieve, H = Hydrometer
[5] F = Fine (<4.75mm), C = Coarse (>4.75mm)

# Notes

**Sample Receipt:**
Fourteen samples arrived on September 19, 2014. Two of the samples were received each in a 2.5" x 6" stainless steel sleeve sealed with end caps and tape; five of the samples were received in similar sleeves as well as loose material in ~1/8 to ~1/2 full 1-gallon bags; and, the remaining seven samples were received only as loose material in ~1/8 to ~1/2 full 1-gallon bags. The samples were packaged in three 5-gallon buckets and arrived in good order.

**Sample Preparation and Testing Notes:**
Each core sample was prepared for testing by using a slightly smaller diameter test ring to obtain a sub-sample. In addition, representative sub-samples were obtained from two of the bag samples (200-SB-17 (8-12') Bag and 200-SB-18 (88-90') Bag), and were remolded into testing rings to target a dry bulk density of 2.01 g/cm$^3$ at moisture content below 9%. Due to the coarse nature of the samples, particles larger than 3/8" were first removed from the materials prior to remolding. The target remold parameters were adjusted for the removal of the material larger than 3/8". Oversize correction calculations are presented for the samples, since the fraction removed was greater than 5% of the bulk sample mass.

Each of the above sub-samples were subjected to initial properties, saturated hydraulic conductivity, and the hanging column and pressure chamber portions of the moisture retention testing. Post moisture retention testing each sub-sample was also subjected to particle size analysis.

Remaining material was used to prepare separate sub-samples for the dewpoint potentiometer and relative humidity chamber portions of the moisture retention testing.

The material received in bags were each subjected to particle size analysis and Atterberg limits testing. The results of the Atterberg limits testing were combined with the particle size analysis results of the sleeve samples in order to obtain USCS classifications.

Each sample ID was annotated with either 'Bag' indicating the material was obtained from a bag sample, or 'Core' indicating the material was obtained from a sleeve sample.

The reported volumetric moisture contents are adjusted for volume changes, when applicable. Due to irregularities formed on the sample surfaces, volume measurements obtained after the initial reading should be considered estimates.

Total porosity calculations, and the particle diameter calculations in the hydrometer portion of the particle size analysis testing, are based on the use of an assumed specific gravity value of 2.65.

Two samples were calculated to be greater than 105% saturated at the saturated stage of testing, and two samples were calculated to be less than 95% saturated at the saturated stage. Potential causes for high or low saturation values can include: using an assumed specific gravity value to calculate the total porosity, underestimating or overestimating the saturated sample volume. Other potential causes for under saturation can include: the loss of some water prior to measuring the saturated sample mass, and/or the loss of some sample mass during the saturated hydraulic conductivity test.

## Notes

Several of the samples lost some amount of water after saturation, prior to initiating moisture retention testing. This is presumably due to water 'falling out' of the larger sample pores (macro pores). In order to represent the soil-water characteristic curve, including the fully saturated state, theta S (the saturated moisture content) was set equal to the calculated total porosity of each sample at the saturated state, prior to generating the predicted van Genuchten parameters using the RETC program. Users of this data are encouraged to independently evaluate the predicted soil-water characteristic curves.

## Summary of Sample Preparation/Volume Changes

| Sample Number | Initial Sample Data[1] | | Volume Change Post Saturation[2] | | | Volume Change Post Drying Curve[3] | | |
|---|---|---|---|---|---|---|---|---|
| | Moisture Content (%, g/g) | Dry Bulk Density ($g/cm^3$) | Dry Bulk Density ($g/cm^3$) | % Volume Change (%) | % of Initial Density (%) | Dry Bulk Density ($g/cm^3$) | % Volume Change (%) | % of Initial Density (%) |
| 200-SB-09 (8-10) Core | 2.4 | 1.70 | 1.83 | -7.2% | 107.7% | 1.84 | -7.7% | 108.3% |
| 200-SB-10 (16-18) Core | 9.9 | 1.98 | 1.98 | --- | 100.0% | 1.98 | --- | 100.0% |
| 200-SB-11 (28-30) Core | 2.2 | 1.73 | 1.80 | -3.5% | 103.6% | 1.82 | -4.6% | 104.9% |
| 200-SB-15 (8-10) Core | 6.1 | 1.37 | 1.40 | -2.5% | 102.6% | 1.42 | -3.3% | 103.4% |
| 200-SB-16 (18-20) Core | 6.3 | 1.35 | 1.41 | -4.0% | 104.1% | 1.44 | -6.0% | 106.4% |
| 200-SB-16 (58-60) Core | 2.0 | 1.92 | 2.00 | -4.1% | 104.2% | 2.03 | -5.6% | 105.9% |
| 200-SB-19 (8-10) Core | 3.6 | 1.61 | 1.70 | -5.3% | 105.6% | 1.77 | -8.7% | 109.5% |

[1]Initial Sample Data: The 'as received' dry bulk density and moisture content.

[2]Volume Change Post Saturation: Volume change measurements were obtained after saturated hydraulic conductivity testing.

[3]Volume Change Post Drying Curve: Volume change measurements were obtained throughout hanging column and pressure plate testing. The 'Volume Change Post Drying Curve' values represent the final sample dimensions after the last pressure plate point.

Notes:

"+" indicates sample swelling, "-" indicates sample settling, and "---" indicates no volume change occurred.

## Summary of Sample Preparation/Volume Changes

| | Target Remold Parameters[1] | | Actual Remold Data | | | Volume Change Post Saturation[2] | | | Volume Change Post Drying Curve[3] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Moisture Content (%, g/g) | Dry Bulk Density ($g/cm^3$) | Moisture Content (%, g/g) | Dry Bulk Density ($g/cm^3$) | % of Target Density (%) | Dry Bulk Density ($g/cm^3$) | % Volume Change (%) | % of Initial Density (%) | Dry Bulk Density ($g/cm^3$) | % Volume Change (%) | % of Initial Density (%) |
| 200-SB-17 (8-12) Bag | 4.0 | 1.83 | 4.0 | 1.83 | 100.3% | 1.83 | --- | 100% | 1.83 | --- | 100% |
| 200-SB-18 (88-90) Bag | 9.0 | 1.87 | 9.2 | 1.87 | 99.7% | 1.79 | +4.7% | 96% | 1.79 | +4.4% | 96% |

[1]Target Remold Parameters: Provided by the client: Remold to 2.01 $g/cm^3$ at 3-9% moisture content. See 'Notes' page for additional information.

[2]Volume Change Post Saturation: Volume change measurements were obtained after saturated hydraulic conductivity testing.

[3]Volume Change Post Drying Curve: Volume change measurements were obtained throughout hanging column and pressure plate testing. The 'Volume Change Post Drying Curve' values represent the final sample dimensions after the last pressure plate point.

Notes:

"+" indicates sample swelling, "-" indicates sample settling, and "---" indicates no volume change occurred.

## Summary of Initial Moisture Content, Dry Bulk Density Wet Bulk Density and Calculated Porosity

| Sample Number | Moisture Content: As Received Gravimetric (%, g/g) | Moisture Content: As Received Volumetric (%, $cm^3/cm^3$) | Moisture Content: Remolded Gravimetric (%, g/g) | Moisture Content: Remolded Volumetric (%, $cm^3/cm^3$) | Dry Bulk Density ($g/cm^3$) | Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) |
|---|---|---|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 2.4 | 4.1 | --- | --- | 1.70 | 1.74 | 36.0 |
| 200-SB-10 (16-18) Core | 9.9 | 19.6 | --- | --- | 1.98 | 2.17 | 25.3 |
| 200-SB-11 (28-30) Core | 2.2 | 3.9 | --- | --- | 1.73 | 1.77 | 34.6 |
| 200-SB-15 (8-10) Core | 6.1 | 8.4 | --- | --- | 1.37 | 1.45 | 48.3 |
| 200-SB-16 (18-20) Core | 6.3 | 8.5 | --- | --- | 1.35 | 1.44 | 49.0 |
| 200-SB-16 (58-60) Core | 2.0 | 3.9 | --- | --- | 1.92 | 1.95 | 27.7 |
| 200-SB-17 (8-12) Bag | NA | NA | 4.0 | 7.4 | 1.83 | 1.91 | 30.8 |
| 200-SB-18 (88-90) Bag | NA | NA | 9.2 | 17.1 | 1.87 | 2.04 | 29.5 |
| 200-SB-19 (8-10) Core | 3.6 | 5.8 | --- | --- | 1.61 | 1.67 | 39.2 |

NA = Not analyzed

--- = This sample was not remolded

## Summary of Saturated Hydraulic Conductivity Tests

| Sample Number | $K_{sat}$ (cm/sec) | Oversize Corrected $K_{sat}$ (cm/sec) | Method of Analysis | |
|---|---|---|---|---|
| | | | Constant Head | Falling Head |
| 200-SB-09 (8-10) Core | 2.5E-01 | NA | X | |
| 200-SB-10 (16-18) Core | 4.3E-04 | NA | X | |
| 200-SB-11 (28-30) Core | 2.9E-01 | NA | X | |
| 200-SB-15 (8-10) Core | 3.5E-04 | NA | X | |
| 200-SB-16 (18-20) Core | 2.8E-04 | NA | X | |
| 200-SB-16 (58-60) Core | 1.8E-03 | NA | X | |
| 200-SB-17 (8-12) Bag | 3.6E-02 | 2.5E-02 | X | |
| 200-SB-18 (88-90) Bag | 2.9E-05 | 2.3E-05 | | X |
| 200-SB-19 (8-10) Core | 5.0E-03 | NA | X | |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

## Summary of Moisture Characteristics of the Initial Drainage Curve

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-09 (8-10) Core | 0 | 22.1 ♯♯ |
| | 5 | 21.0 ♯♯ |
| | 8 | 18.7 ♯♯ |
| | 51 | 11.3 ♯♯ |
| | 187 | 7.9 ♯♯ |
| | 30390 | 4.3 ♯♯ |
| | 80768 | 3.1 ♯♯ |
| | 459522 | 1.8 ♯♯ |
| | 848426 | 1.6 ♯♯ |
| 200-SB-10 (16-18) Core | 0 | 24.7 |
| | 10 | 22.5 |
| | 32 | 20.9 |
| | 103 | 20.1 |
| | 337 | 19.0 |
| | 89436 | 6.2 |
| | 183870 | 4.9 |
| | 848426 | 2.6 |
| 200-SB-11 (28-30) Core | 0 | 24.0 ♯♯ |
| | 5 | 21.8 ♯♯ |
| | 8 | 19.1 ♯♯ |
| | 47 | 11.5 ♯♯ |
| | 192 | 8.7 ♯♯ |
| | 12849 | 4.2 ♯♯ |
| | 84949 | 2.4 ♯♯ |
| | 216911 | 1.8 ♯♯ |
| | 848426 | 1.0 ♯♯ |

♯♯ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Moisture Characteristics of the Initial Drainage Curve (Continued)

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-15 (8-10) Core | 0 | 48.9 ♯♯ |
| | 12 | 48.0 ♯♯ |
| | 32 | 46.7 ♯♯ |
| | 103 | 40.3 ♯♯ |
| | 337 | 30.8 ♯♯ |
| | 10096 | 13.5 ♯♯ |
| | 30390 | 9.2 ♯♯ |
| | 240571 | 4.9 ♯♯ |
| | 848426 | 2.9 ♯♯ |
| 200-SB-16 (18-20) Core | 0 | 48.7 ♯♯ |
| | 12 | 48.0 ♯♯ |
| | 32 | 44.8 ♯♯ |
| | 103 | 38.6 ♯♯ |
| | 337 | 32.4 ♯♯ |
| | 8974 | 13.1 ♯♯ |
| | 55375 | 7.3 ♯♯ |
| | 285136 | 4.5 ♯♯ |
| | 848426 | 2.9 ♯♯ |
| 200-SB-16 (58-60) Core | 0 | 26.5 ♯♯ |
| | 5 | 24.2 ♯♯ |
| | 19 | 22.8 ♯♯ |
| | 73 | 16.3 ♯♯ |
| | 337 | 9.4 ♯♯ |
| | 27841 | 4.3 ♯♯ |
| | 104224 | 2.9 ♯♯ |
| | 338778 | 2.0 ♯♯ |
| | 848426 | 1.4 ♯♯ |

♯♯ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Moisture Characteristics of the Initial Drainage Curve (Continued)

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-17 (8-12) Bag | 0 | 31.6 |
| | 5 | 29.6 |
| | 9 | 27.4 |
| | 47 | 11.3 |
| | 190 | 8.4 |
| | 18662 | 4.2 |
| | 53641 | 2.9 |
| | 242814 | 1.8 |
| | 848426 | 1.2 |
| 200-SB-18 (88-90) Bag | 0 | 33.6 ♯♯ |
| | 18 | 33.7 ♯♯ |
| | 56 | 32.0 ♯♯ |
| | 121 | 29.8 ♯♯ |
| | 337 | 28.0 ♯♯ |
| | 70570 | 11.9 ♯♯ |
| | 245364 | 9.4 ♯♯ |
| | 848426 | 5.2 ♯♯ |
| 200-SB-19 (8-10) Core | 0 | 38.3 ♯♯ |
| | 5 | 37.0 ♯♯ |
| | 18 | 35.9 ♯♯ |
| | 74 | 31.6 ♯♯ |
| | 337 | 19.6 ♯♯ |
| | 15909 | 8.3 ♯♯ |
| | 64655 | 5.1 ♯♯ |
| | 193660 | 3.9 ♯♯ |
| | 848426 | 1.8 ♯♯ |

♯♯ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Calculated Unsaturated Hydraulic Properties

| Sample Number | $\alpha$ ($cm^{-1}$) | N (dimensionless) | $\theta_r$ (% vol) | $\theta_s$ (% vol) | Oversize Corrected $\theta_r$ (% vol) | Oversize Corrected $\theta_s$ (% vol) |
|---|---|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 0.6384 | 1.2945 | 0.00 | 31.08 | NA | NA |
| 200-SB-10 (16-18) Core | 0.0163 | 1.2411 | 0.00 | 25.32 | NA | NA |
| 200-SB-11 (28-30) Core | 0.6229 | 1.3017 | 0.00 | 32.26 | NA | NA |
| 200-SB-15 (8-10) Core | 0.0091 | 1.3099 | 0.18 | 47.01 | NA | NA |
| 200-SB-16 (18-20) Core | 0.0098 | 1.2961 | 0.00 | 46.93 | NA | NA |
| 200-SB-16 (58-60) Core | 0.0272 | 1.4502 | 0.59 | 24.65 | NA | NA |
| 200-SB-17 (8-12) Bag | 0.0832 | 1.6498 | 1.22 | 31.65 | 0.94 | 24.28 |
| 200-SB-18 (88-90) Bag | 0.0040 | 1.2170 | 0.00 | 32.63 | 0.00 | 27.25 |
| 200-SB-19 (8-10) Core | 0.0092 | 1.4855 | 1.67 | 35.74 | NA | NA |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

## Summary of Particle Size Characteristics

| Sample Number | $d_{10}$ (mm) | $d_{50}$ (mm) | $d_{60}$ (mm) | $C_u$ | $C_c$ | Method | ASTM Classification | USDA Classification |
|---|---|---|---|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 0.19 | 4.3 | 5.9 | 31 | 2.9 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-09 (8-10) Bag | 0.065 | 4.0 | 6.5 | 100 | 2.9 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-10 (16-18) Core | 0.0016 | 0.36 | 1.1 | 688 | 2.4 | WS/H | Silty, clayey sand with gravel (SC-SM)g | Sandy Loam † |
| 200-SB-10 (16-18) Bag | 0.0016 | 0.51 | 2.0 | 1250 | 1.6 | WS/H | Silty, clayey sand with gravel (SC-SM)g | Sandy Loam † |
| 200-SB-11 (28-30) Core | 0.11 | 3.7 | 5.1 | 46 | 5.2 | WS/H | Poorly-graded sand with silt and gravel (SP-SM)g | Loamy Sand † |
| 200-SB-12 (8-10') Bag | 0.26 | 11 | 13 | 50 | 9.6 | WS/H | Poorly-graded gravel with silt and sand (GP-GM)s | Sandy Loam † |
| 200-SB-15 (8-10) Core | 0.0024 | 0.053 | 0.064 | 27 | 2.6 | WS/H | Sandy silt s(ML) | Loam |
| 200-SB-15 (8-10) Bag | 0.00087 | 0.042 | 0.053 | 61 | 3.7 | WS/H | Silt with sand (ML)s | Loam (Est) |
| 200-SB-15 (66-68') Bag | 0.52 | 13 | 15 | 29 | 6.8 | WS/H | Poorly-graded gravel with silt (GP-GM) | Sandy Loam † |
| 200-SB-15 (98-100') Bag | 4.3 | 11 | 12 | 2.8 | 1.1 | WS/H | Poorly-graded gravel (GP) | Loam † |
| 200-SB-16 (18-20) Core | 0.0016 | 0.040 | 0.053 | 33 | 0.87 | WS/H | Silt with sand (ML)s | Loam |

$d_{50}$ = Median particle diameter

Est = Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material

## Summary of Particle Size Characteristics (Continued)

| Sample Number | $d_{10}$ (mm) | $d_{50}$ (mm) | $d_{60}$ (mm) | $C_u$ | $C_c$ | Method | ASTM Classification | USDA Classification |
|---|---|---|---|---|---|---|---|---|
| 200-SB-16 (58-60) Core | 0.065 | 2.7 | 5.7 | 88 | 0.97 | WS/H | Poorly-graded sand with silt and gravel (SP-SM)g | Loamy Sand † |
| 200-SB-16 (58-60) Bag | 0.082 | 5.6 | 9.7 | 118 | 1.5 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-17 (8-12) Bag | 0.27 | 4.8 | 6.8 | 25 | 1.8 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Sand † |
| 200-SB-18 (48-50') Bag | 0.85 | 8.3 | 11 | 13 | 2.7 | WS/H | Well-graded gravel with clay and sand (GW-GC)s | Sandy Loam † |
| 200-SB-18 (58-60') Bag | 0.86 | 7.6 | 9.3 | 11 | 3.3 | WS/H | Poorly-graded gravel with sand (GP)s | Sand † |
| 200-SB-18 (88-90) Bag | 0.0011 | 0.11 | 0.68 | 618 | 0.051 | WS/H | Clayey gravel with sand (GC)s | Loam † (Est) |
| 200-SB-19 (8-10) Core | 0.0039 | 0.17 | 0.55 | 141 | 1.4 | WS/H | Silty sand with gravel (SM)g | Sandy Loam † |
| 200-SB-19 (8-10') Bag | 0.013 | 3.6 | 8.0 | 615 | 0.31 | WS/H | Silty gravel with sand (GM)s | Sandy Loam † |

$d_{50}$ = Median particle diameter

Est = Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material

## Percent Gravel, Sand, Silt and Clay*

| Sample Number | % Gravel (>4.75mm) | % Sand (<4.75mm, >0.075mm) | % Silt (<0.075mm, >0.002mm) | % Clay (<0.002mm) |
|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 47.8 | 44.3 | 6.7 | 1.2 |
| 200-SB-09 (8-10) Bag | 47.1 | 42.1 | 8.8 | 2.1 |
| 200-SB-10 (16-18) Core | 31.0 | 35.6 | 22.5 | 10.8 |
| 200-SB-10 (16-18) Bag | 34.6 | 34.7 | 19.9 | 10.8 |
| 200-SB-11 (28-30) Core | 43.1 | 47.6 | 7.4 | 1.9 |
| 200-SB-12 (8-10') Bag | 74.1 | 19.6 | 4.8 | 1.5 |
| 200-SB-15 (8-10) Core | 7.0 | 23.6 | 60.2 | 9.1 |
| 200-SB-15 (8-10) Bag | 1.4 | 25.0 | 60.0 | 13.6 |
| 200-SB-15 (66-68') Bag | 80.3 | 12.7 | 5.7 | 1.3 |
| 200-SB-15 (98-100') Bag | 89.4 | 7.3 | 2.5 | 0.8 |
| 200-SB-16 (18-20) Core | 2.1 | 21.4 | 64.7 | 11.8 |
| 200-SB-16 (58-60) Core | 43.0 | 45.1 | 8.4 | 3.5 |
| 200-SB-16 (58-60) Bag | 52.7 | 37.6 | 7.5 | 2.2 |
| 200-SB-17 (8-12) Bag | 50.4 | 43.3 | 5.9 | 0.5 |
| 200-SB-18 (48-50') Bag | 72.4 | 22.6 | 3.7 | 1.3 |
| 200-SB-18 (58-60') Bag | 73.2 | 24.2 | 2.1 | 0.6 |
| 200-SB-18 (88-90) Bag | 29.6 | 22.2 | 32.5 | 15.7 |
| 200-SB-19 (8-10) Core | 27.1 | 32.6 | 32.8 | 7.4 |
| 200-SB-19 (8-10') Bag | 47.6 | 29.0 | 18.7 | 4.7 |

*USCS classification does not classify clay fraction based on particle size. USDA definition of clay (<0.002mm) used in this table.

## Summary of Atterberg Tests

| Sample Number | Liquid Limit | Plastic Limit | Plasticity Index | Classification |
|---|---|---|---|---|
| 200-SB-09 (8-10) Bag | --- | --- | --- | ML |
| 200-SB-10 (16-18) Bag | 19 | 13 | 6 | CL-ML |
| 200-SB-11 (28-30) Core | --- | --- | --- | ML |
| 200-SB-12 (8-10') Bag | --- | --- | --- | ML |
| 200-SB-15 (8-10) Bag | --- | --- | --- | ML |
| 200-SB-15 (66-68') Bag | --- | --- | --- | ML |
| 200-SB-15 (98-100') Bag | --- | --- | --- | ML |
| 200-SB-16 (18-20) Core | --- | --- | --- | ML |
| 200-SB-16 (58-60) Bag | --- | --- | --- | ML |
| 200-SB-17 (8-12) Bag | --- | --- | --- | ML |
| 200-SB-18 (48-50') Bag | 31 | 21 | 10 | CL |
| 200-SB-18 (58-60') Bag | --- | --- | --- | ML |
| 200-SB-18 (88-90) Bag | 33 | 16 | 17 | CL |
| 200-SB-19 (8-10') Bag | --- | --- | --- | ML |

--- = Soil requires visual-manual classification due to non-plasticity

# Initial Properties

## Summary of Initial Moisture Content, Dry Bulk Density Wet Bulk Density and Calculated Porosity

| Sample Number | Moisture Content: As Received, Gravimetric (%, g/g) | Moisture Content: As Received, Volumetric (%, $cm^3/cm^3$) | Moisture Content: Remolded, Gravimetric (%, g/g) | Moisture Content: Remolded, Volumetric (%, $cm^3/cm^3$) | Dry Bulk Density ($g/cm^3$) | Wet Bulk Density ($g/cm^3$) | Calculated Porosity (%) |
|---|---|---|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 2.4 | 4.1 | --- | --- | 1.70 | 1.74 | 36.0 |
| 200-SB-10 (16-18) Core | 9.9 | 19.6 | --- | --- | 1.98 | 2.17 | 25.3 |
| 200-SB-11 (28-30) Core | 2.2 | 3.9 | --- | --- | 1.73 | 1.77 | 34.6 |
| 200-SB-15 (8-10) Core | 6.1 | 8.4 | --- | --- | 1.37 | 1.45 | 48.3 |
| 200-SB-16 (18-20) Core | 6.3 | 8.5 | --- | --- | 1.35 | 1.44 | 49.0 |
| 200-SB-16 (58-60) Core | 2.0 | 3.9 | --- | --- | 1.92 | 1.95 | 27.7 |
| 200-SB-17 (8-12) Bag | NA | NA | 4.0 | 7.4 | 1.83 | 1.91 | 30.8 |
| 200-SB-18 (88-90) Bag | NA | NA | 9.2 | 17.1 | 1.87 | 2.04 | 29.5 |
| 200-SB-19 (8-10) Core | 3.6 | 5.8 | --- | --- | 1.61 | 1.67 | 39.2 |

NA = Not analyzed

--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 519.23 | |
| *Tare weight, ring* (g): | 133.27 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 376.94 | |
| *Sample volume* ($cm^3$): | 222.30 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 2.4 | |
| *Volumetric Moisture Content* (% vol): | 4.1 | |
| *Dry bulk density* ($g/cm^3$): | 1.70 | |
| *Wet bulk density* ($g/cm^3$): | 1.74 | |
| *Calculated Porosity* (% vol): | 36.0 | |
| *Percent Saturation:* | 11.3 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 360.14 | |
| *Tare weight, ring* (g): | 78.01 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 256.72 | |
| *Sample volume* ($cm^3$): | 129.72 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 9.9 | |
| *Volumetric Moisture Content* (% vol): | 19.6 | |
| *Dry bulk density* ($g/cm^3$): | 1.98 | |
| *Wet bulk density* ($g/cm^3$): | 2.17 | |
| *Calculated Porosity* (% vol): | 25.3 | |
| *Percent Saturation:* | 77.4 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 524.99 | |
| *Tare weight, ring* (g): | 126.02 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 390.27 | |
| *Sample volume* ($cm^3$): | 225.23 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 2.2 | |
| *Volumetric Moisture Content* (% vol): | 3.9 | |
| *Dry bulk density* ($g/cm^3$): | 1.73 | |
| *Wet bulk density* ($g/cm^3$): | 1.77 | |
| *Calculated Porosity* (% vol): | 34.6 | |
| *Percent Saturation:* | 11.2 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 456.98 | |
| *Tare weight, ring* (g): | 133.57 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 304.68 | |
| *Sample volume* ($cm^3$): | 222.50 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 6.1 | |
| *Volumetric Moisture Content* (% vol): | 8.4 | |
| *Dry bulk density* ($g/cm^3$): | 1.37 | |
| *Wet bulk density* ($g/cm^3$): | 1.45 | |
| *Calculated Porosity* (% vol): | 48.3 | |
| *Percent Saturation:* | 17.4 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 453.65 | |
| *Tare weight, ring* (g): | 133.40 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 301.27 | |
| *Sample volume* ($cm^3$): | 223.04 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 6.3 | |
| *Volumetric Moisture Content* (% vol): | 8.5 | |
| *Dry bulk density* ($g/cm^3$): | 1.35 | |
| *Wet bulk density* ($g/cm^3$): | 1.44 | |
| *Calculated Porosity* (% vol): | 49.0 | |
| *Percent Saturation:* | 17.4 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 565.08 | |
| *Tare weight, ring* (g): | 127.95 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 428.50 | |
| *Sample volume* ($cm^3$): | 223.65 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 2.0 | |
| *Volumetric Moisture Content* (% vol): | 3.9 | |
| *Dry bulk density* ($g/cm^3$): | 1.92 | |
| *Wet bulk density* ($g/cm^3$): | 1.95 | |
| *Calculated Porosity* (% vol): | 27.7 | |
| *Percent Saturation:* | 13.9 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | NA | 24-Sep-14 |
| *Field weight* of sample* (g): | | 833.17 |
| *Tare weight, ring* (g): | | 221.77 |
| *Tare weight, pan/plate* (g): | | 0.00 |
| *Tare weight, other* (g): | | 0.00 |
| *Dry weight of sample* (g): | | 587.77 |
| *Sample volume* ($cm^3$): | | 320.75 |
| *Assumed particle density* ($g/cm^3$): | | 2.65 |
| *Gravimetric Moisture Content* (% g/g): | | 4.0 |
| *Volumetric Moisture Content* (% vol): | | 7.4 |
| *Dry bulk density* ($g/cm^3$): | | 1.83 |
| *Wet bulk density* ($g/cm^3$): | | 1.91 |
| *Calculated Porosity* (% vol): | | 30.8 |
| *Percent Saturation:* | | 23.9 |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | NA | 24-Sep-14 |
| *Field weight* of sample* (g): | | 874.09 |
| *Tare weight, ring* (g): | | 221.71 |
| *Tare weight, pan/plate* (g): | | 0.00 |
| *Tare weight, other* (g): | | 0.00 |
| *Dry weight of sample* (g): | | 597.69 |
| *Sample volume* ($cm^3$): | | 319.75 |
| *Assumed particle density* ($g/cm^3$): | | 2.65 |
| *Gravimetric Moisture Content* (% g/g): | | 9.2 |
| *Volumetric Moisture Content* (% vol): | | 17.1 |
| *Dry bulk density* ($g/cm^3$): | | 1.87 |
| *Wet bulk density* ($g/cm^3$): | | 2.04 |
| *Calculated Porosity* (% vol): | | 29.5 |
| *Percent Saturation:* | | 58.1 |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Data for Initial Moisture Content, Bulk Density, Porosity, and Percent Saturation

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

| | As Received | Remolded |
|---|---|---|
| *Test Date:* | 23-Sep-14 | --- |
| *Field weight* of sample* (g): | 504.21 | |
| *Tare weight, ring* (g): | 128.97 | |
| *Tare weight, pan/plate* (g): | 0.00 | |
| *Tare weight, other* (g): | 0.00 | |
| *Dry weight of sample* (g): | 362.28 | |
| *Sample volume* ($cm^3$): | 224.73 | |
| *Assumed particle density* ($g/cm^3$): | 2.65 | |
| *Gravimetric Moisture Content* (% g/g): | 3.6 | |
| *Volumetric Moisture Content* (% vol): | 5.8 | |
| *Dry bulk density* ($g/cm^3$): | 1.61 | |
| *Wet bulk density* ($g/cm^3$): | 1.67 | |
| *Calculated Porosity* (% vol): | 39.2 | |
| *Percent Saturation:* | 14.7 | |

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

*Comments:*

* Weight including tares
NA = Not analyzed
--- = This sample was not remolded

# Saturated Hydraulic Conductivity

## Summary of Saturated Hydraulic Conductivity Tests

| Sample Number | $K_{sat}$ (cm/sec) | Oversize Corrected $K_{sat}$ (cm/sec) | Method of Analysis | |
|---|---|---|---|---|
| | | | Constant Head | Falling Head |
| 200-SB-09 (8-10) Core | 2.5E-01 | NA | X | |
| 200-SB-10 (16-18) Core | 4.3E-04 | NA | X | |
| 200-SB-11 (28-30) Core | 2.9E-01 | NA | X | |
| 200-SB-15 (8-10) Core | 3.5E-04 | NA | X | |
| 200-SB-16 (18-20) Core | 2.8E-04 | NA | X | |
| 200-SB-16 (58-60) Core | 1.8E-03 | NA | X | |
| 200-SB-17 (8-12) Bag | 3.6E-02 | 2.5E-02 | X | |
| 200-SB-18 (88-90) Bag | 2.9E-05 | 2.3E-05 | | X |
| 200-SB-19 (8-10) Core | 5.0E-03 | NA | X | |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

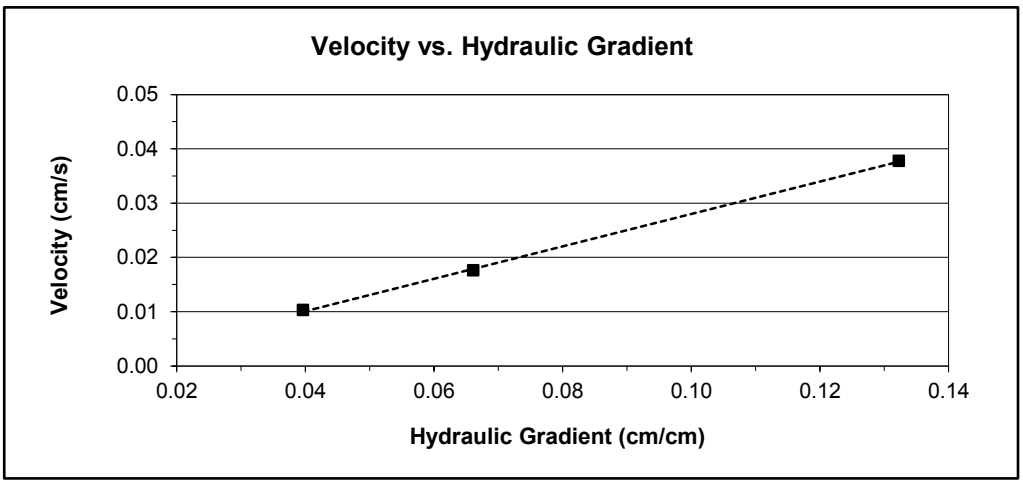
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.95
*Sample length* (cm)*:* 7.56
*Sample diameter* (cm)*:* 6.12
*Sample x-sectional area* ($cm^2$)*:* 29.42

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:45:30 | 22.5 | 1 | 44.26 | 33.3 | 30 | 2.9E-01 | 2.7E-01 |
| 24-Sep-14 | 10:46:00 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 11:01:30 | 22.5 | 0.5 | 26.48 | 15.5 | 30 | 2.7E-01 | 2.5E-01 |
| 24-Sep-14 | 11:02:00 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:19:00 | 22.5 | 0.3 | 19.99 | 9.0 | 30 | 2.6E-01 | 2.4E-01 |
| 24-Sep-14 | 11:19:30 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **2.5E-01**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

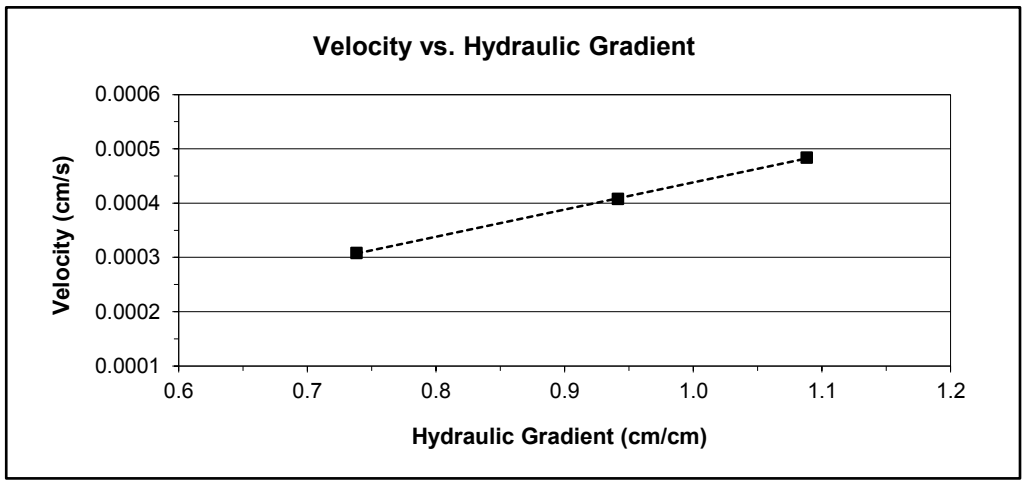
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.03
*Sample length* (cm)*:* 4.43
*Sample diameter* (cm)*:* 6.11
*Sample x-sectional area* ($cm^2$)*:* 29.28

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:42:42 | 22.5 | 4.6 | 15.22 | 4.2 | 296 | 4.7E-04 | 4.4E-04 |
| 24-Sep-14 | 10:47:38 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 10:58:36 | 22.5 | 3.95 | 14.55 | 3.5 | 295 | 4.6E-04 | 4.3E-04 |
| 24-Sep-14 | 11:03:31 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:15:59 | 22.5 | 3.05 | 14.42 | 3.4 | 376 | 4.5E-04 | 4.2E-04 |
| 24-Sep-14 | 11:22:15 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **4.3E-04**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

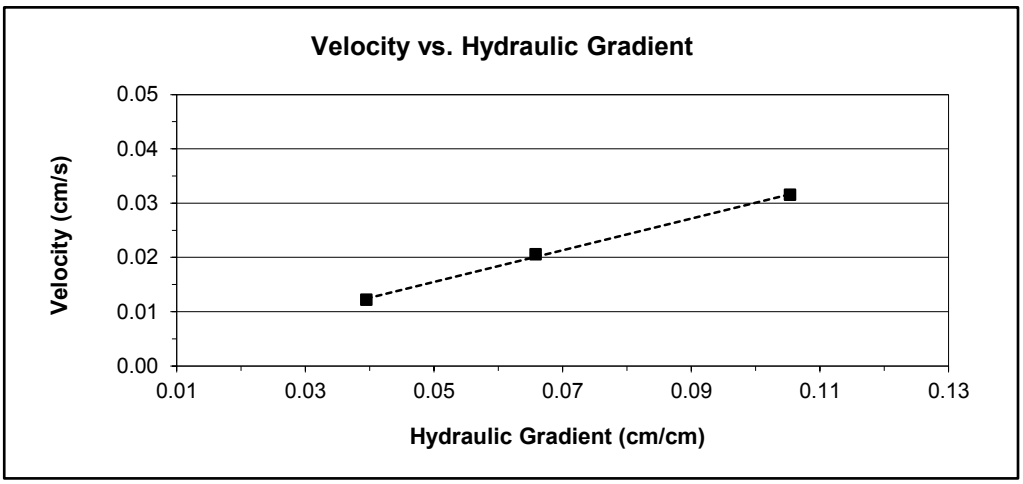
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.98
*Sample length* (cm)*:* 7.59
*Sample diameter* (cm)*:* 6.15
*Sample x-sectional area* ($cm^2$)*:* 29.67

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:44:30 | 22.5 | 0.8 | 39.00 | 28.0 | 30 | 3.0E-01 | 2.8E-01 |
| 24-Sep-14 | 10:45:00 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 11:00:30 | 22.5 | 0.5 | 29.24 | 18.3 | 30 | 3.1E-01 | 2.9E-01 |
| 24-Sep-14 | 11:01:00 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:18:00 | 22.5 | 0.3 | 21.81 | 10.8 | 30 | 3.1E-01 | 2.9E-01 |
| 24-Sep-14 | 11:18:30 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **2.9E-01**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

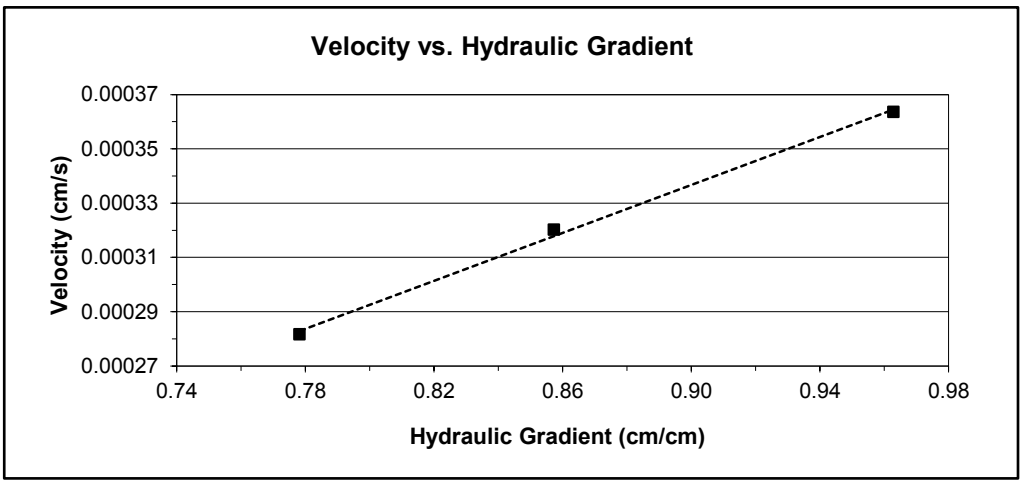
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.02
*Sample length* (cm)*:* 7.58
*Sample diameter* (cm)*:* 6.11
*Sample x-sectional area* ($cm^2$)*:* 29.35

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:42:09 | 22.5 | 7.3 | 14.05 | 3.0 | 284 | 3.8E-04 | 3.6E-04 |
| 24-Sep-14 | 10:46:53 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 10:57:44 | 22.5 | 6.5 | 13.67 | 2.7 | 282 | 3.7E-04 | 3.5E-04 |
| 24-Sep-14 | 11:02:26 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:14:39 | 22.5 | 5.9 | 13.59 | 2.6 | 311 | 3.6E-04 | 3.4E-04 |
| 24-Sep-14 | 11:19:50 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **3.5E-04**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

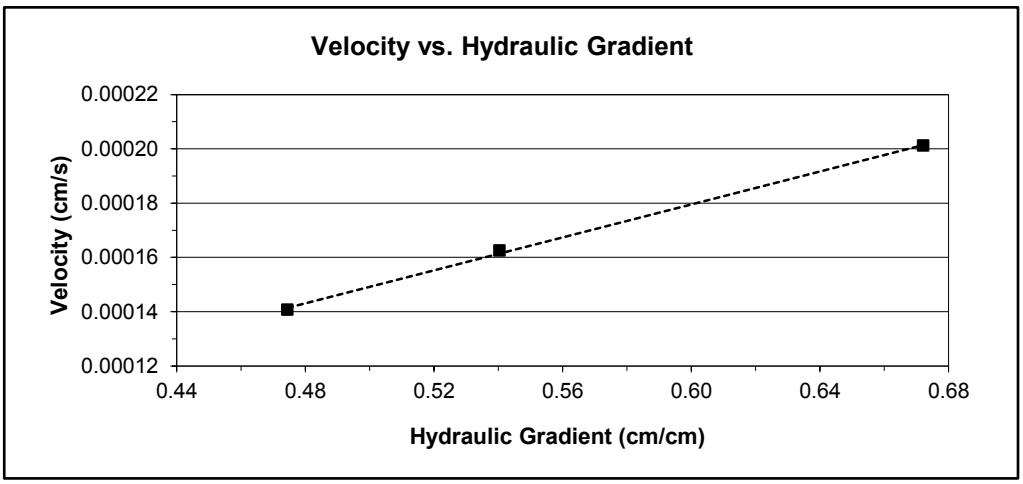
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.93
*Sample length* (cm)*:* 7.59
*Sample diameter* (cm)*:* 6.12
*Sample x-sectional area* ($cm^2$)*:* 29.40

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:42:23 | 22.5 | 5.1 | 12.68 | 1.8 | 296 | 3.0E-04 | 2.8E-04 |
| 24-Sep-14 | 10:47:19 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 10:58:18 | 22.5 | 4.1 | 12.22 | 1.3 | 270 | 3.0E-04 | 2.8E-04 |
| 24-Sep-14 | 11:02:48 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:15:10 | 22.5 | 3.6 | 12.15 | 1.2 | 295 | 3.0E-04 | 2.8E-04 |
| 24-Sep-14 | 11:20:05 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **2.8E-04**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

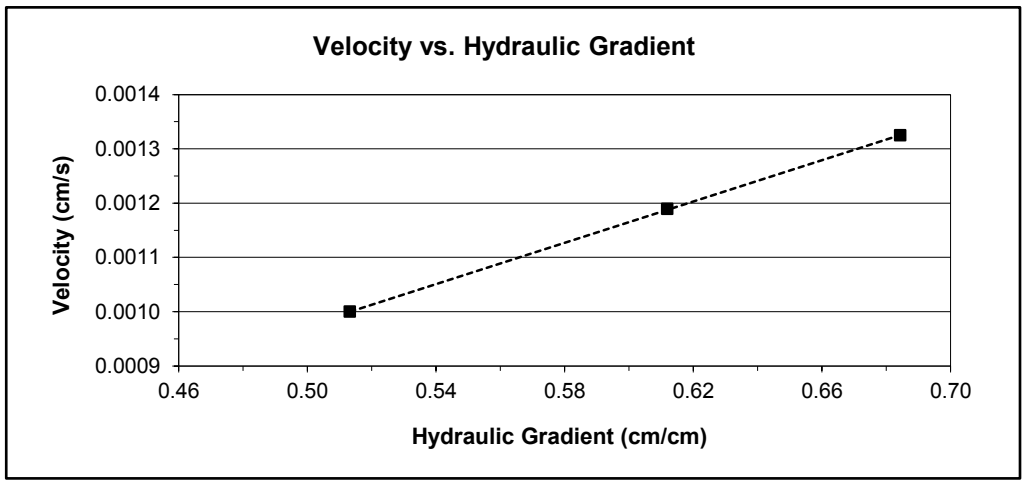
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.02
*Sample length* (cm)*:* 7.60
*Sample diameter* (cm)*:* 6.12
*Sample x-sectional area* ($cm^2$)*:* 29.44

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:42:27 | 22.5 | 5.2 | 20.34 | 9.3 | 239 | 1.9E-03 | 1.8E-03 |
| 24-Sep-14 | 10:46:26 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 10:58:24 | 22.5 | 4.65 | 20.96 | 9.9 | 284 | 1.9E-03 | 1.8E-03 |
| 24-Sep-14 | 11:03:08 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:15:42 | 22.5 | 3.9 | 19.23 | 8.2 | 279 | 1.9E-03 | 1.8E-03 |
| 24-Sep-14 | 11:20:21 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **1.8E-03**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

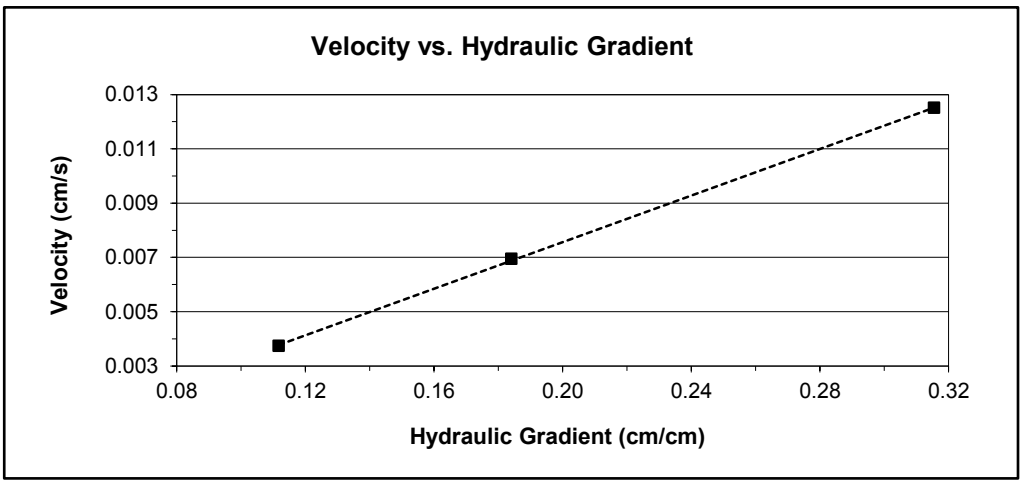
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 11.01
*Sample length* (cm)*:* 7.61
*Sample diameter* (cm)*:* 7.33
*Sample x-sectional area* ($cm^2$)*:* 42.18

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 2-Oct-14 | 10:46:00 | 21.5 | 2.4 | 42.65 | 31.6 | 60 | 4.0E-02 | 3.8E-02 |
| 2-Oct-14 | 10:47:00 | | | | | | | |
| Test # 2: | | | | | | | | |
| 2-Oct-14 | 10:57:00 | 21.5 | 1.4 | 28.57 | 17.6 | 60 | 3.8E-02 | 3.6E-02 |
| 2-Oct-14 | 10:58:00 | | | | | | | |
| Test # 3: | | | | | | | | |
| 2-Oct-14 | 11:09:00 | 21.5 | 0.85 | 20.47 | 9.5 | 60 | 3.3E-02 | 3.2E-02 |
| 2-Oct-14 | 11:10:00 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **3.6E-02**
***Oversize Corrected Ksat* (cm/sec)*:*** **2.5E-02**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Oversize Correction Data Sheet

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Split (3/4", 3/8", #4):* 3/8
*Calculated Porosity of Fines* (% vol)*:* 30.8

| | Coarse Fraction* | Fines Fraction | Composite |
|---|---|---|---|
| *Subsample Mass* (g)*:* | 1006.62 | 2296.18 | 3302.80 |
| *Bulk Density* ($g/cm^3$)*:* | 2.65 | 1.83 | 2.02 |
| *Volume of Solids* ($cm^3$)*:* | 379.86 | 866.48 | 1246.34 |
| *Volume of Voids* ($cm^3$)*:* | 0.00 | 386.54 | 386.54 |
| *Total Volume* ($cm^3$)*:* | 379.86 | 1253.02 | 1632.88 |
| *Volumetric Fraction* (%)*:* | 23.26 | 76.74 | 100.00 |
| *Mass Fraction* (%)*:* | 30.48 | 69.52 | 100.00 |
| *Ksat* (cm/sec)*:* | NM | 3.6E-02 | 2.5E-02 |

* = Porosity and moisture content of coarse fraction assumed to be zero.
--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NM = Not measured

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
Checked by: J. Hines

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Falling Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

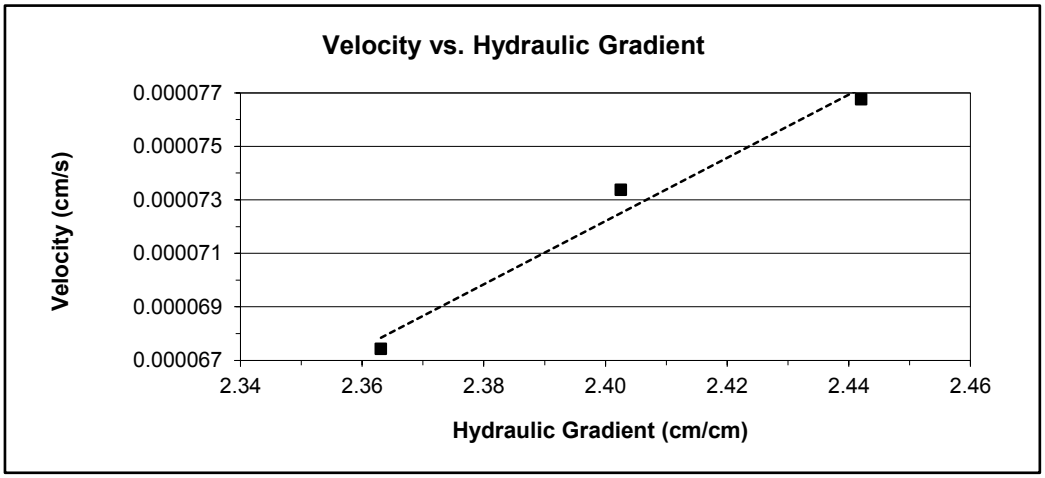
*Type of water used:* TAP
*Backpressure* (psi)*:* 0.0
*Offset* (cm)*:* 0.1
*Sample length* (cm)*:* 7.60
*Sample x-sectional area* ($cm^2$)*:* 42.10
*Reservoir x-sectional area* ($cm^2$)*:* 0.70

| Date | Time | Temp (°C) | Reservoir head (cm) | Corrected head (cm) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | |
| 2-Oct-14 | 10:27:32 | 21.5 | 18.8 | 18.7 | 65 | 3.1E-05 | 3.0E-05 |
| 2-Oct-14 | 10:28:37 | 21.5 | 18.5 | 18.4 | | | |
| Test # 2: | | | | | | | |
| 2-Oct-14 | 10:28:37 | 21.5 | 18.5 | 18.4 | 68 | 3.1E-05 | 3.0E-05 |
| 2-Oct-14 | 10:29:45 | 21.5 | 18.2 | 18.1 | | | |
| Test # 3: | | | | | | | |
| 2-Oct-14 | 10:29:45 | 21.5 | 18.2 | 18.1 | 74 | 2.9E-05 | 2.8E-05 |
| 2-Oct-14 | 10:30:59 | 21.5 | 17.9 | 17.8 | | | |

***Average Ksat* (cm/sec)*:*** **2.9E-05**
***Oversize Corrected Ksat* (cm/sec)*:*** **2.3E-05**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Oversize Correction Data Sheet

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Split (3/4", 3/8", #4):* 3/8
*Calculated Porosity of Fines* (% vol)*:* 29.5

| | Coarse Fraction* | Fines Fraction | Composite |
|---|---|---|---|
| *Subsample Mass* (g)*:* | 1021.32 | 3484.67 | 4505.99 |
| *Bulk Density* (g/cm$^3$)*:* | 2.65 | 1.87 | 2.00 |
| *Volume of Solids* (cm$^3$)*:* | 385.40 | 1314.97 | 1700.37 |
| *Volume of Voids* (cm$^3$)*:* | 0.00 | 549.27 | 549.27 |
| *Total Volume* (cm$^3$)*:* | 385.40 | 1864.24 | 2249.64 |
| *Volumetric Fraction* (%)*:* | 17.13 | 82.87 | 100.00 |
| *Mass Fraction* (%)*:* | 22.67 | 77.33 | 100.00 |
| *Ksat* (cm/sec)*:* | NM | 2.9E-05 | 2.3E-05 |

* = Porosity and moisture content of coarse fraction assumed to be zero.
--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NM = Not measured

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
Checked by: J. Hines

Daniel B. Stephens & Associates, Inc.

# Saturated Hydraulic Conductivity
## Constant Head Method

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

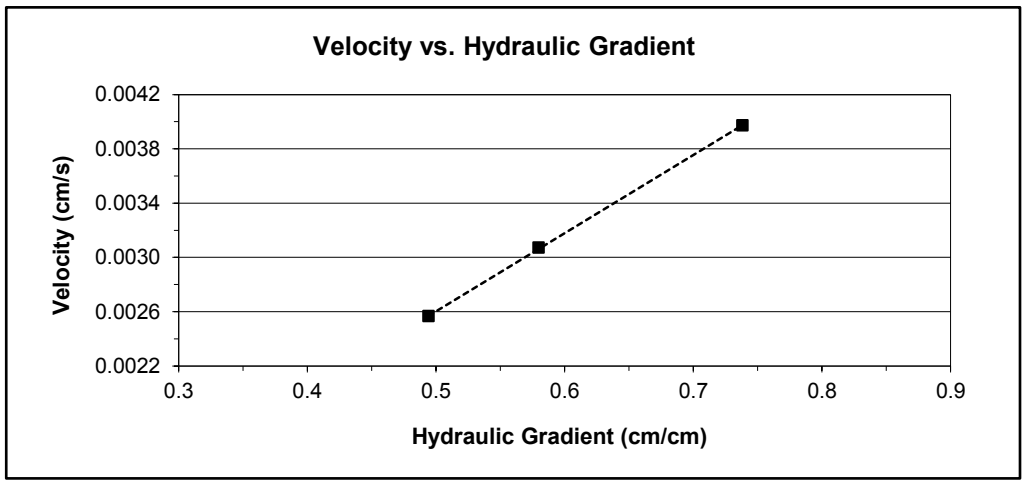
*Type of water used:* TAP
*Collection vessel tare* (g)*:* 10.96
*Sample length* (cm)*:* 7.59
*Sample diameter* (cm)*:* 6.14
*Sample x-sectional area* ($cm^2$)*:* 29.63

| Date | Time | Temp (°C) | Head (cm) | Q + Tare (g) | Q ($cm^3$) | Elapsed time (sec) | Ksat (cm/sec) | Ksat @ 20°C (cm/sec) |
|---|---|---|---|---|---|---|---|---|
| Test # 1: | | | | | | | | |
| 24-Sep-14 | 10:43:00 | 22.5 | 5.6 | 18.02 | 7.1 | 60 | 5.4E-03 | 5.1E-03 |
| 24-Sep-14 | 10:44:00 | | | | | | | |
| Test # 2: | | | | | | | | |
| 24-Sep-14 | 10:59:00 | 22.5 | 4.4 | 16.42 | 5.5 | 60 | 5.3E-03 | 5.0E-03 |
| 24-Sep-14 | 11:00:00 | | | | | | | |
| Test # 3: | | | | | | | | |
| 24-Sep-14 | 11:16:30 | 22.5 | 3.75 | 15.52 | 4.6 | 60 | 5.2E-03 | 4.9E-03 |
| 24-Sep-14 | 11:17:30 | | | | | | | |

***Average Ksat* (cm/sec)*:*** **5.0E-03**
***Oversize Corrected Ksat* (cm/sec)*:*** **NA**

*Comments:*

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NA = Not applicable




*Laboratory analysis by:* D. O'Dowd
*Data entered by:* D. O'Dowd
*Checked by:* J. Hines

# Moisture Retention Characteristics

## Summary of Moisture Characteristics of the Initial Drainage Curve

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-09 (8-10) Core | 0 | 22.1 ♯♯ |
| | 5 | 21.0 ♯♯ |
| | 8 | 18.7 ♯♯ |
| | 51 | 11.3 ♯♯ |
| | 187 | 7.9 ♯♯ |
| | 30390 | 4.3 ♯♯ |
| | 80768 | 3.1 ♯♯ |
| | 459522 | 1.8 ♯♯ |
| | 848426 | 1.6 ♯♯ |
| 200-SB-10 (16-18) Core | 0 | 24.7 |
| | 10 | 22.5 |
| | 32 | 20.9 |
| | 103 | 20.1 |
| | 337 | 19.0 |
| | 89436 | 6.2 |
| | 183870 | 4.9 |
| | 848426 | 2.6 |
| 200-SB-11 (28-30) Core | 0 | 24.0 ♯♯ |
| | 5 | 21.8 ♯♯ |
| | 8 | 19.1 ♯♯ |
| | 47 | 11.5 ♯♯ |
| | 192 | 8.7 ♯♯ |
| | 12849 | 4.2 ♯♯ |
| | 84949 | 2.4 ♯♯ |
| | 216911 | 1.8 ♯♯ |
| | 848426 | 1.0 ♯♯ |

♯♯ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Moisture Characteristics of the Initial Drainage Curve (Continued)

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-15 (8-10) Core | 0 | 48.9 ‡‡ |
| | 12 | 48.0 ‡‡ |
| | 32 | 46.7 ‡‡ |
| | 103 | 40.3 ‡‡ |
| | 337 | 30.8 ‡‡ |
| | 10096 | 13.5 ‡‡ |
| | 30390 | 9.2 ‡‡ |
| | 240571 | 4.9 ‡‡ |
| | 848426 | 2.9 ‡‡ |
| 200-SB-16 (18-20) Core | 0 | 48.7 ‡‡ |
| | 12 | 48.0 ‡‡ |
| | 32 | 44.8 ‡‡ |
| | 103 | 38.6 ‡‡ |
| | 337 | 32.4 ‡‡ |
| | 8974 | 13.1 ‡‡ |
| | 55375 | 7.3 ‡‡ |
| | 285136 | 4.5 ‡‡ |
| | 848426 | 2.9 ‡‡ |
| 200-SB-16 (58-60) Core | 0 | 26.5 ‡‡ |
| | 5 | 24.2 ‡‡ |
| | 19 | 22.8 ‡‡ |
| | 73 | 16.3 ‡‡ |
| | 337 | 9.4 ‡‡ |
| | 27841 | 4.3 ‡‡ |
| | 104224 | 2.9 ‡‡ |
| | 338778 | 2.0 ‡‡ |
| | 848426 | 1.4 ‡‡ |

‡‡ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Moisture Characteristics of the Initial Drainage Curve (Continued)

| Sample Number | Pressure Head (-cm water) | Moisture Content (%, $cm^3/cm^3$) |
|---|---|---|
| 200-SB-17 (8-12) Bag | 0 | 31.6 |
| | 5 | 29.6 |
| | 9 | 27.4 |
| | 47 | 11.3 |
| | 190 | 8.4 |
| | 18662 | 4.2 |
| | 53641 | 2.9 |
| | 242814 | 1.8 |
| | 848426 | 1.2 |
| 200-SB-18 (88-90) Bag | 0 | 33.6 ♯♯ |
| | 18 | 33.7 ♯♯ |
| | 56 | 32.0 ♯♯ |
| | 121 | 29.8 ♯♯ |
| | 337 | 28.0 ♯♯ |
| | 70570 | 11.9 ♯♯ |
| | 245364 | 9.4 ♯♯ |
| | 848426 | 5.2 ♯♯ |
| 200-SB-19 (8-10) Core | 0 | 38.3 ♯♯ |
| | 5 | 37.0 ♯♯ |
| | 18 | 35.9 ♯♯ |
| | 74 | 31.6 ♯♯ |
| | 337 | 19.6 ♯♯ |
| | 15909 | 8.3 ♯♯ |
| | 64655 | 5.1 ♯♯ |
| | 193660 | 3.9 ♯♯ |
| | 848426 | 1.8 ♯♯ |

♯♯ Volume adjustments are applicable at this matric potential (see data sheet for this sample).

## Summary of Calculated Unsaturated Hydraulic Properties

| Sample Number | $\alpha$ ($cm^{-1}$) | N (dimensionless) | $\theta_r$ (% vol) | $\theta_s$ (% vol) | Oversize Corrected $\theta_r$ (% vol) | Oversize Corrected $\theta_s$ (% vol) |
|---|---|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 0.6384 | 1.2945 | 0.00 | 31.08 | NA | NA |
| 200-SB-10 (16-18) Core | 0.0163 | 1.2411 | 0.00 | 25.32 | NA | NA |
| 200-SB-11 (28-30) Core | 0.6229 | 1.3017 | 0.00 | 32.26 | NA | NA |
| 200-SB-15 (8-10) Core | 0.0091 | 1.3099 | 0.18 | 47.01 | NA | NA |
| 200-SB-16 (18-20) Core | 0.0098 | 1.2961 | 0.00 | 46.93 | NA | NA |
| 200-SB-16 (58-60) Core | 0.0272 | 1.4502 | 0.59 | 24.65 | NA | NA |
| 200-SB-17 (8-12) Bag | 0.0832 | 1.6498 | 1.22 | 31.65 | 0.94 | 24.28 |
| 200-SB-18 (88-90) Bag | 0.0040 | 1.2170 | 0.00 | 32.63 | 0.00 | 27.25 |
| 200-SB-19 (8-10) Core | 0.0092 | 1.4855 | 1.67 | 35.74 | NA | NA |

--- = Oversize correction is unnecessary since coarse fraction < 5% of composite mass
NR = Not requested
NA = Not applicable

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 376.94
*Tare wt., ring* (g): 133.27
*Tare wt., screen & clamp* (g): 26.49
*Initial sample volume* ($cm^3$): 222.30
*Initial dry bulk density* ($g/cm^3$): 1.70
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 36.01

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:30 | 582.27 | 0 | 22.08 | ‡‡ |
| | 1-Oct-14 | 15:27 | 579.80 | 5.0 | 21.00 | ‡‡ |
| | 8-Oct-14 | 12:15 | 575.00 | 8.0 | 18.66 | ‡‡ |
| | 15-Oct-14 | 11:45 | 559.80 | 50.5 | 11.25 | ‡‡ |
| | 22-Oct-14 | 10:40 | 553.00 | 187.0 | 7.94 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 206.39 | -7.16% | 1.83 | 31.08 |
| | 5.0 | 205.27 | -7.66% | 1.84 | 30.70 |
| | 8.0 | 205.27 | -7.66% | 1.84 | 30.70 |
| | 50.5 | 205.27 | -7.66% | 1.84 | 30.70 |
| | 187.0 | 205.27 | -7.66% | 1.84 | 30.70 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-09 (8-10) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.70
*Fraction of bulk sample used (<2.00mm fraction) (%):* 31.50

*Dry weight* of dew point potentiometer sample* (g)*:* 149.54
*Tare weight, jar* (g)*:* 114.55

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 13:30 | 150.35 | 30390 | 1.34 | ‡‡ |
| | 9-Oct-14 | 11:00 | 150.13 | 80768 | 0.98 | ‡‡ |
| | 8-Oct-14 | 13:25 | 149.88 | 459522 | 0.56 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 30390 | 205.27 | -7.66% | 1.84 | 30.70 |
| | 80768 | 205.27 | -7.66% | 1.84 | 30.70 |
| | 459522 | 205.27 | -7.66% | 1.84 | 30.70 |

*Dry weight* of relative humidity box sample* (g)*:* 56.61
*Tare weight* (g)*:* 44.41

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 56.72 | 848426 | 0.51 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 205.27 | -7.66% | 1.84 | 30.70 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

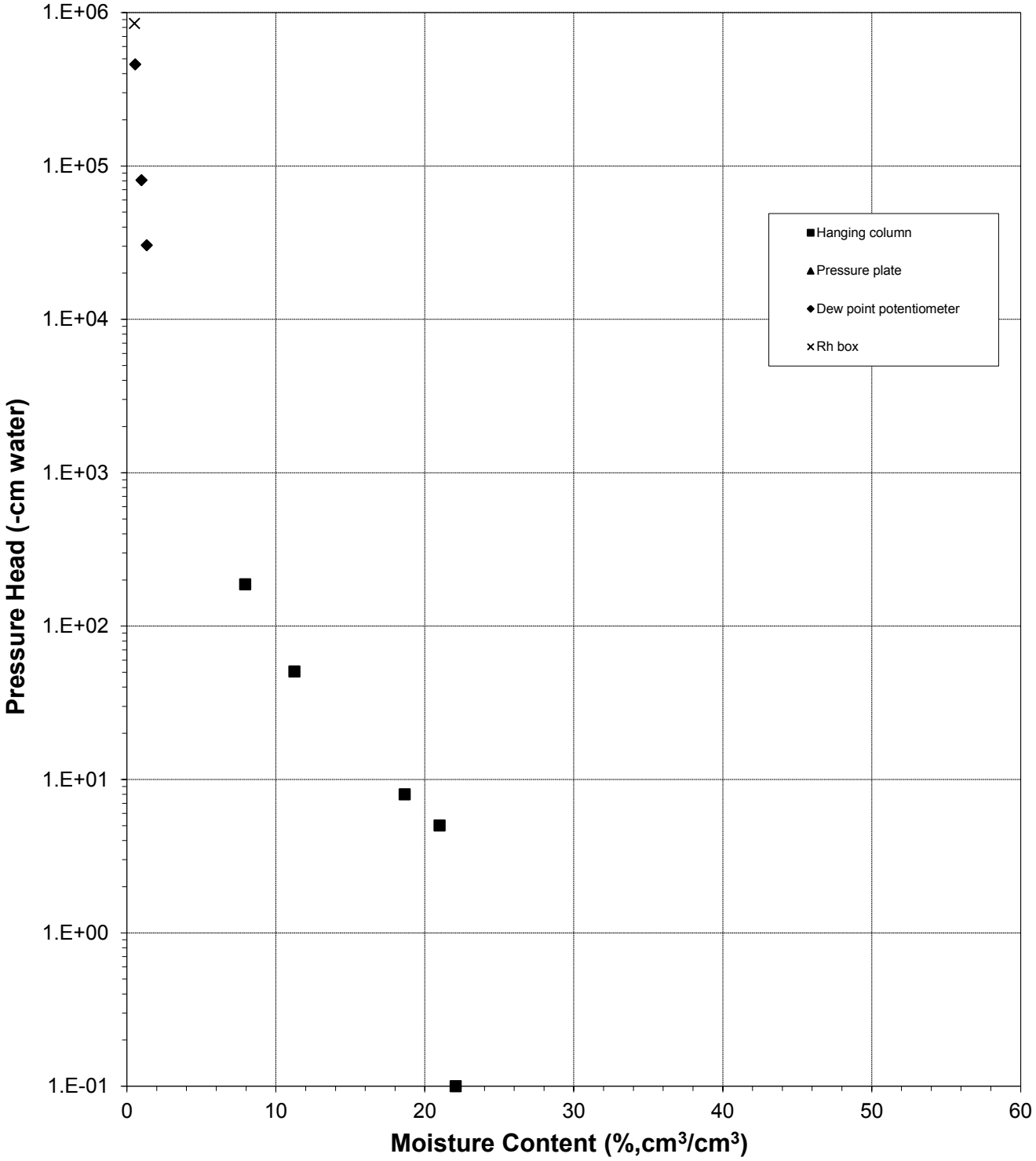
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

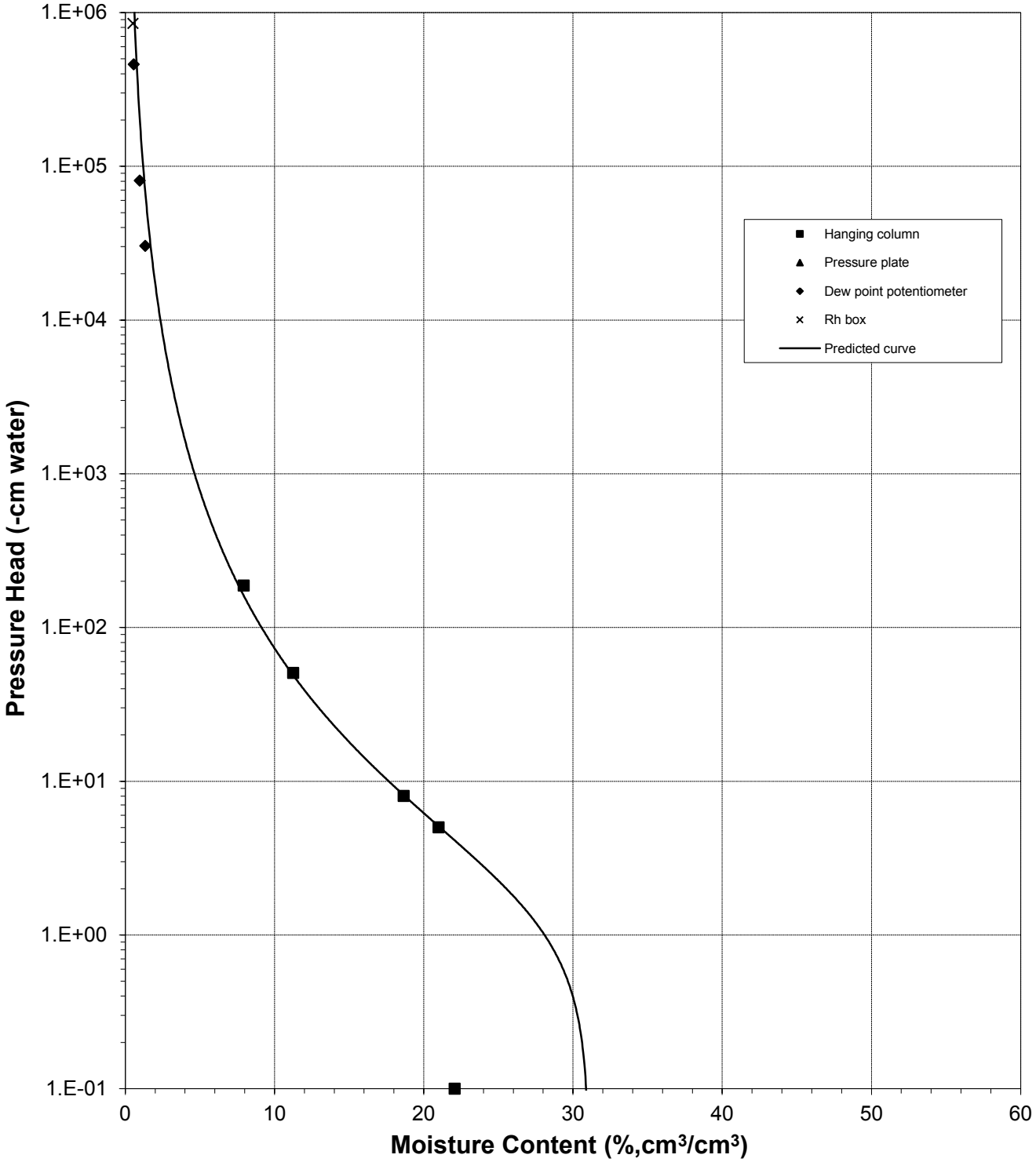
## Water Retention Data Points

*Sample Number: 200-SB-09 (8-10) Core*



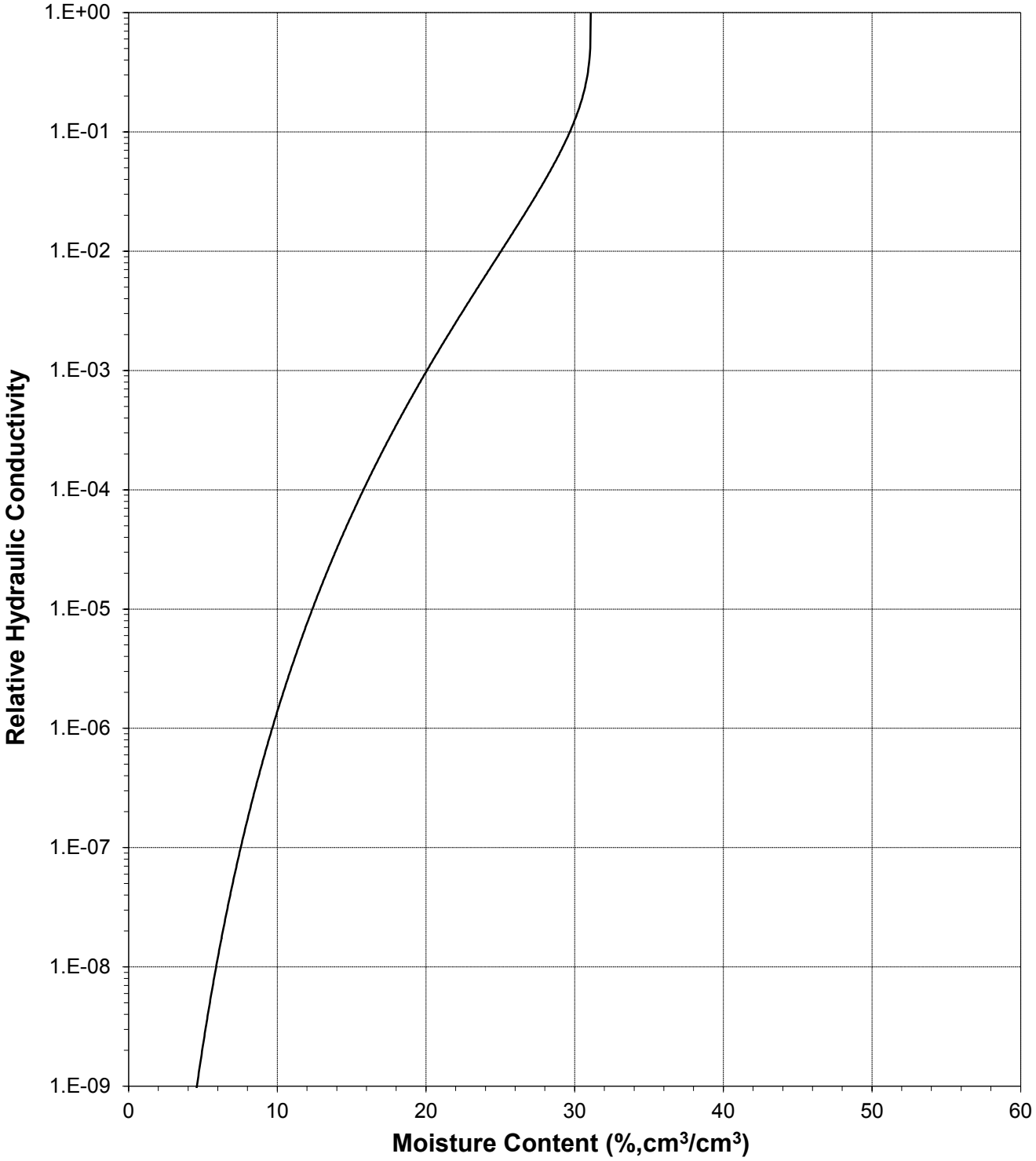
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-09 (8-10) Core*



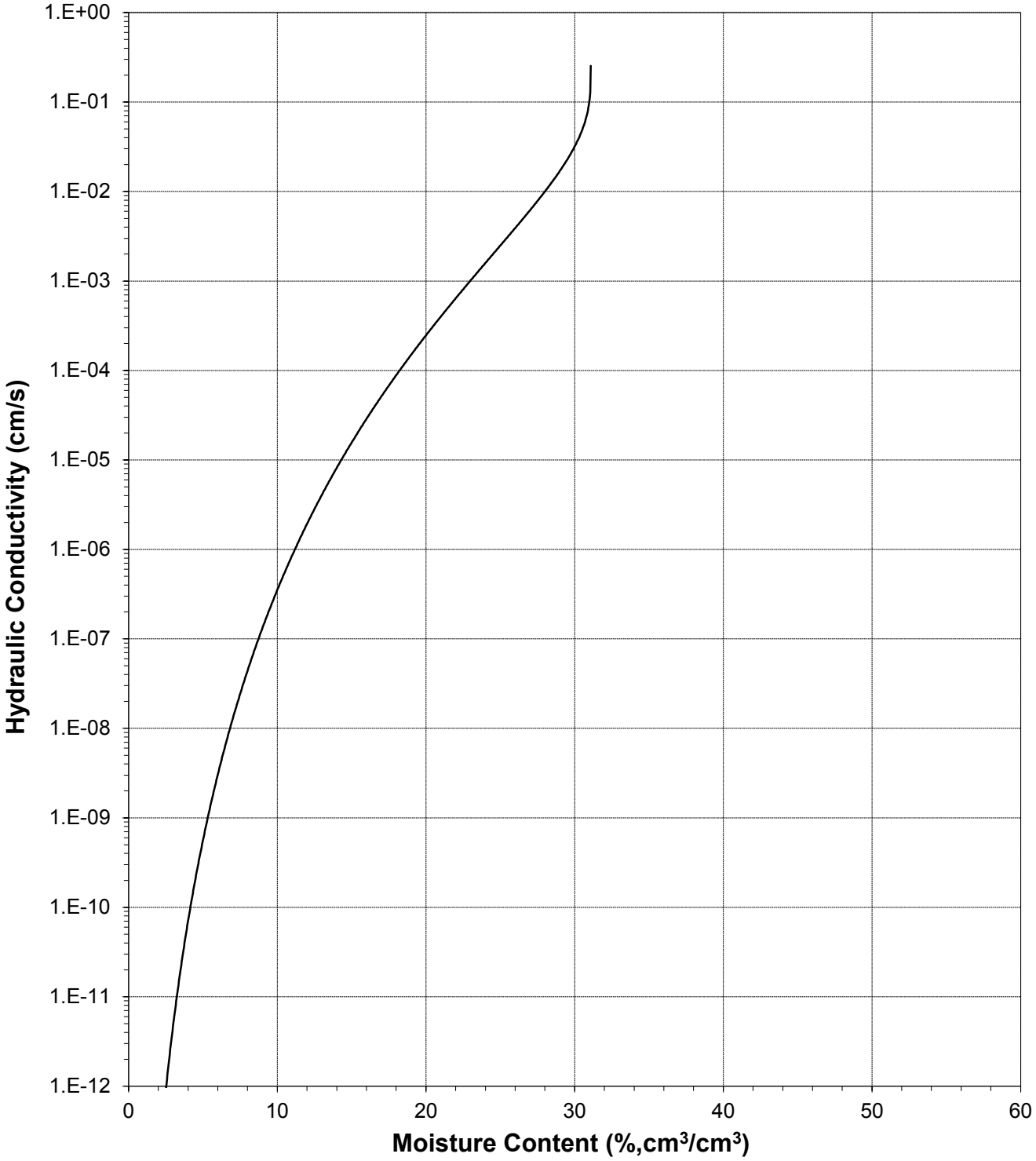
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-09 (8-10) Core*



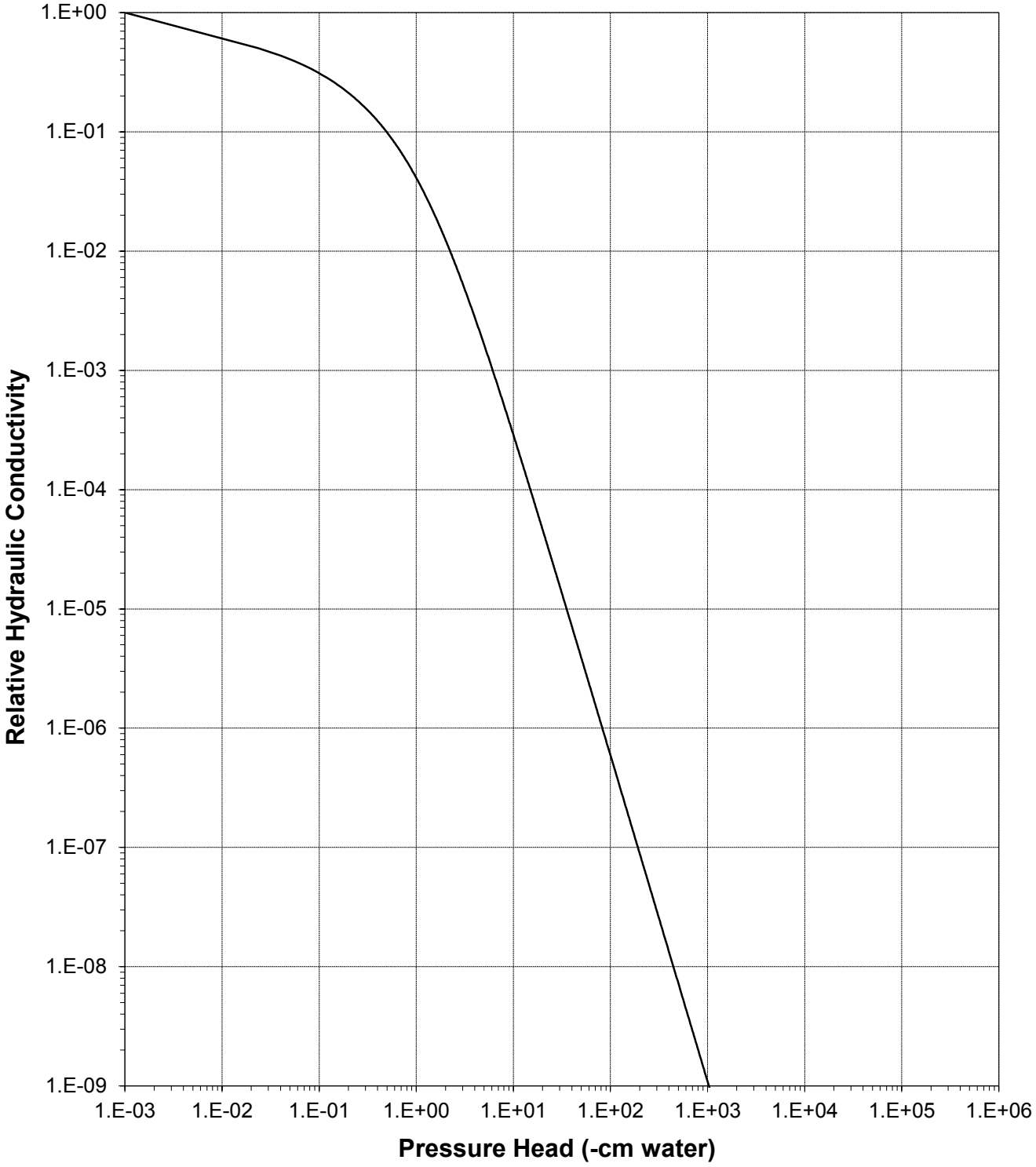
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-09 (8-10) Core*



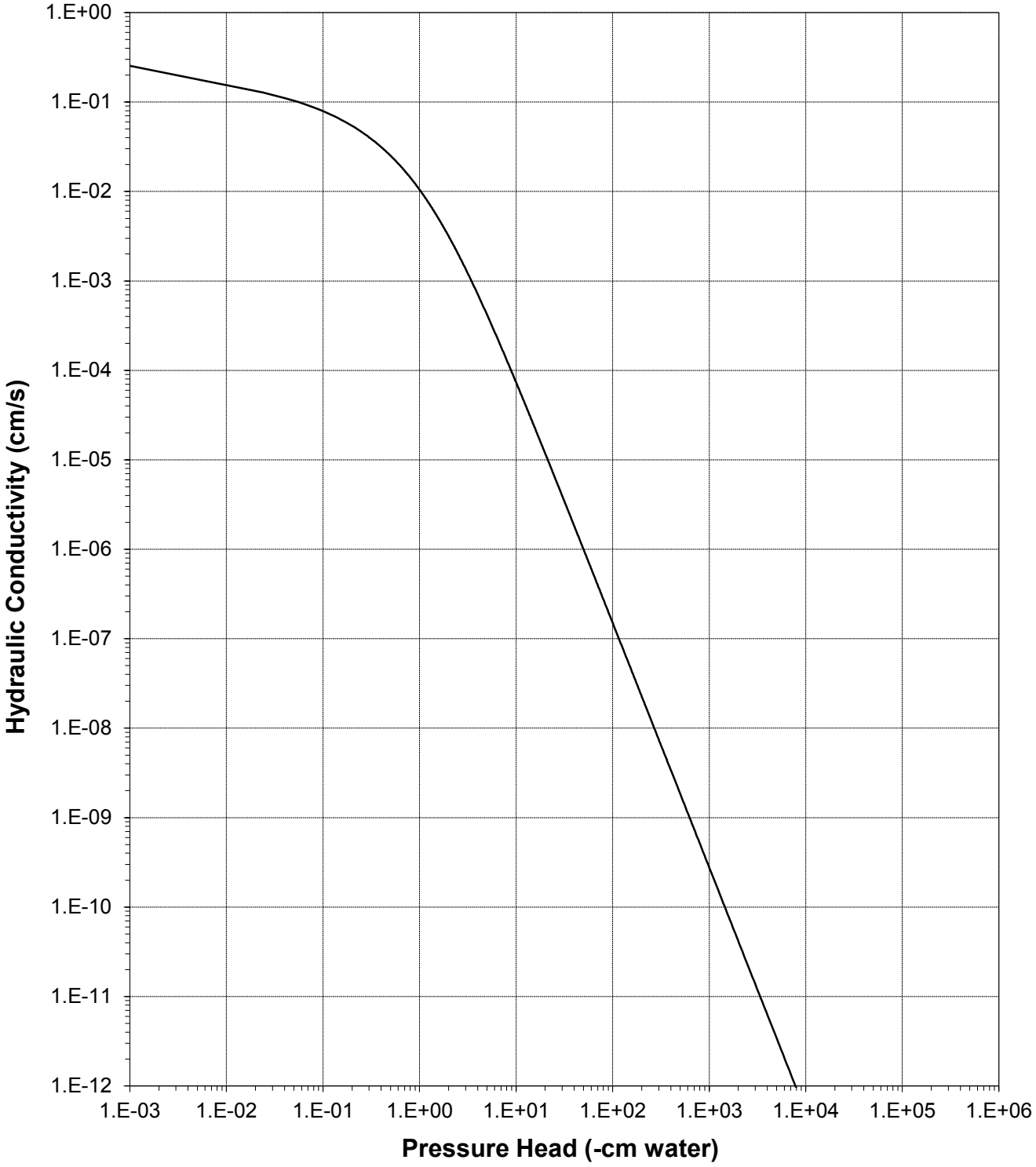
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-09 (8-10) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-09 (8-10) Core*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 256.72
*Tare wt., ring* (g): 78.01
*Tare wt., screen & clamp* (g): 27.75
*Initial sample volume* ($cm^3$): 129.72
*Initial dry bulk density* ($g/cm^3$): 1.98
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 25.32

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content† (% vol) |
|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:30 | 394.51 | 0 | 24.69 |
| | 1-Oct-14 | 15:18 | 391.67 | 10.0 | 22.50 |
| | 8-Oct-14 | 12:00 | 389.63 | 32.0 | 20.93 |
| | 20-Oct-14 | 15:15 | 388.54 | 103.0 | 20.09 |
| *Pressure plate:* | 30-Oct-14 | 12:30 | 387.10 | 337 | 18.98 |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | --- | --- | --- | --- |
| | 10.0 | --- | --- | --- | --- |
| | 32.0 | --- | --- | --- | --- |
| | 103.0 | --- | --- | --- | --- |
| *Pressure plate:* | 337 | --- | --- | --- | --- |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

**Dew Point Potentiometer / Relative Humidity Box**

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-10 (16-18) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.98

*Fraction of bulk sample used (<2.00mm fraction) (%):* 63.31

*Dry weight* of dew point potentiometer sample* (g)*:* 140.47

*Tare weight, jar* (g)*:* 110.68

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 8-Oct-14 | 15:17 | 141.41 | 89436 | 3.95 |
| | 8-Oct-14 | 13:30 | 141.21 | 183870 | 3.11 |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 89436 | --- | --- | --- | --- |
| | 183870 | --- | --- | --- | --- |

*Dry weight* of relative humidity box sample* (g)*:* 64.45

*Tare weight* (g)*:* 41.39

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 64.75 | 848426 | 1.64 |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | --- | --- | --- | --- |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

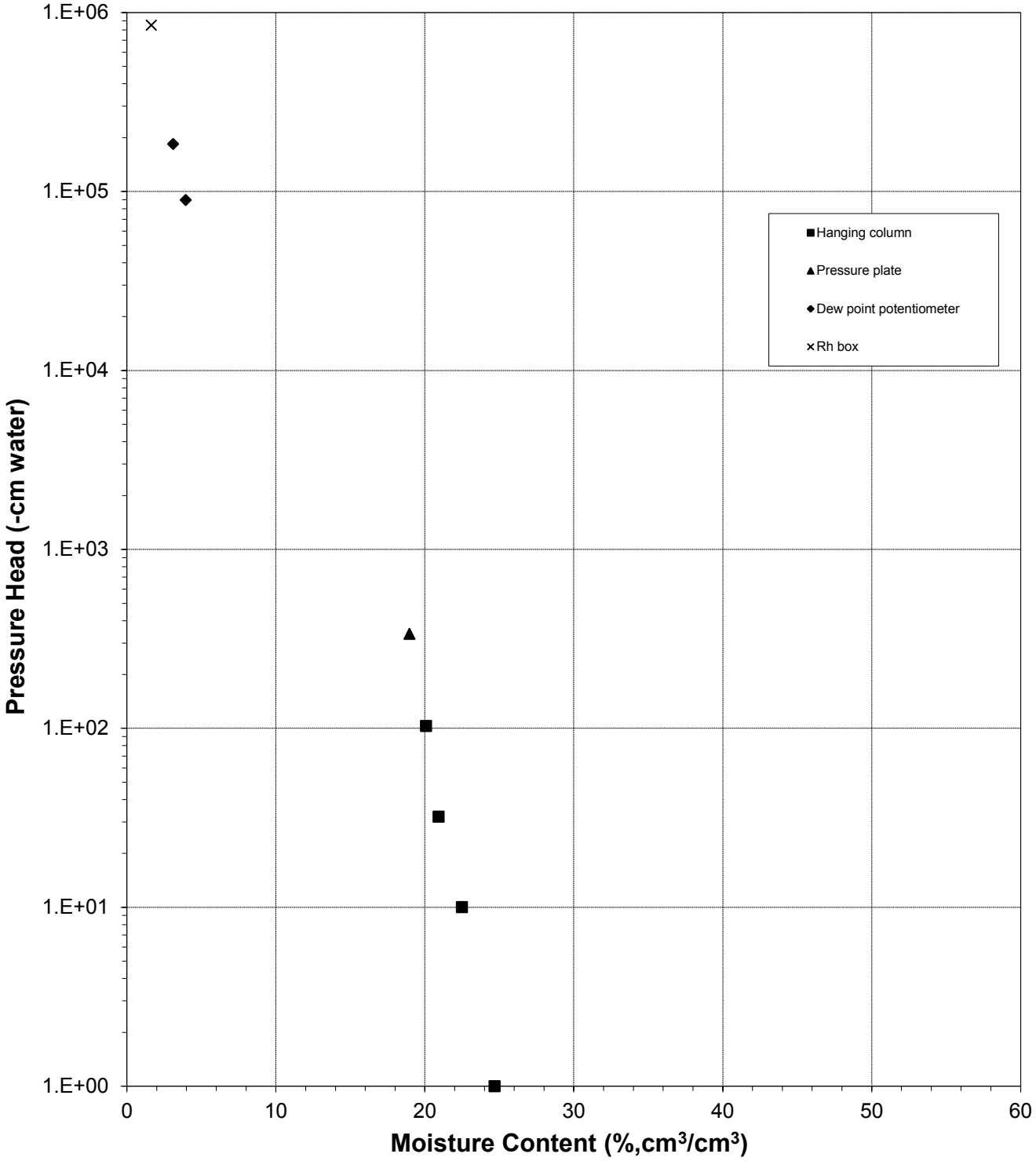
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

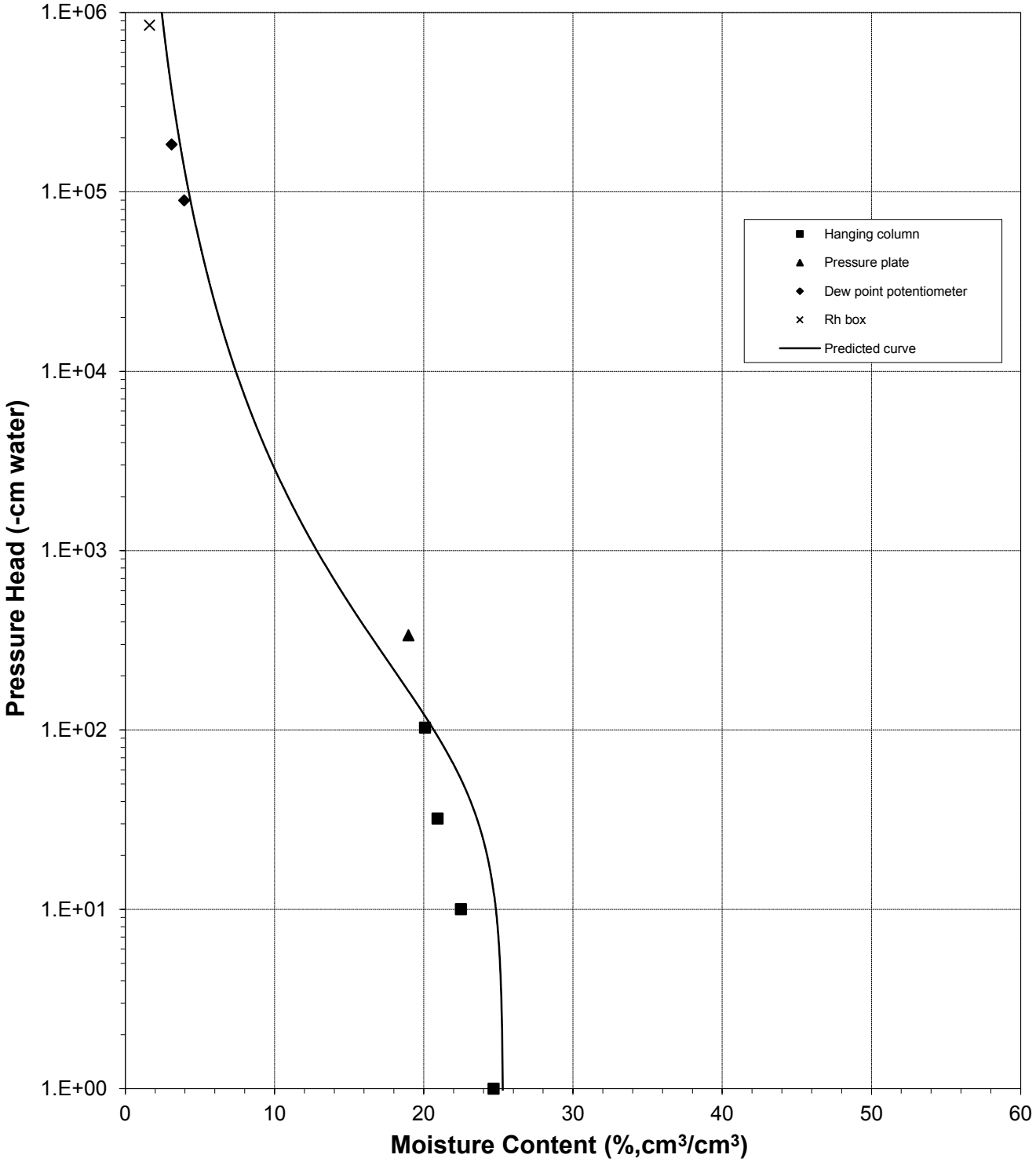
## Water Retention Data Points

*Sample Number: 200-SB-10 (16-18) Core*



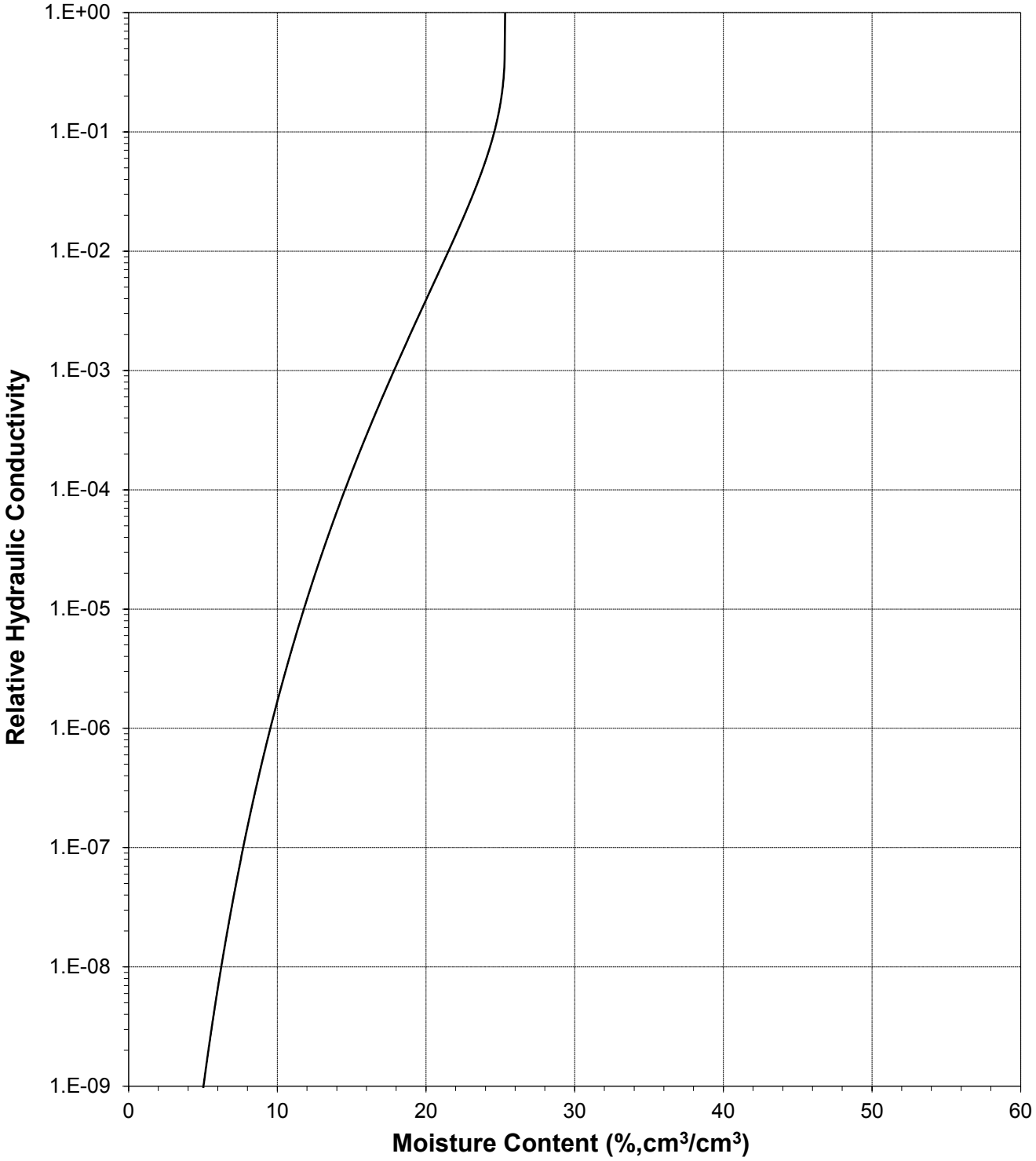
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-10 (16-18) Core*



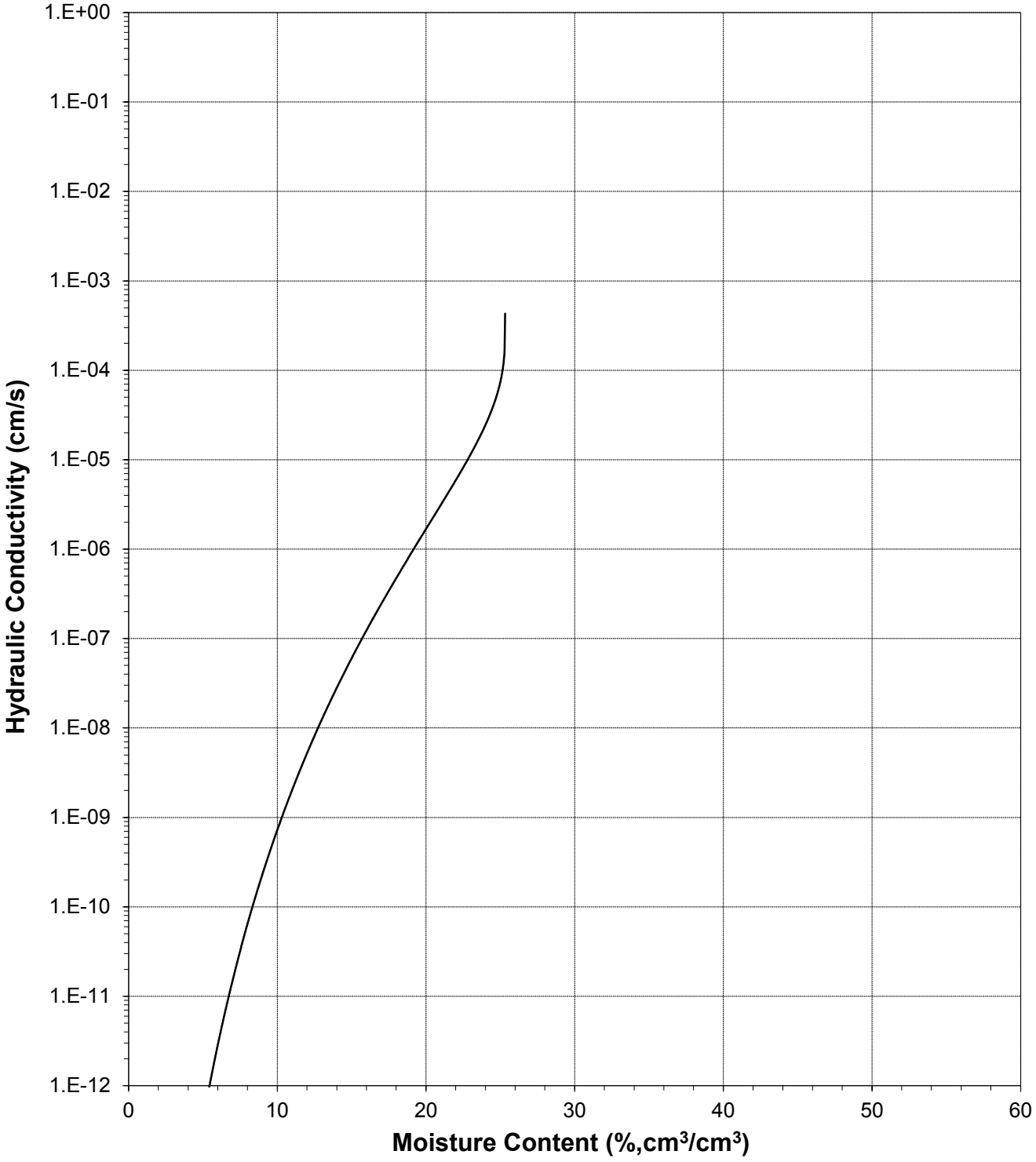
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-10 (16-18) Core*



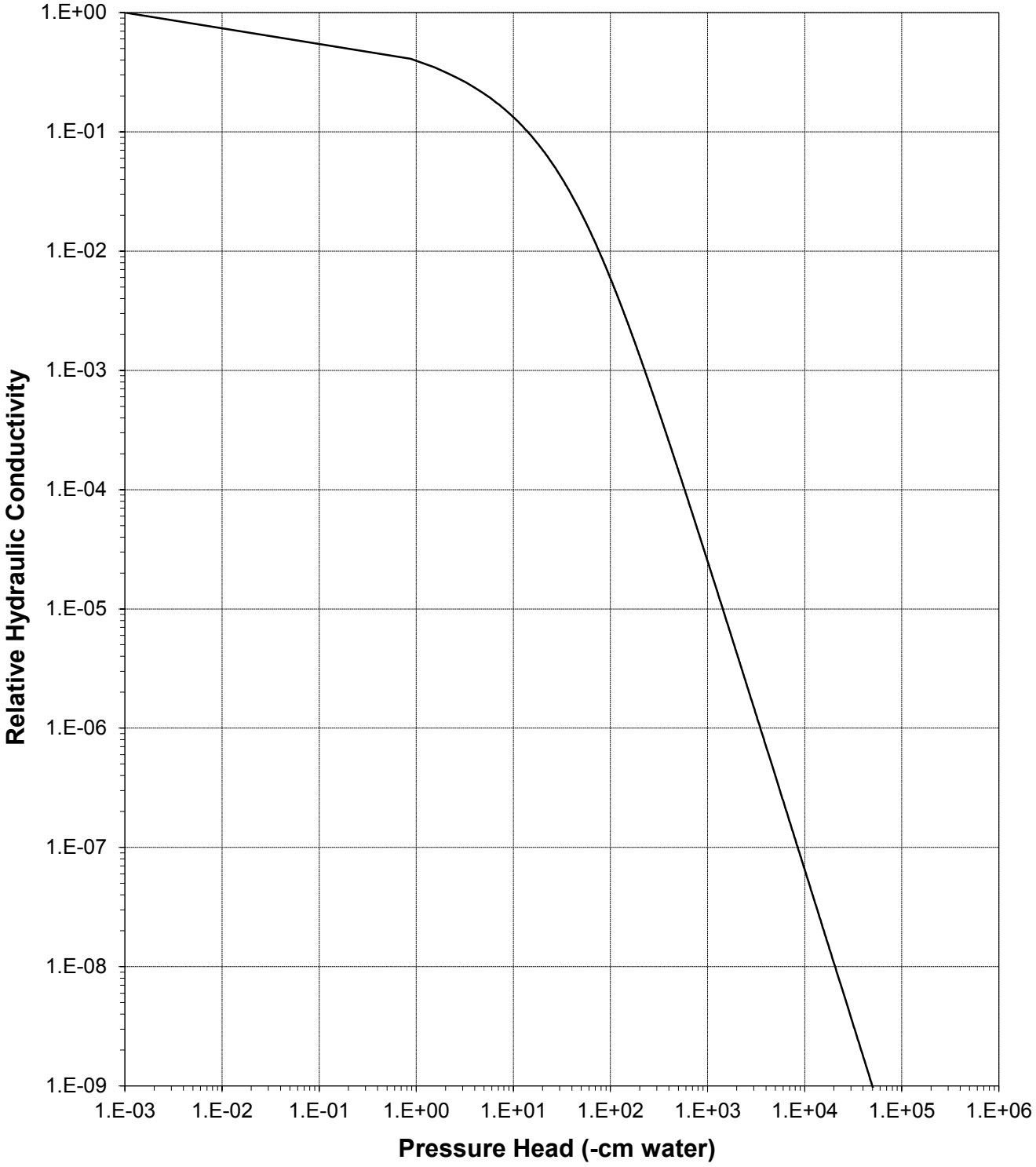
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-10 (16-18) Core*



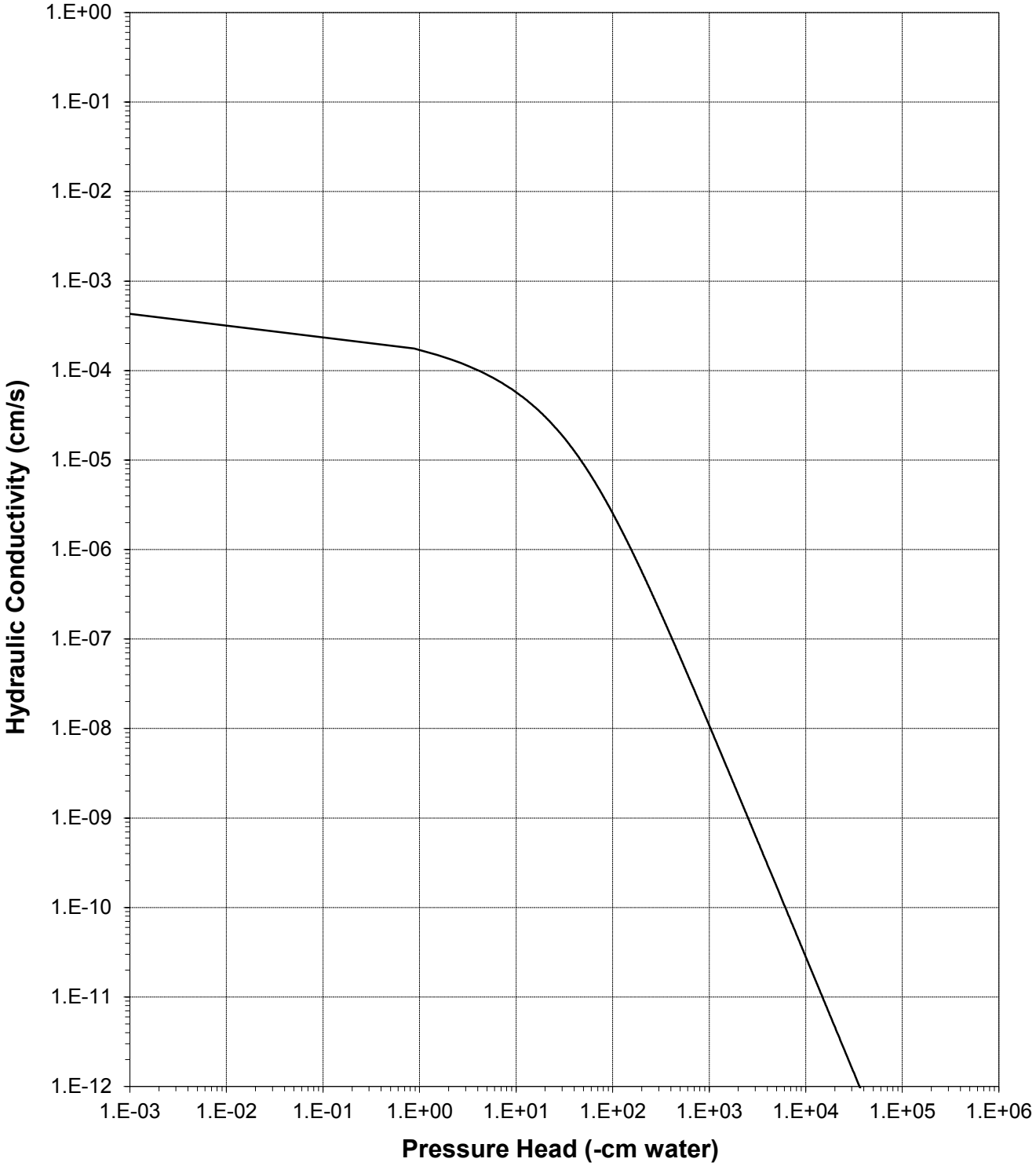
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-10 (16-18) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-10 (16-18) Core*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 390.27
*Tare wt., ring* (g): 126.02
*Tare wt., screen & clamp* (g): 27.83
*Initial sample volume* ($cm^3$): 225.23
*Initial dry bulk density* ($g/cm^3$): 1.73
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 34.61

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:30 | 596.27 | 0 | 23.99 | ‡‡ |
| | 1-Oct-14 | 15:34 | 591.00 | 5.0 | 21.80 | ‡‡ |
| | 8-Oct-14 | 12:12 | 585.30 | 8.0 | 19.15 | ‡‡ |
| | 15-Oct-14 | 11:50 | 568.80 | 46.5 | 11.49 | ‡‡ |
| | 22-Oct-14 | 10:40 | 562.70 | 192.0 | 8.65 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 217.40 | -3.48% | 1.80 | 32.26 |
| | 5.0 | 215.09 | -4.50% | 1.81 | 31.53 |
| | 8.0 | 215.09 | -4.50% | 1.81 | 31.53 |
| | 46.5 | 214.79 | -4.64% | 1.82 | 31.43 |
| | 192.0 | 214.79 | -4.64% | 1.82 | 31.43 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-11 (28-30) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.73
*Fraction of bulk sample used (<2.00mm fraction) (%):* 32.47

*Dry weight* of dew point potentiometer sample* (g)*:* 139.33
*Tare weight, jar* (g)*:* 110.83

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 14:07 | 139.99 | 12849 | 1.37 | ‡‡ |
| | 9-Oct-14 | 12:47 | 139.71 | 84949 | 0.79 | ‡‡ |
| | 8-Oct-14 | 13:40 | 139.61 | 216911 | 0.58 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 12849 | 214.79 | -4.64% | 1.82 | 31.43 |
| | 84949 | 214.79 | -4.64% | 1.82 | 31.43 |
| | 216911 | 214.79 | -4.64% | 1.82 | 31.43 |

*Dry weight* of relative humidity box sample* (g)*:* 62.39
*Tare weight* (g)*:* 40.97

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 62.51 | 848426 | 0.32 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 214.79 | -4.64% | 1.82 | 31.43 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

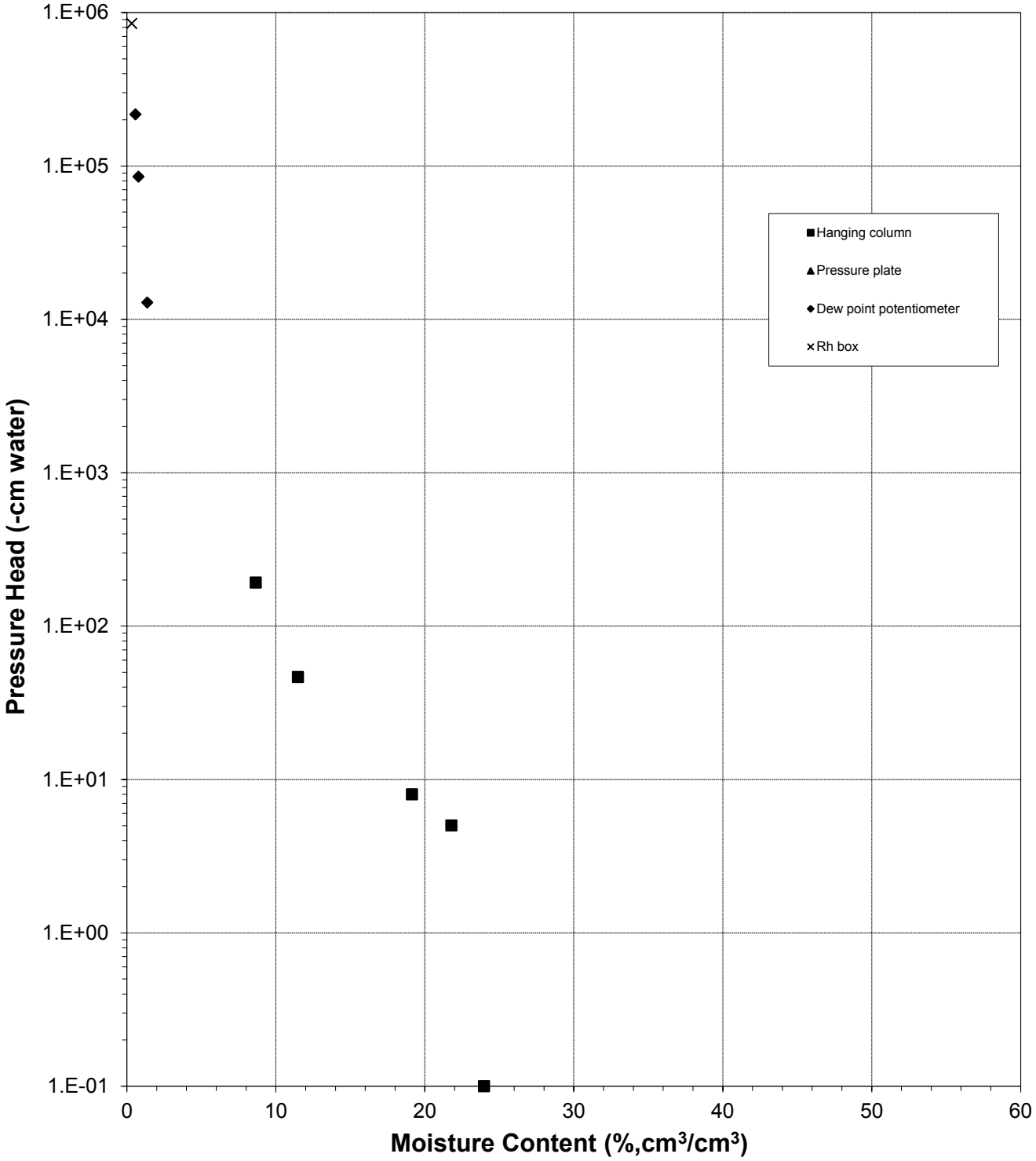
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

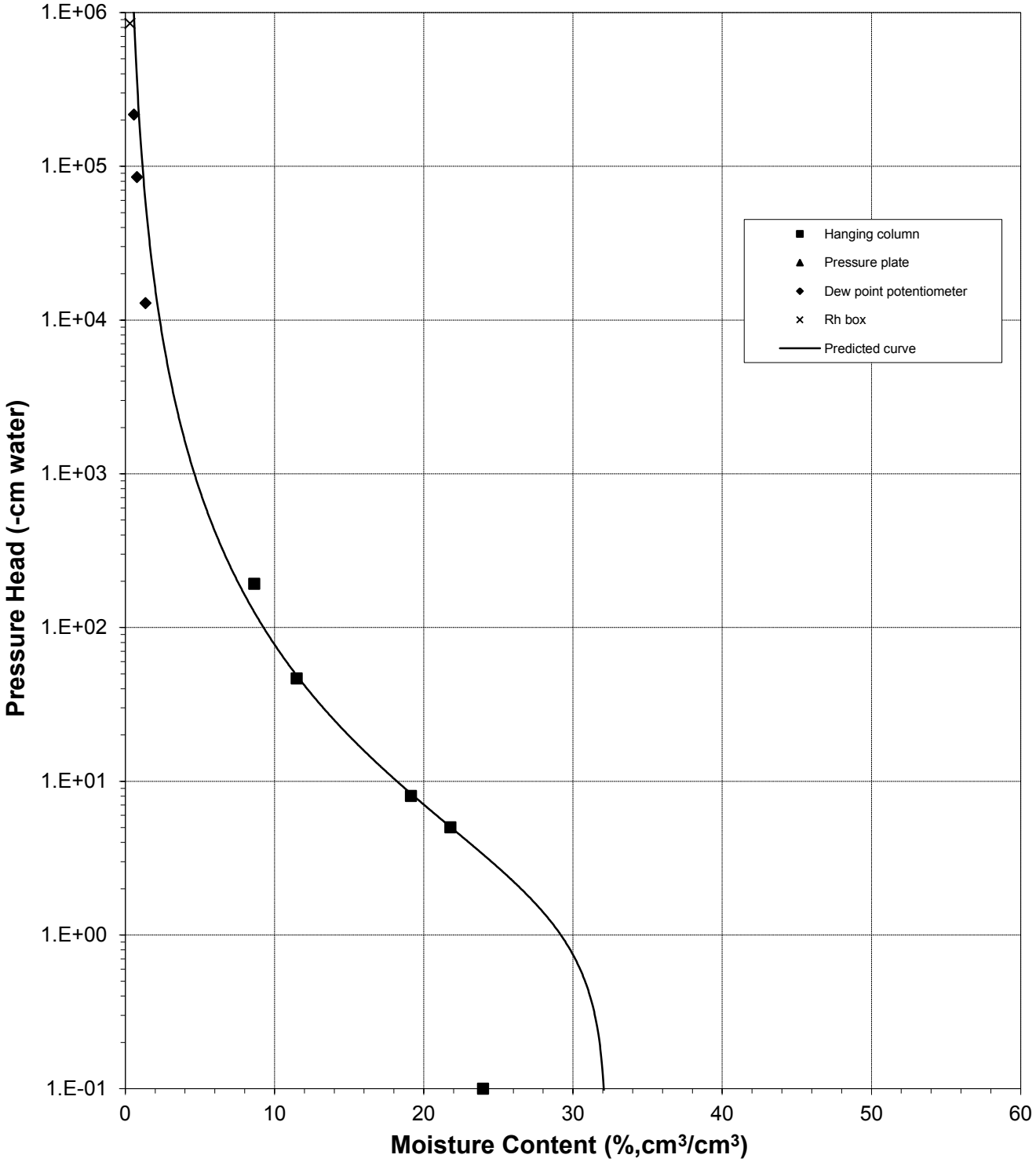
## Water Retention Data Points

*Sample Number: 200-SB-11 (28-30) Core*



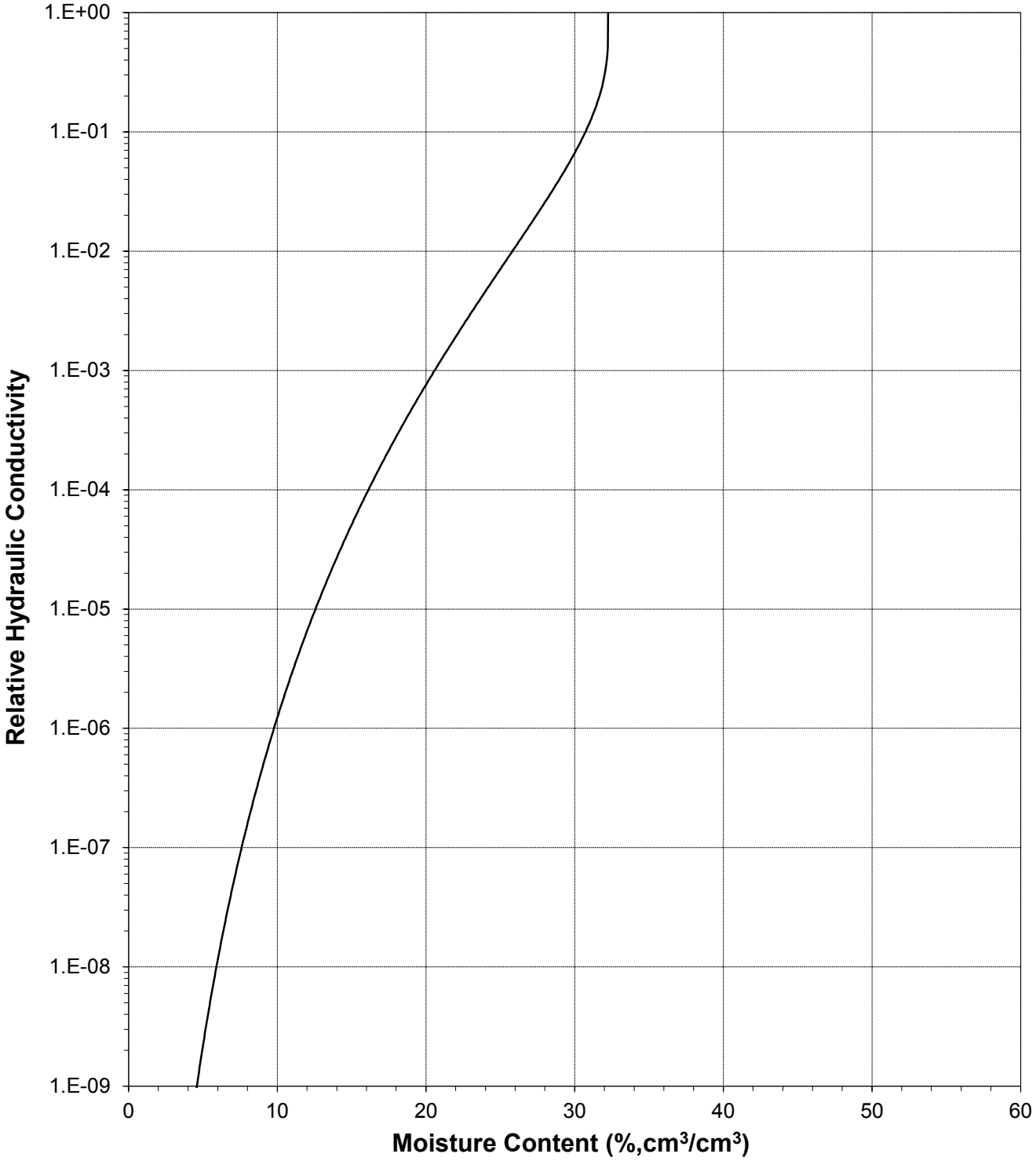
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-11 (28-30) Core*



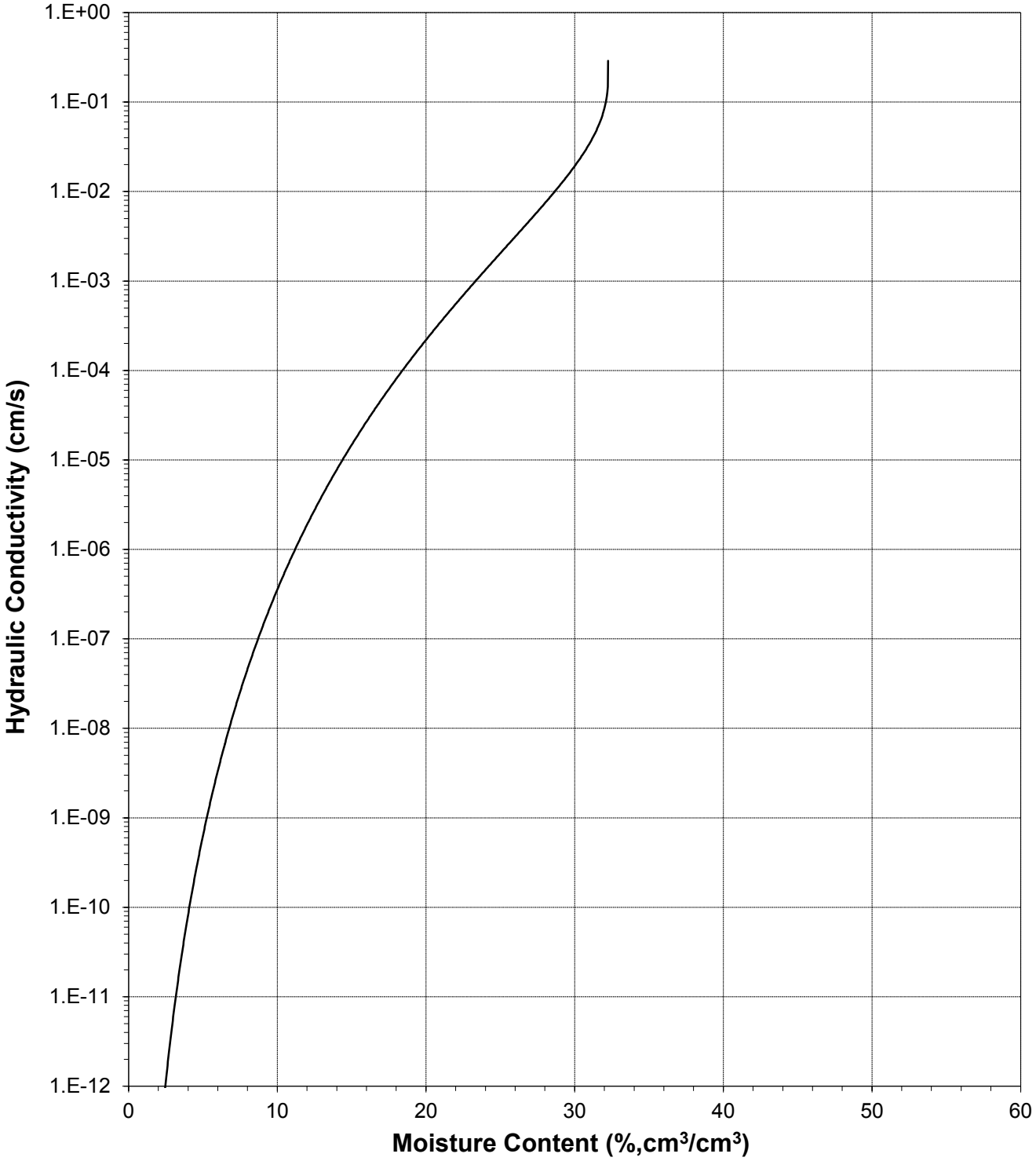
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-11 (28-30) Core*



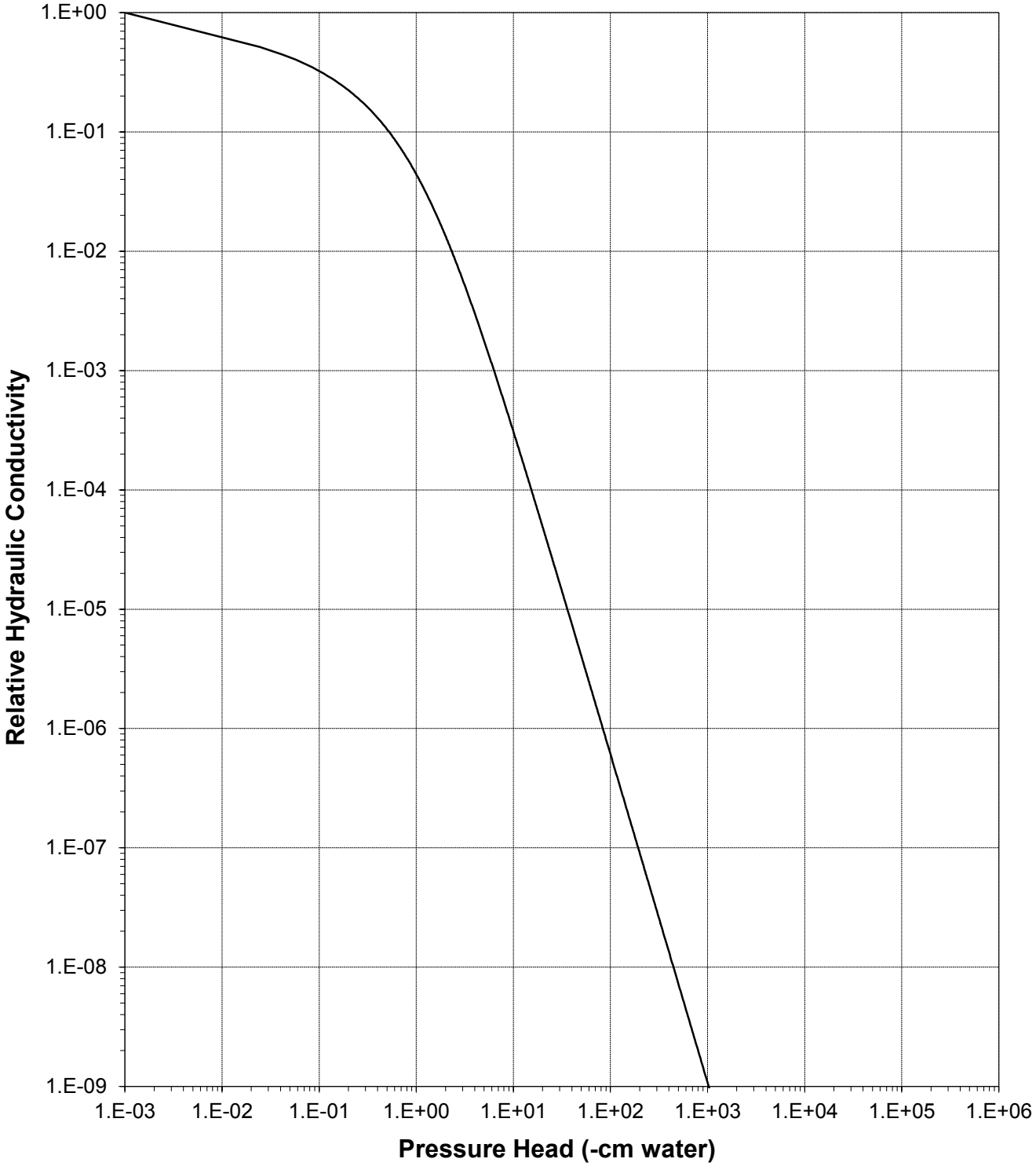
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-11 (28-30) Core*



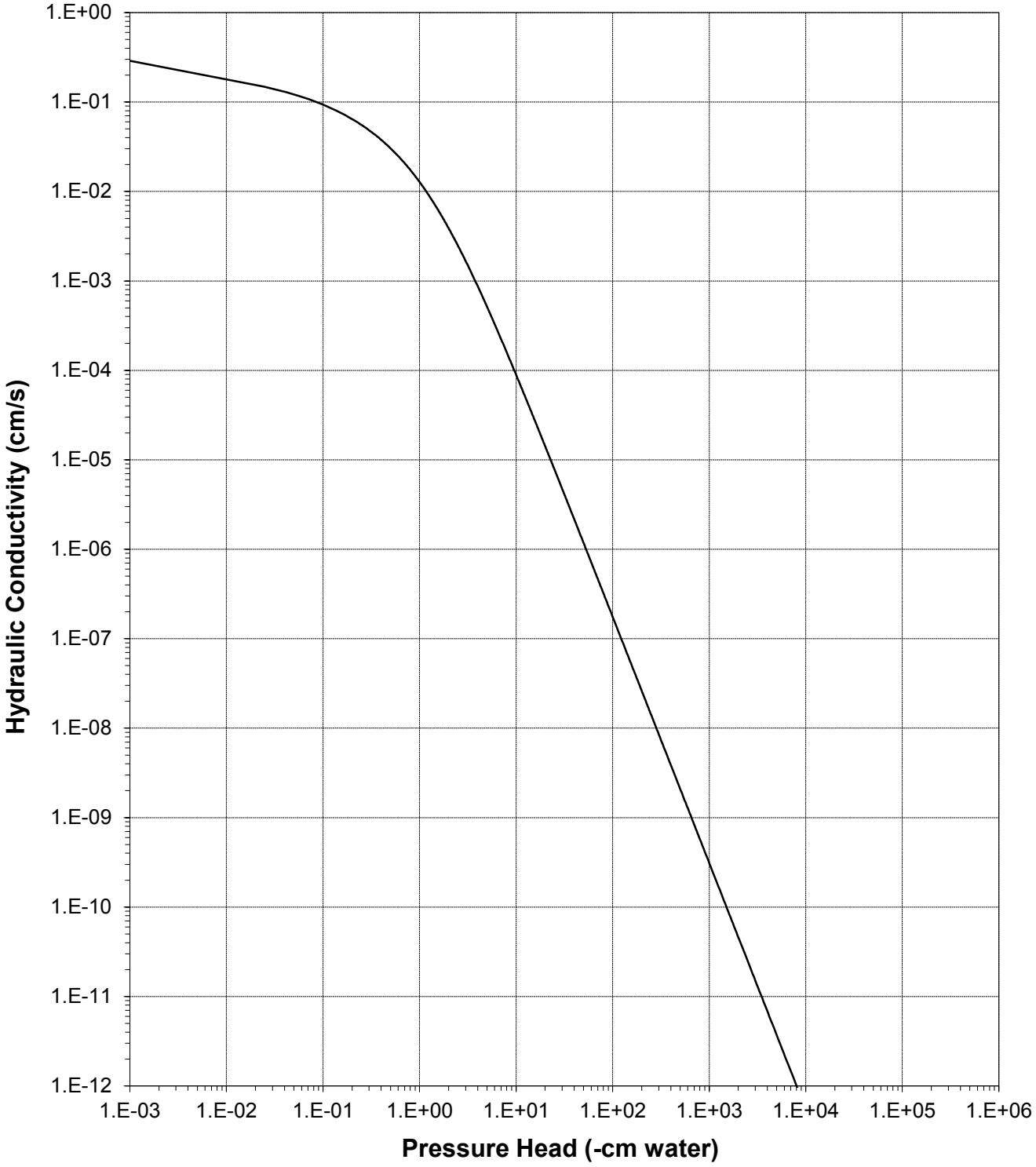
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-11 (28-30) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-11 (28-30) Core*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 304.68
*Tare wt., ring* (g): 133.57
*Tare wt., screen & clamp* (g): 26.63
*Initial sample volume* ($cm^3$): 222.50
*Initial dry bulk density* ($g/cm^3$): 1.37
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 48.33

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:30 | 570.89 | 0 | 48.86 | ‡‡ |
| | 1-Oct-14 | 15:15 | 568.90 | 12.0 | 47.97 | ‡‡ |
| | 8-Oct-14 | 12:00 | 566.10 | 32.0 | 46.68 | ‡‡ |
| | 20-Oct-14 | 15:30 | 551.70 | 103.0 | 40.33 | ‡‡ |
| *Pressure plate:* | 30-Oct-14 | 12:30 | 531.10 | 337 | 30.76 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 216.95 | -2.49% | 1.40 | 47.00 |
| | 12.0 | 216.83 | -2.55% | 1.41 | 46.98 |
| | 32.0 | 216.83 | -2.55% | 1.41 | 46.98 |
| | 103.0 | 215.25 | -3.26% | 1.42 | 46.59 |
| *Pressure plate:* | 337 | 215.25 | -3.26% | 1.42 | 46.59 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-15 (8-10) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.37

*Fraction of bulk sample used (<2.00mm fraction) (%):* 92.28

*Dry weight* of dew point potentiometer sample* (g)*:* 159.70

*Tare weight, jar* (g)*:* 117.96

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 14:04 | 163.67 | 10096 | 12.42 | ‡‡ |
| | 9-Oct-14 | 12:50 | 162.41 | 30390 | 8.48 | ‡‡ |
| | 8-Oct-14 | 14:20 | 161.14 | 240571 | 4.51 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 10096 | 215.25 | -3.26% | 1.42 | 46.59 |
| | 30390 | 215.25 | -3.26% | 1.42 | 46.59 |
| | 240571 | 215.25 | -3.26% | 1.42 | 46.59 |

*Dry weight* of relative humidity box sample* (g)*:* 71.37

*Tare weight* (g)*:* 38.03

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 72.04 | 848426 | 2.66 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 215.25 | -3.26% | 1.42 | 46.59 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

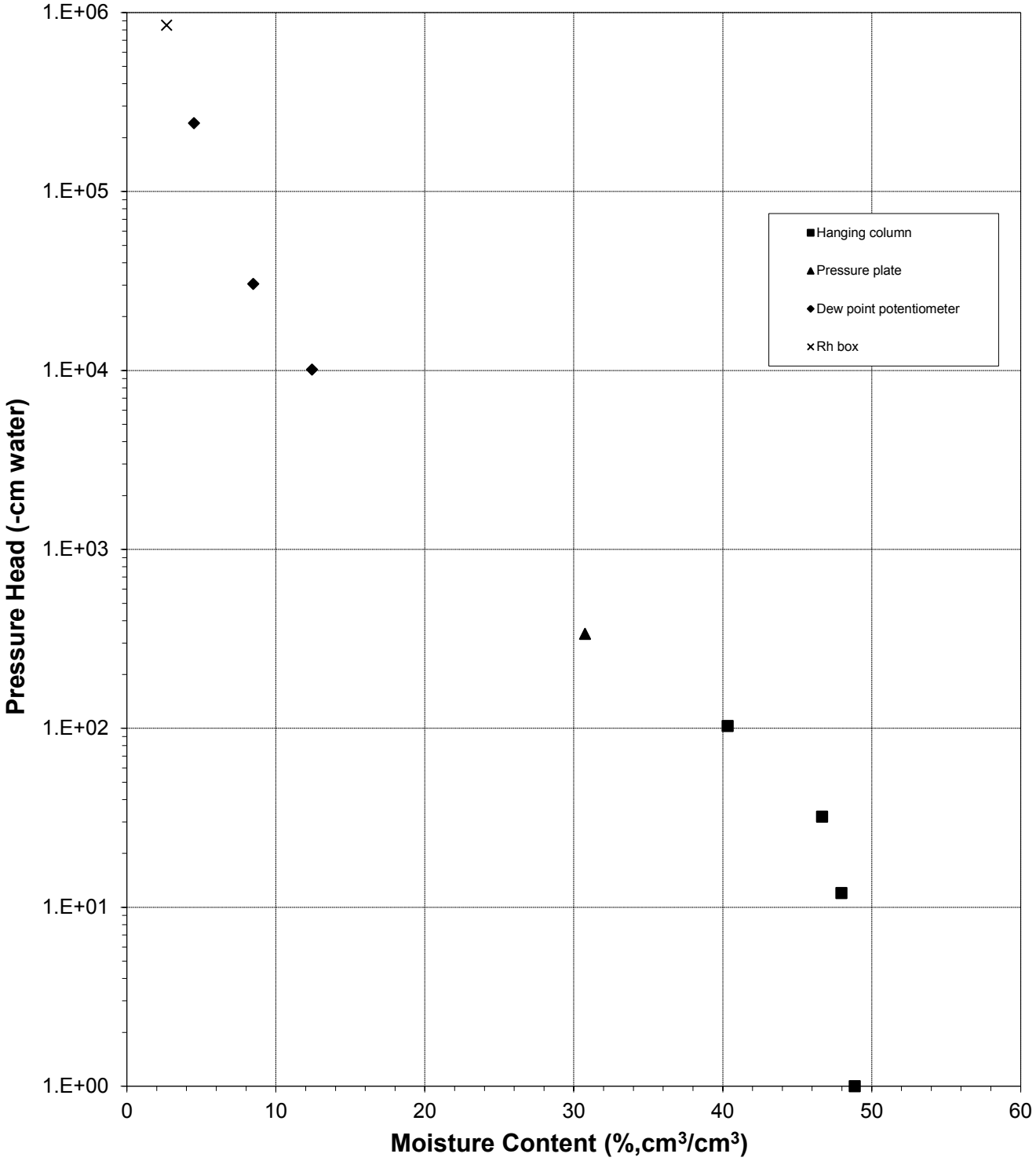
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

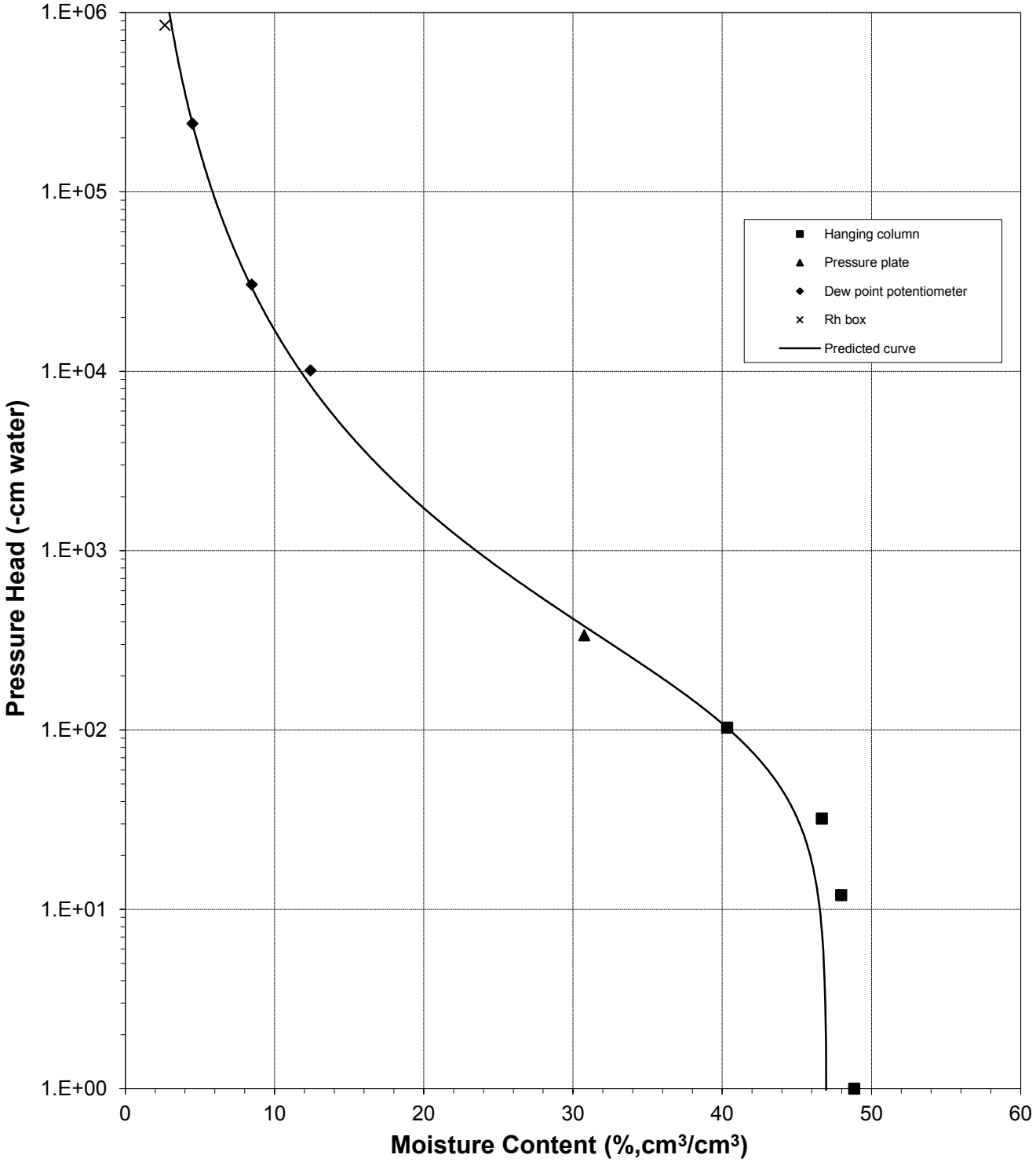
## Water Retention Data Points

*Sample Number: 200-SB-15 (8-10) Core*



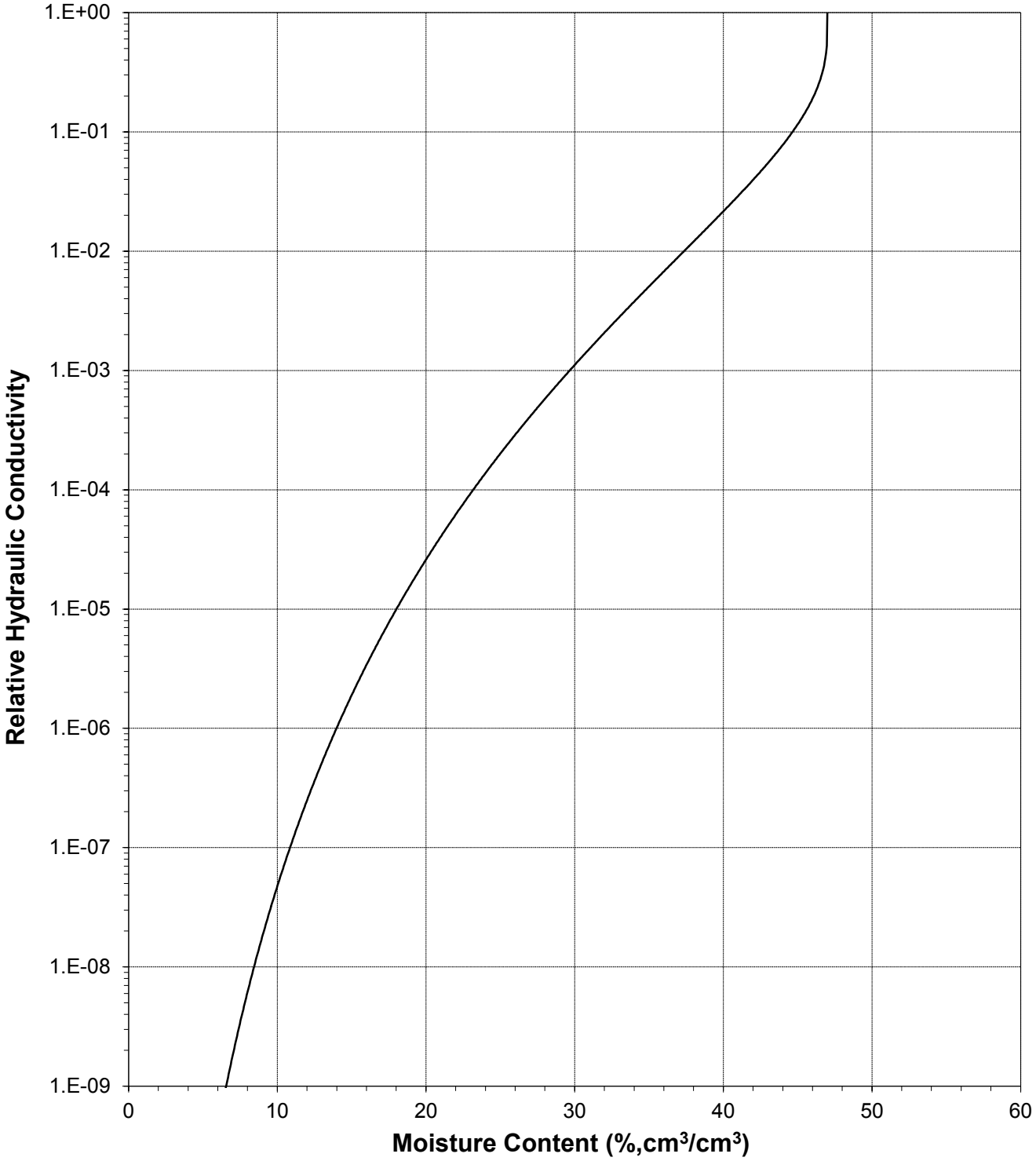
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-15 (8-10) Core*



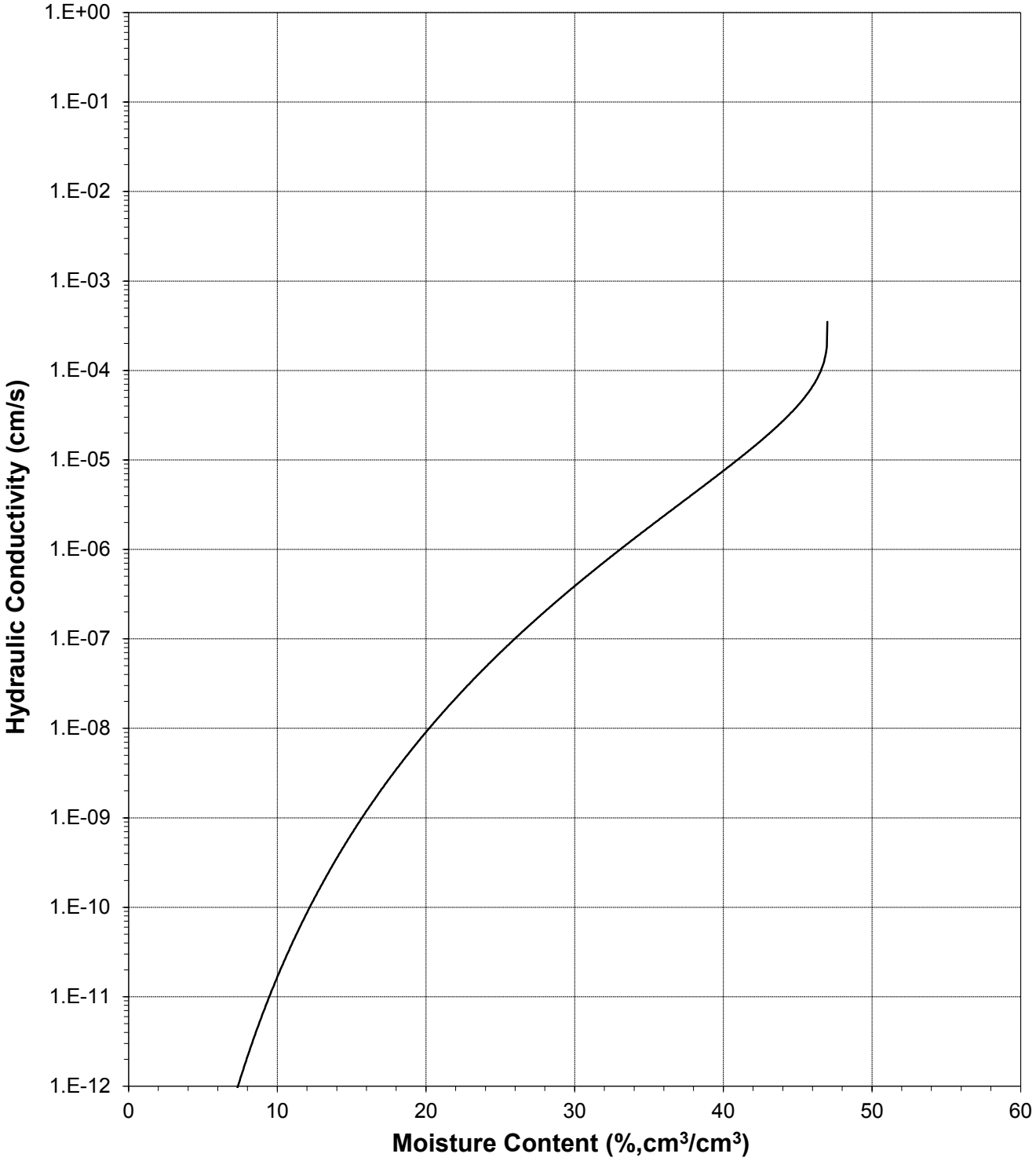
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-15 (8-10) Core*



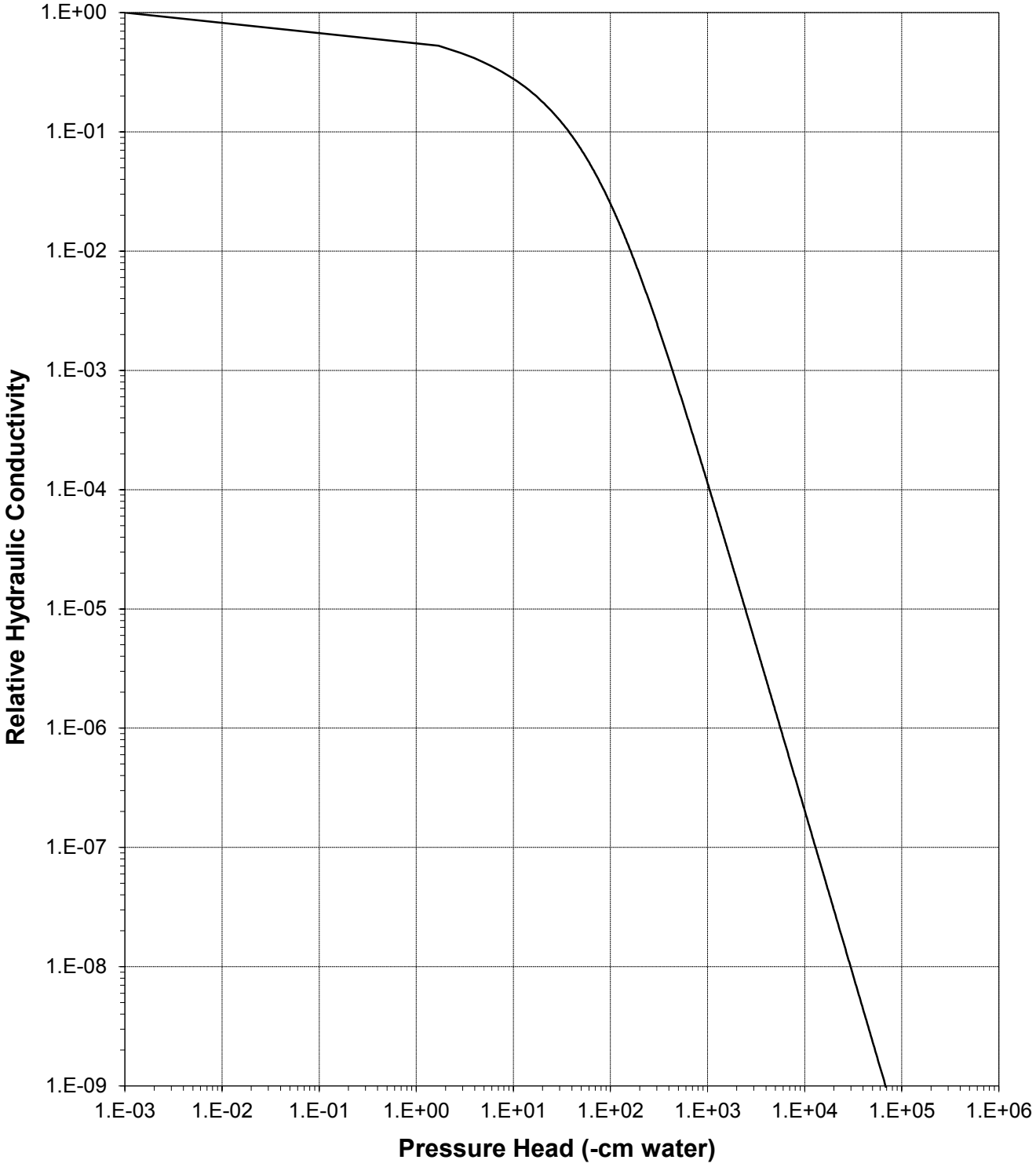
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-15 (8-10) Core*



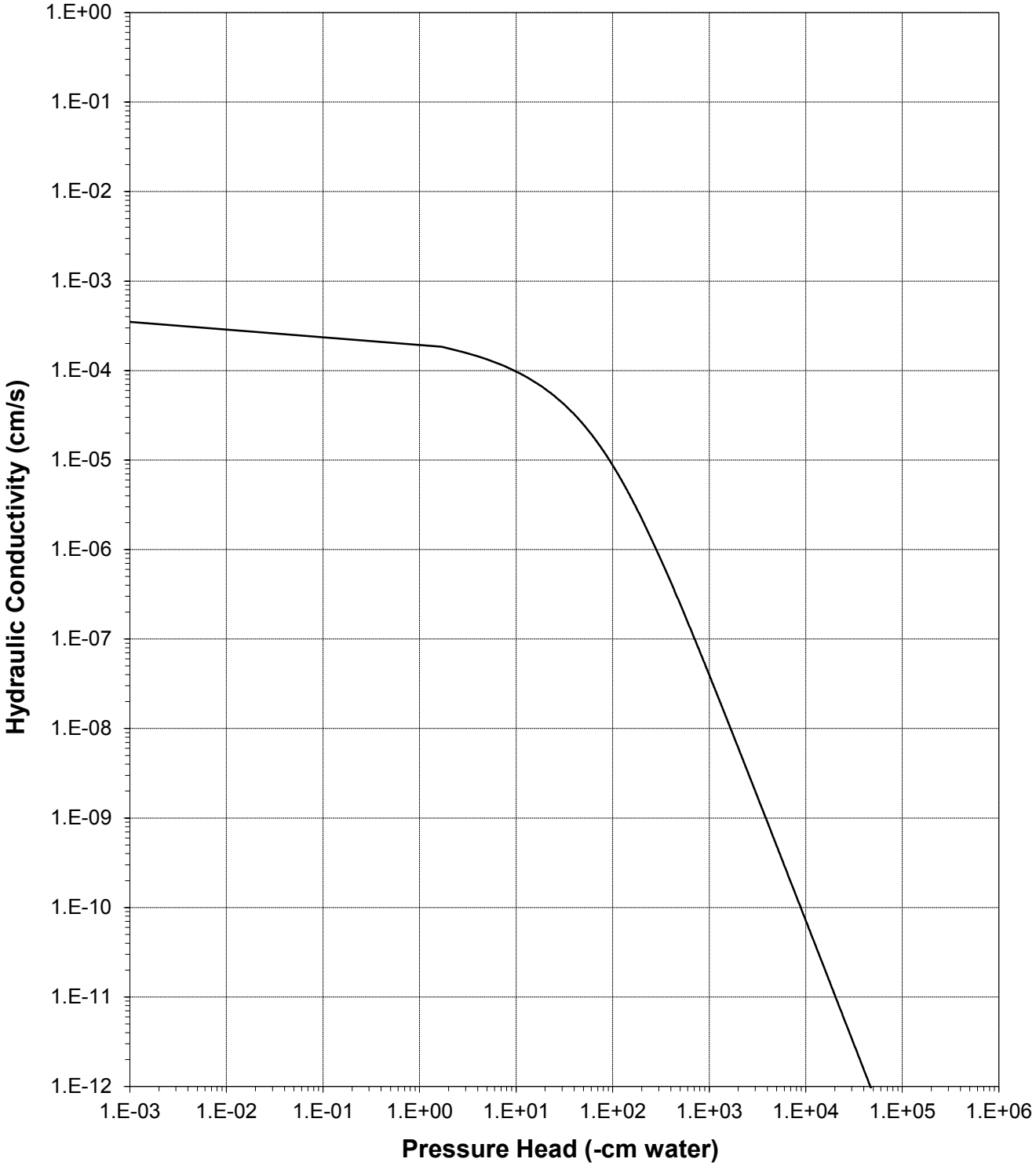
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-15 (8-10) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-15 (8-10) Core*



Daniel B. Stephens & Associates, Inc.

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 301.27
*Tare wt., ring* (g): 133.40
*Tare wt., screen & clamp* (g): 27.29
*Initial sample volume* ($cm^3$): 223.04
*Initial dry bulk density* ($g/cm^3$): 1.35
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 49.03

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:30 | 566.24 | 0 | 48.68 | ‡‡ |
| | 1-Oct-14 | 15:17 | 563.60 | 12.0 | 48.01 | ‡‡ |
| | 8-Oct-14 | 12:00 | 556.90 | 32.0 | 44.84 | ‡‡ |
| | 20-Oct-14 | 15:30 | 542.90 | 103.0 | 38.60 | ‡‡ |
| *Pressure plate:* | 30-Oct-14 | 12:30 | 529.90 | 337 | 32.40 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 214.22 | -3.95% | 1.41 | 46.93 |
| | 12.0 | 211.72 | -5.07% | 1.42 | 46.30 |
| | 32.0 | 211.72 | -5.07% | 1.42 | 46.30 |
| | 103.0 | 209.66 | -6.00% | 1.44 | 45.78 |
| *Pressure plate:* | 337 | 209.66 | -6.00% | 1.44 | 45.78 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Moisture Retention Data

**Dew Point Potentiometer / Relative Humidity Box**

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-16 (18-20) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.35

*Fraction of bulk sample used (<2.00mm fraction) (%):* 96.80

*Dry weight* of dew point potentiometer sample* (g)*:* 162.30

*Tare weight, jar* (g)*:* 118.34

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 15:00 | 166.30 | 8974 | 12.66 | ‡‡ |
| | 9-Oct-14 | 13:02 | 164.53 | 55375 | 7.06 | ‡‡ |
| | 9-Oct-14 | 14:30 | 163.67 | 285136 | 4.34 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 8974 | 209.66 | -6.00% | 1.44 | 45.78 |
| | 55375 | 209.66 | -6.00% | 1.44 | 45.78 |
| | 285136 | 209.66 | -6.00% | 1.44 | 45.78 |

*Dry weight* of relative humidity box sample* (g)*:* 69.08

*Tare weight* (g)*:* 42.30

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 69.62 | 848426 | 2.84 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 209.66 | -6.00% | 1.44 | 45.78 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

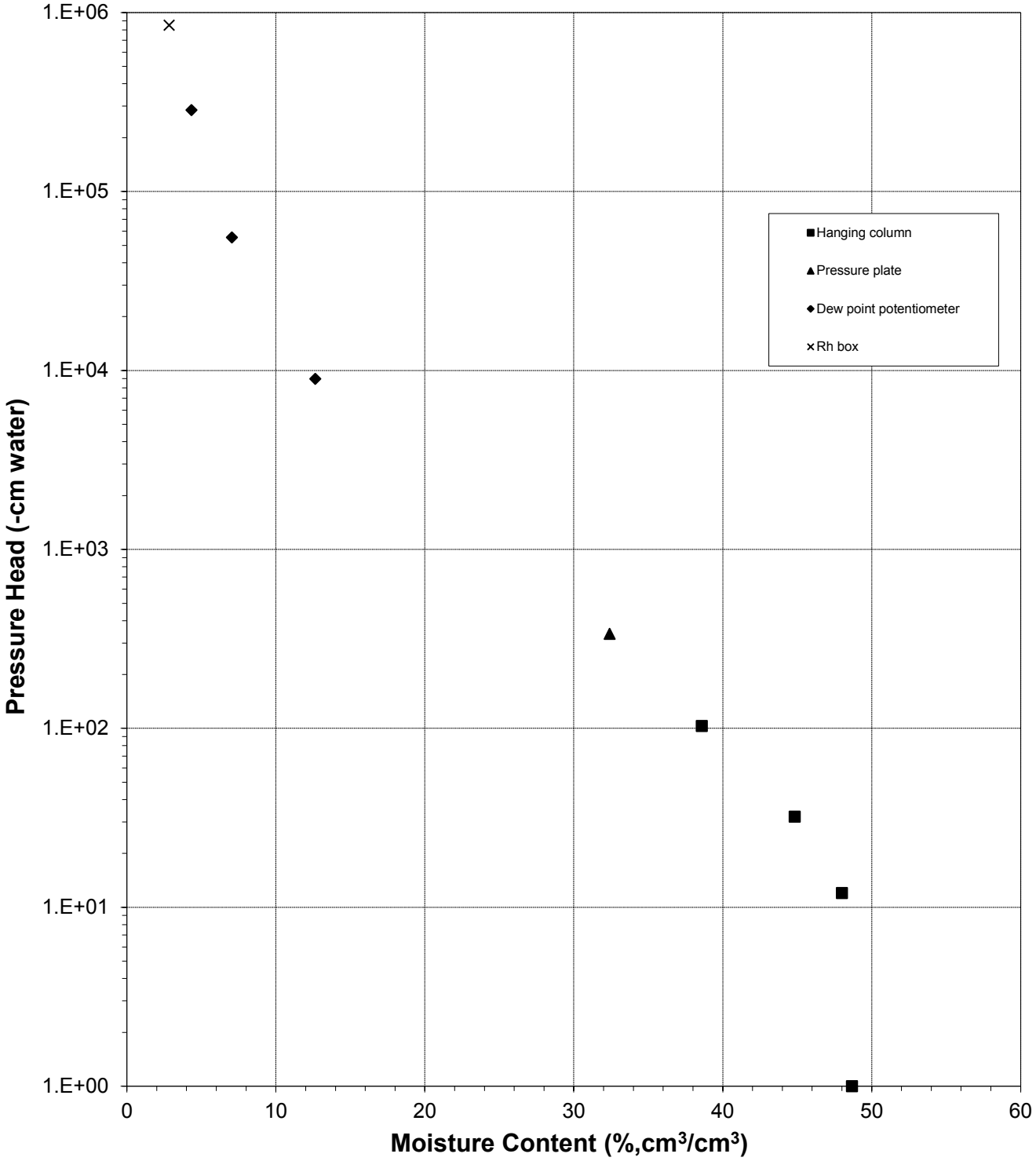
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

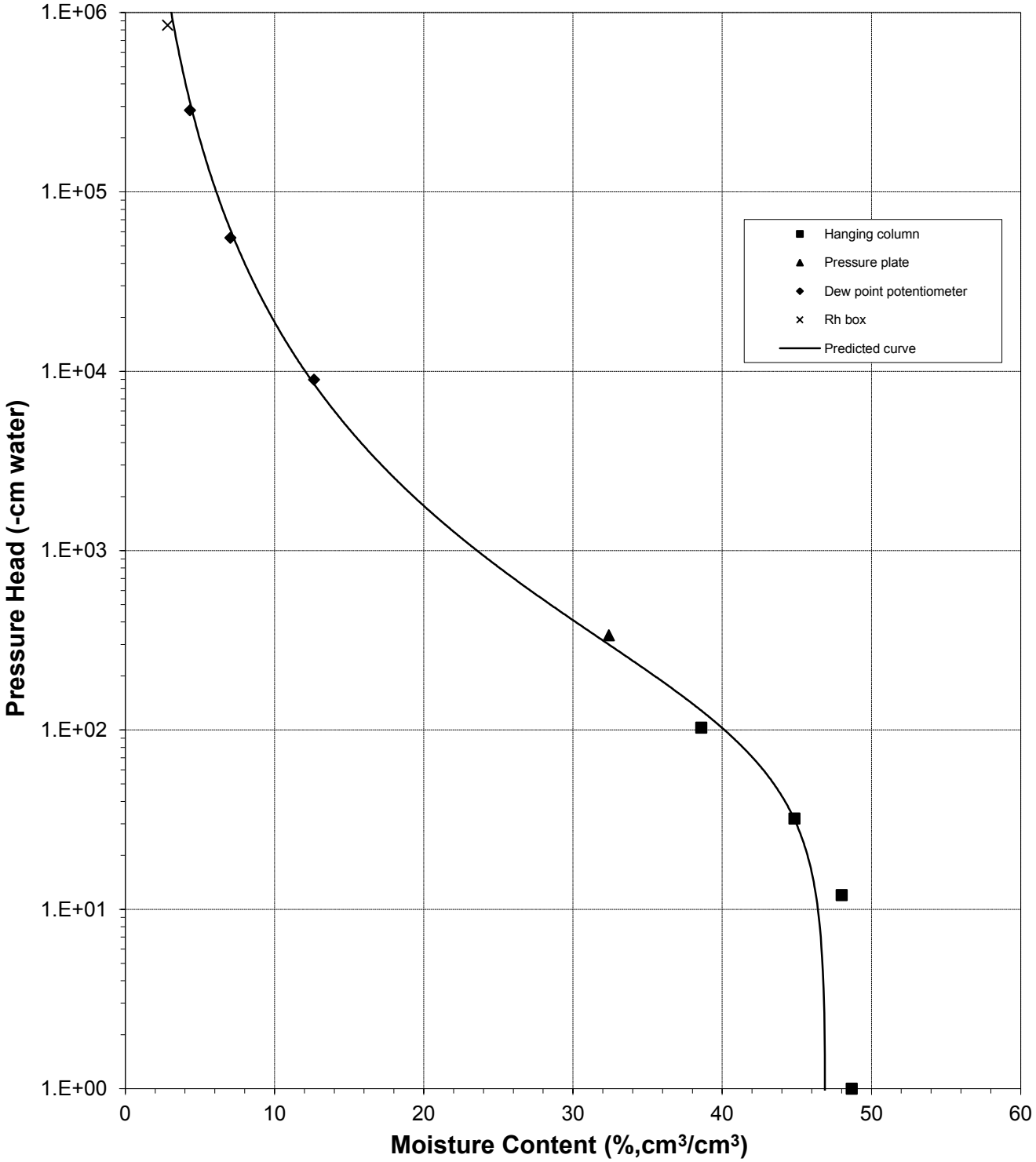
## Water Retention Data Points

*Sample Number: 200-SB-16 (18-20) Core*



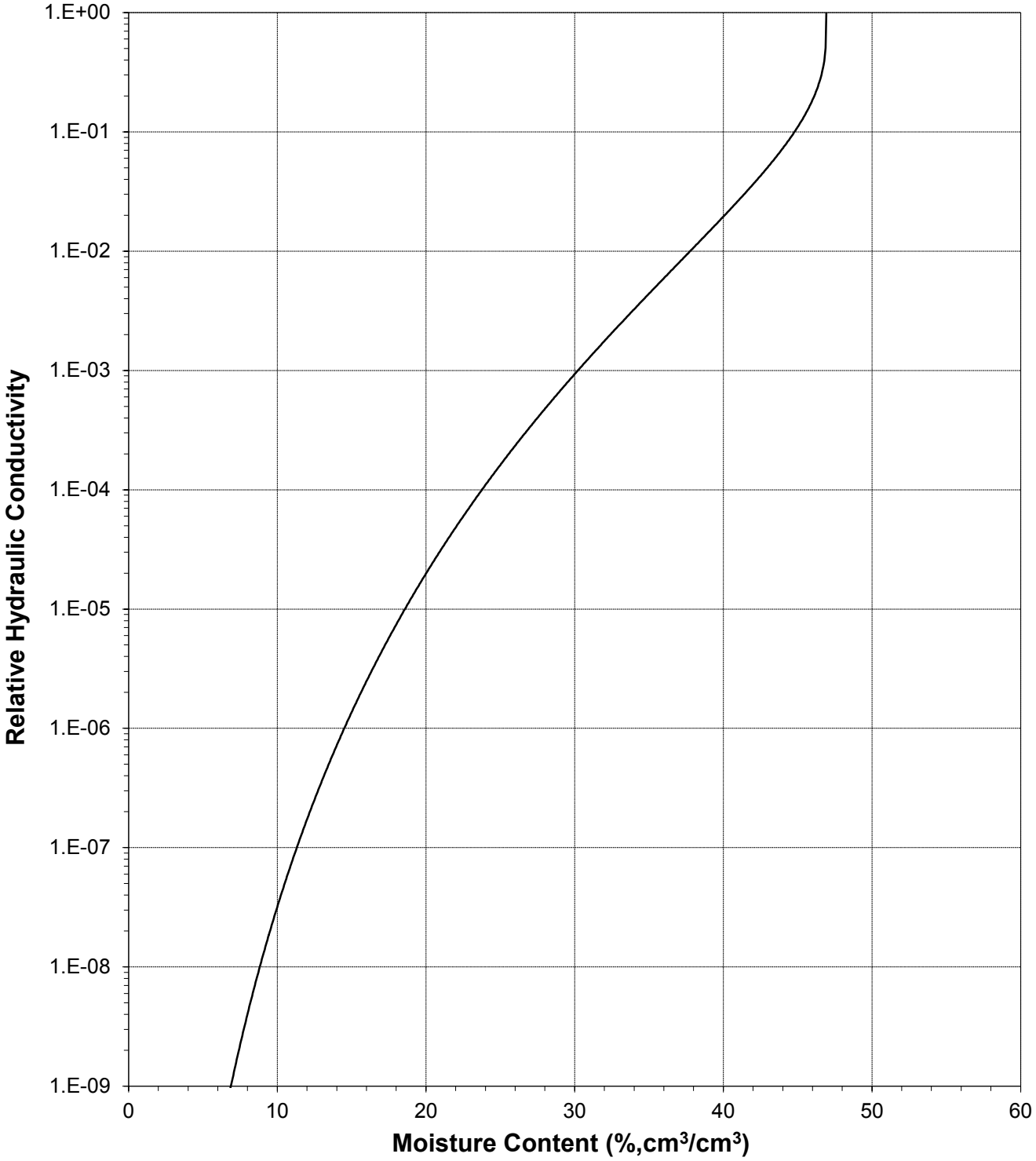
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-16 (18-20) Core*



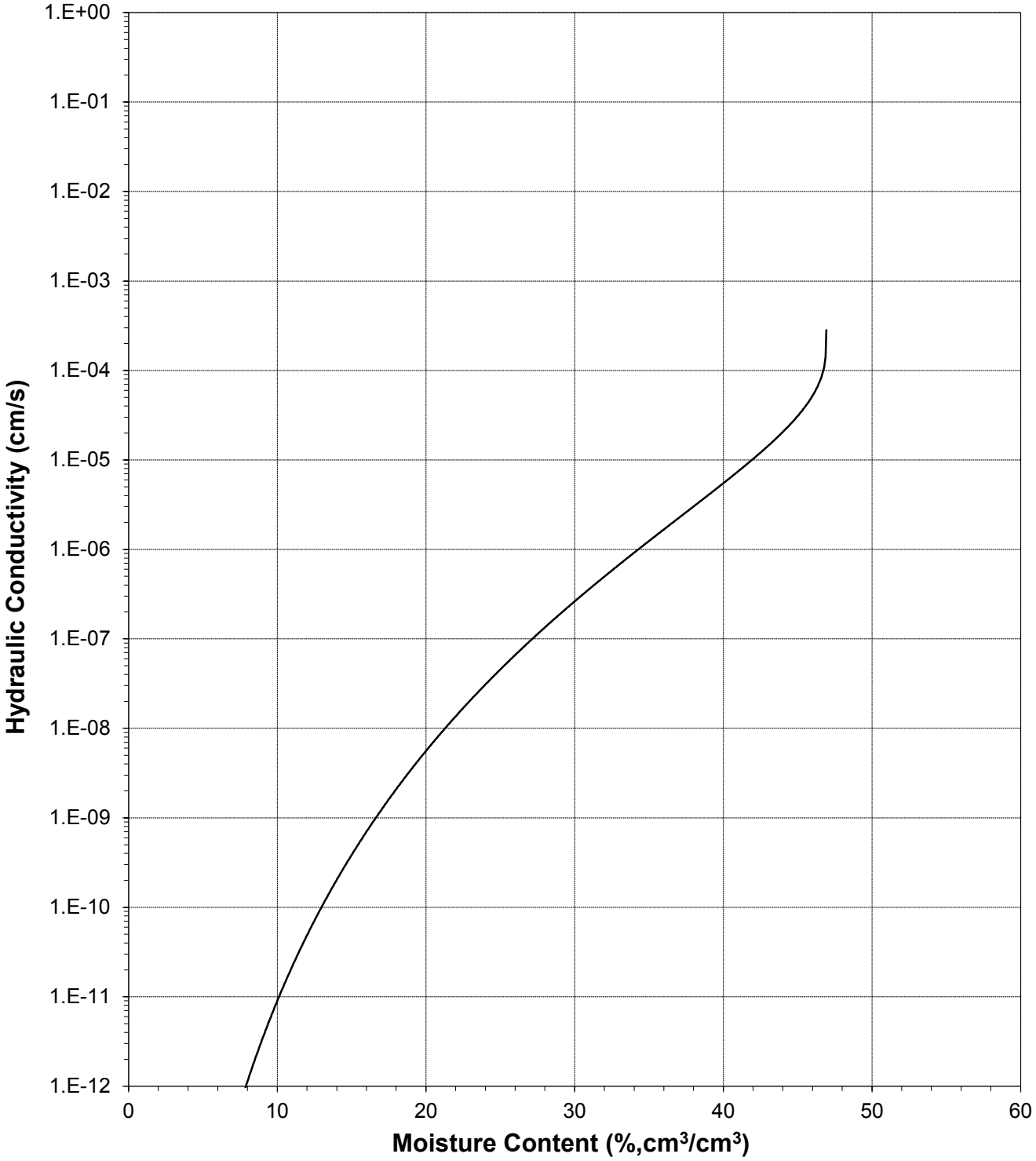
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-16 (18-20) Core*



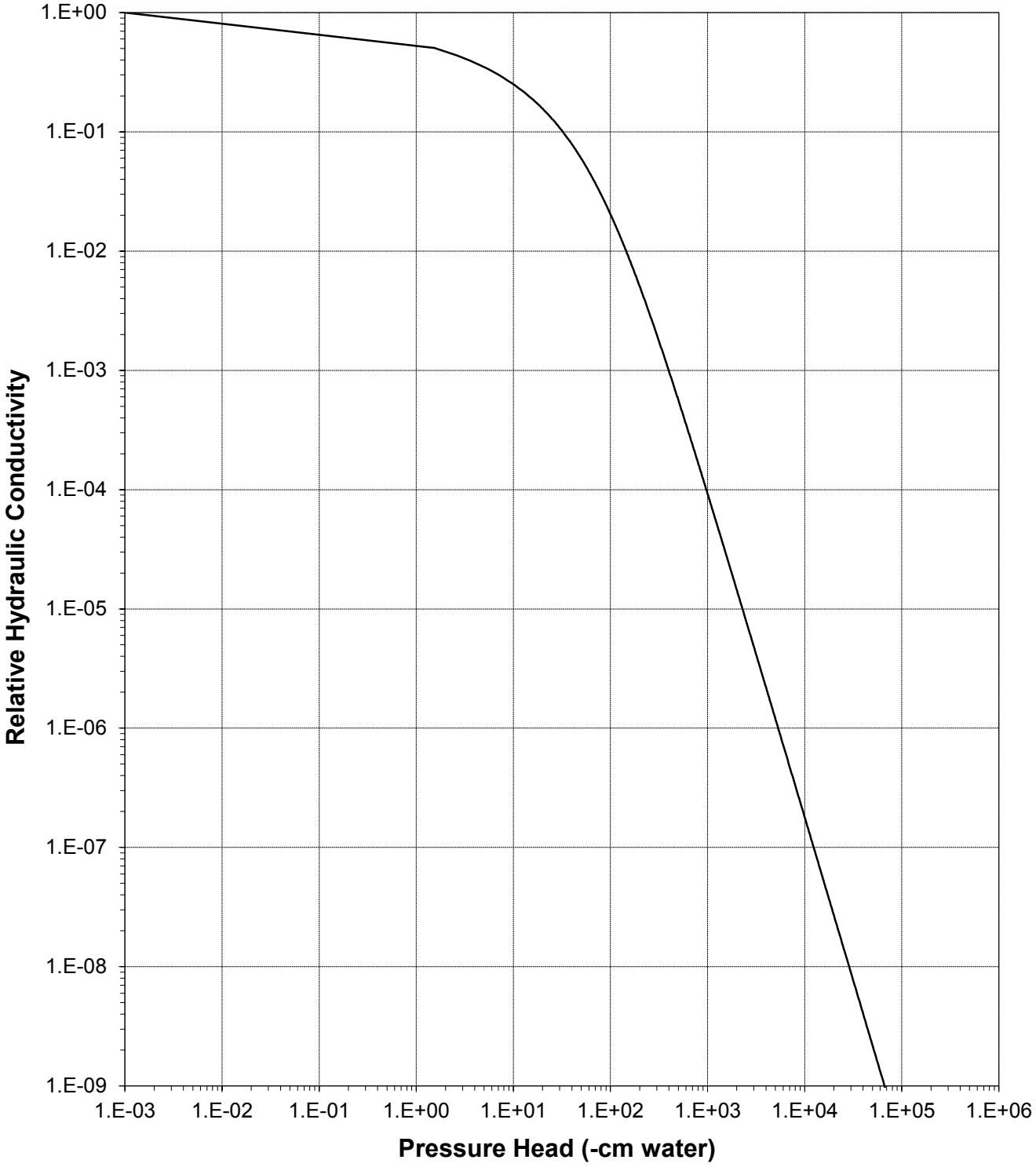
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-16 (18-20) Core*



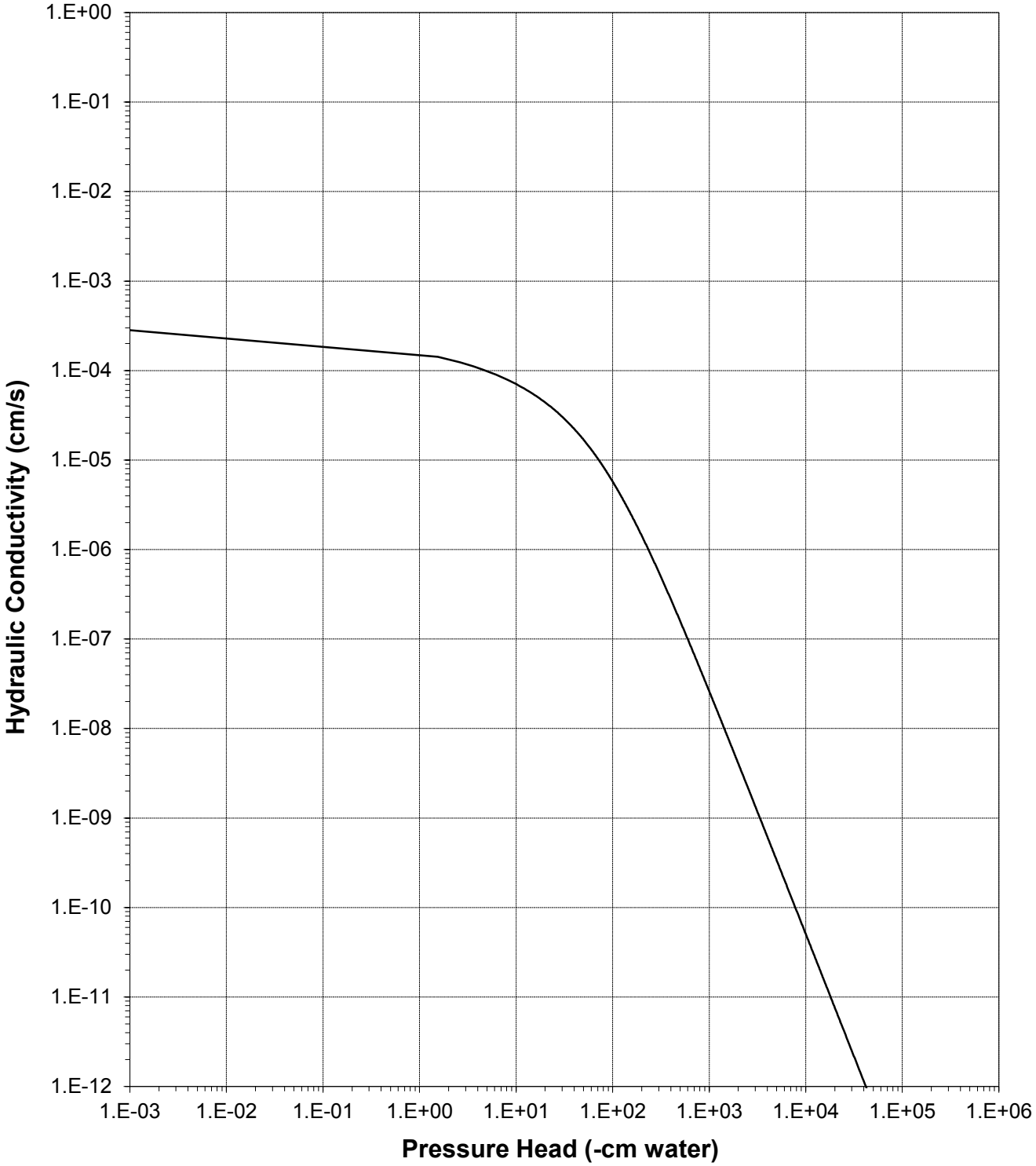
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-16 (18-20) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-16 (18-20) Core*



# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 428.50
*Tare wt., ring* (g): 127.95
*Tare wt., screen & clamp* (g): 26.36
*Initial sample volume* ($cm^3$): 223.65
*Initial dry bulk density* ($g/cm^3$): 1.92
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 27.70

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:30 | 639.78 | 0 | 26.55 | ‡‡ |
| | 1-Oct-14 | 15:37 | 634.00 | 5.0 | 24.18 | ‡‡ |
| | 8-Oct-14 | 12:25 | 631.00 | 19.0 | 22.76 | ‡‡ |
| | 15-Oct-14 | 12:00 | 617.30 | 73.0 | 16.34 | ‡‡ |
| *Pressure plate:* | 24-Oct-14 | 9:45 | 602.70 | 337 | 9.42 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 214.59 | -4.05% | 2.00 | 24.65 |
| | 5.0 | 211.73 | -5.33% | 2.02 | 23.63 |
| | 19.0 | 211.73 | -5.33% | 2.02 | 23.63 |
| | 73.0 | 211.11 | -5.61% | 2.03 | 23.41 |
| *Pressure plate:* | 337 | 211.11 | -5.61% | 2.03 | 23.41 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-16 (58-60) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.92

*Fraction of bulk sample used (<2.00mm fraction) (%):* 46.17

*Dry weight* of dew point potentiometer sample* (g)*:* 157.39

*Tare weight, jar* (g)*:* 111.85

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 13:08 | 158.36 | 27841 | 2.00 | ‡‡ |
| | 9-Oct-14 | 10:30 | 158.04 | 104224 | 1.34 | ‡‡ |
| | 8-Oct-14 | 14:40 | 157.83 | 338778 | 0.91 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 27841 | 211.11 | -5.61% | 2.03 | 23.41 |
| | 104224 | 211.11 | -5.61% | 2.03 | 23.41 |
| | 338778 | 211.11 | -5.61% | 2.03 | 23.41 |

*Dry weight* of relative humidity box sample* (g)*:* 61.72

*Tare weight* (g)*:* 41.90

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 61.86 | 848426 | 0.66 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 211.11 | -5.61% | 2.03 | 23.41 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

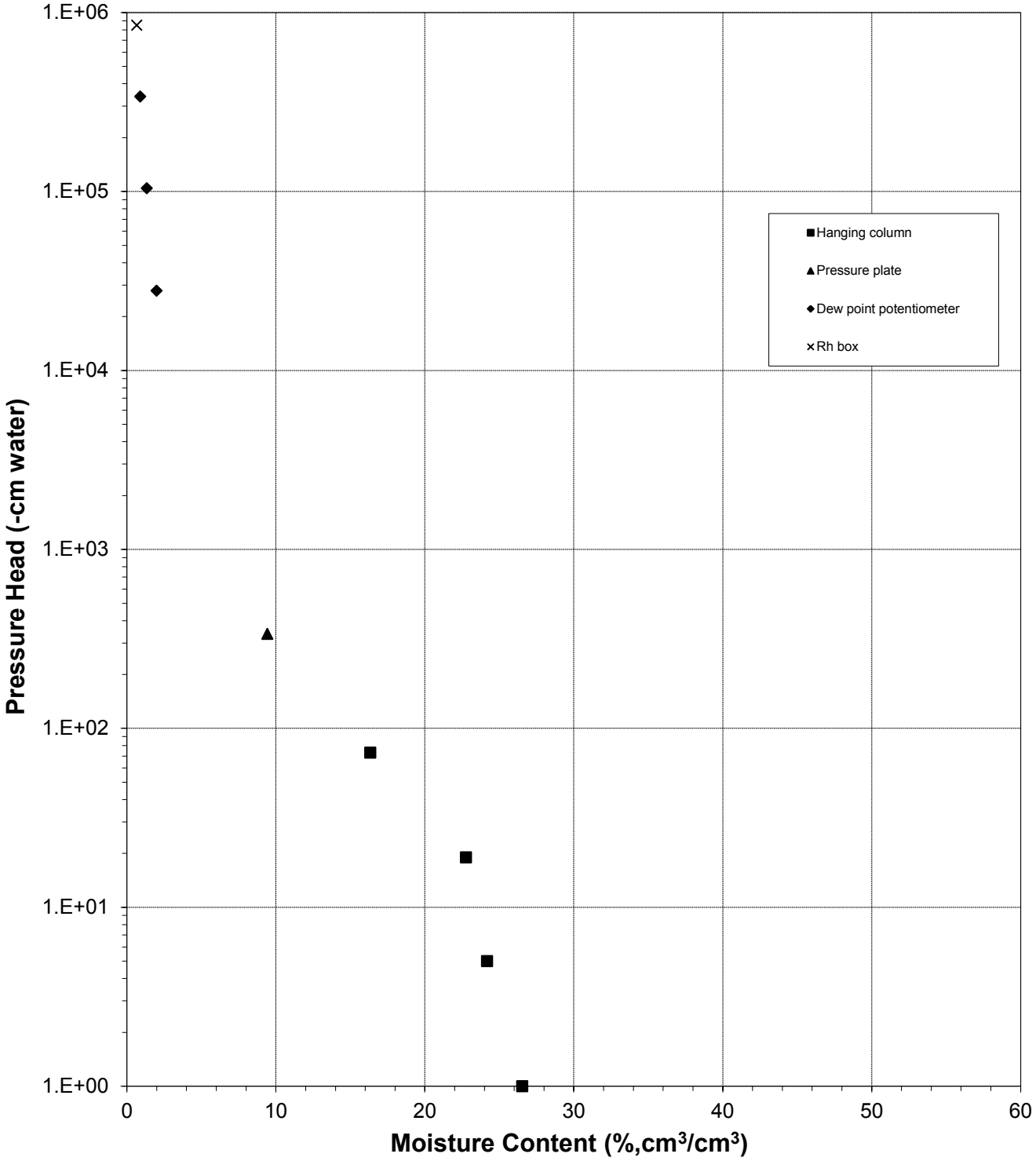
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

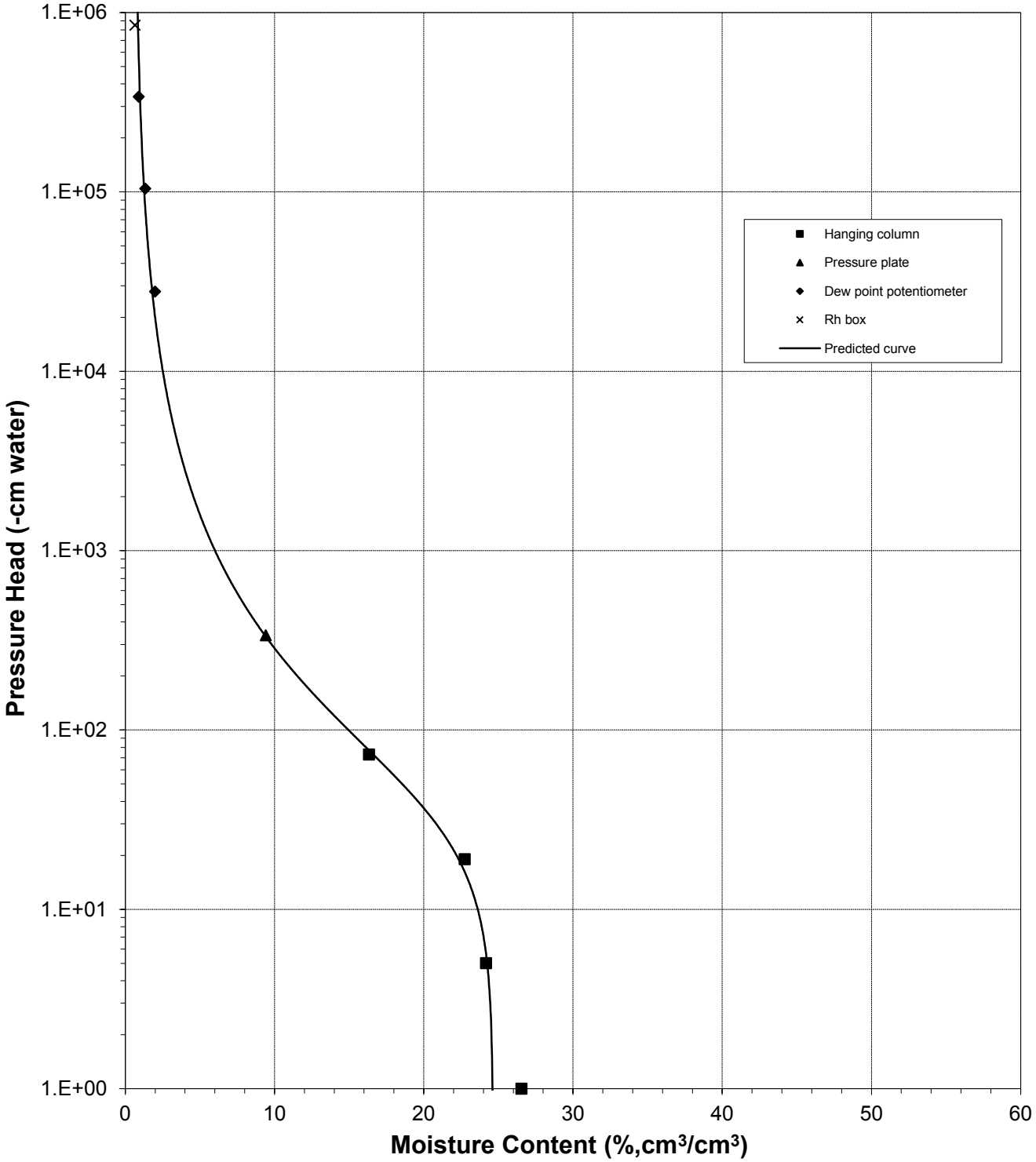
## Water Retention Data Points

*Sample Number: 200-SB-16 (58-60) Core*



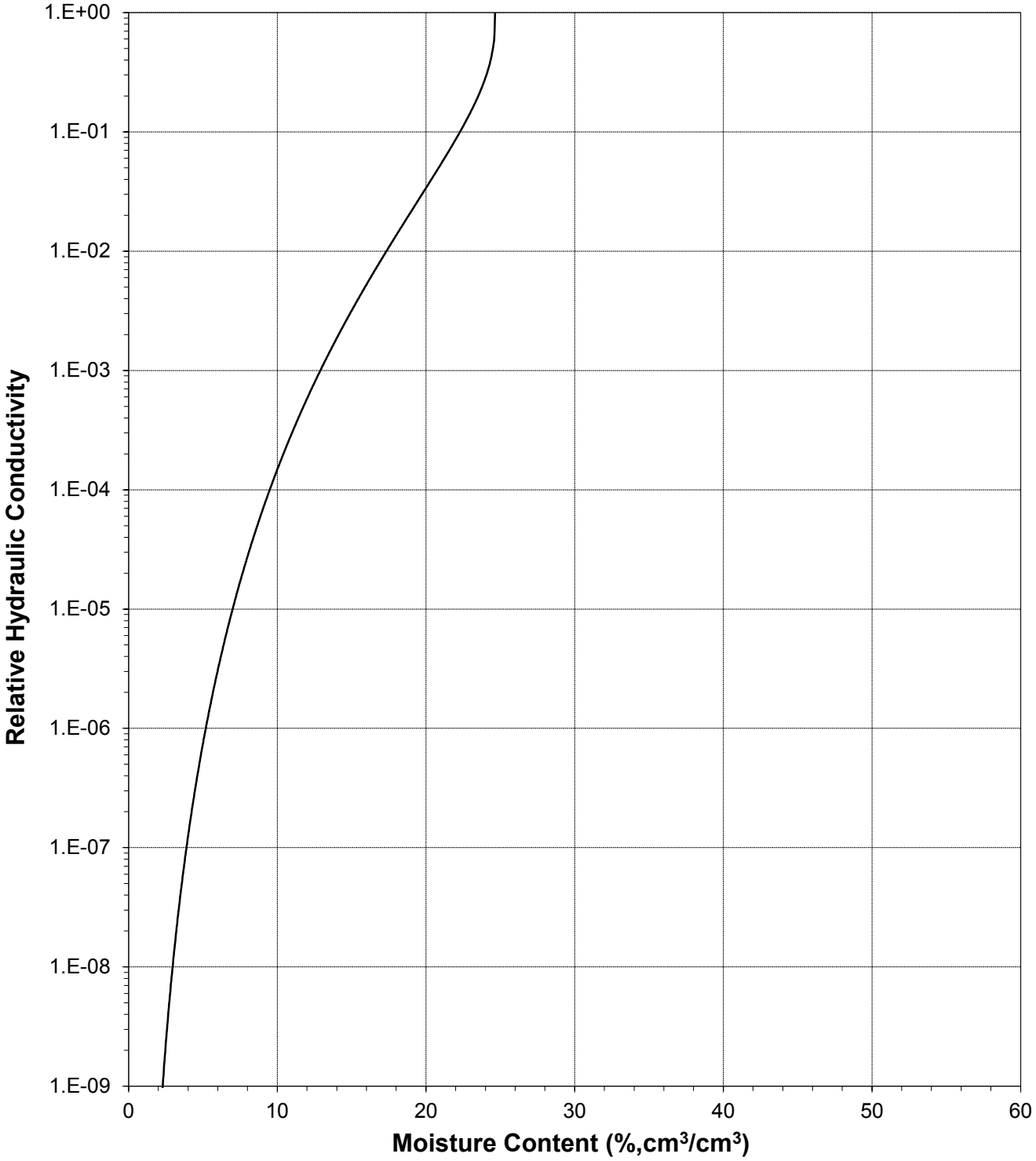
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-16 (58-60) Core*



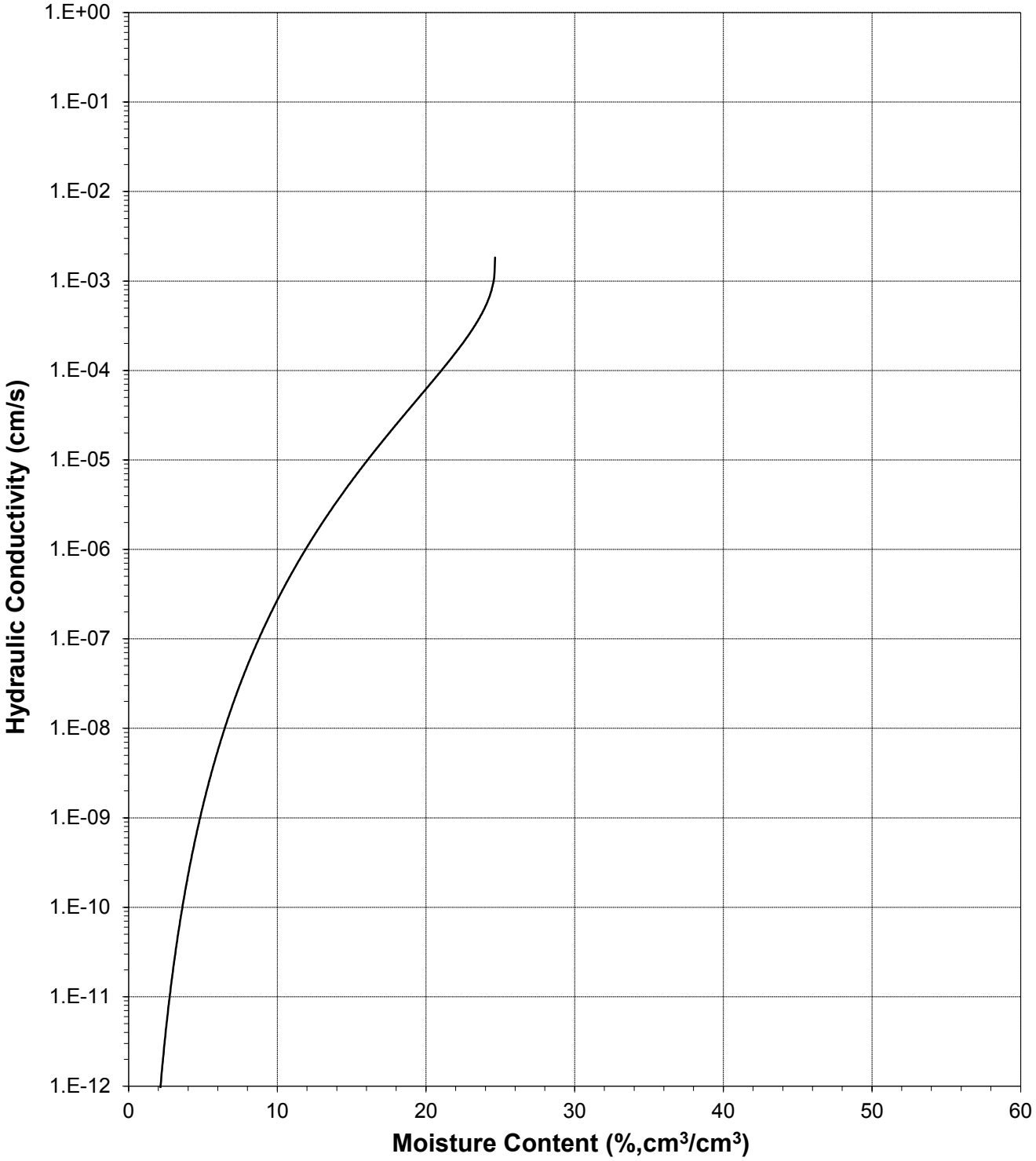
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-16 (58-60) Core*



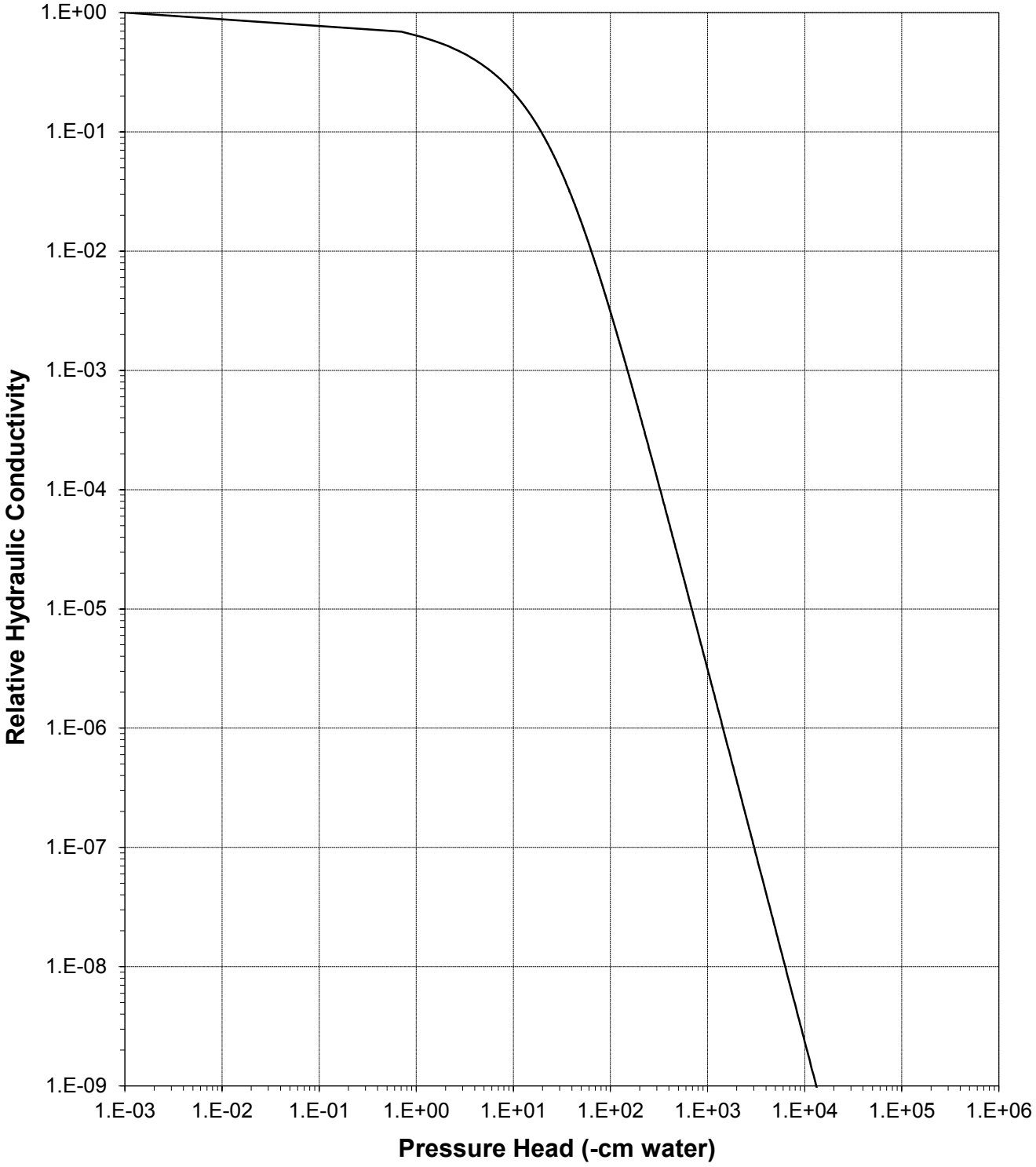
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-16 (58-60) Core*



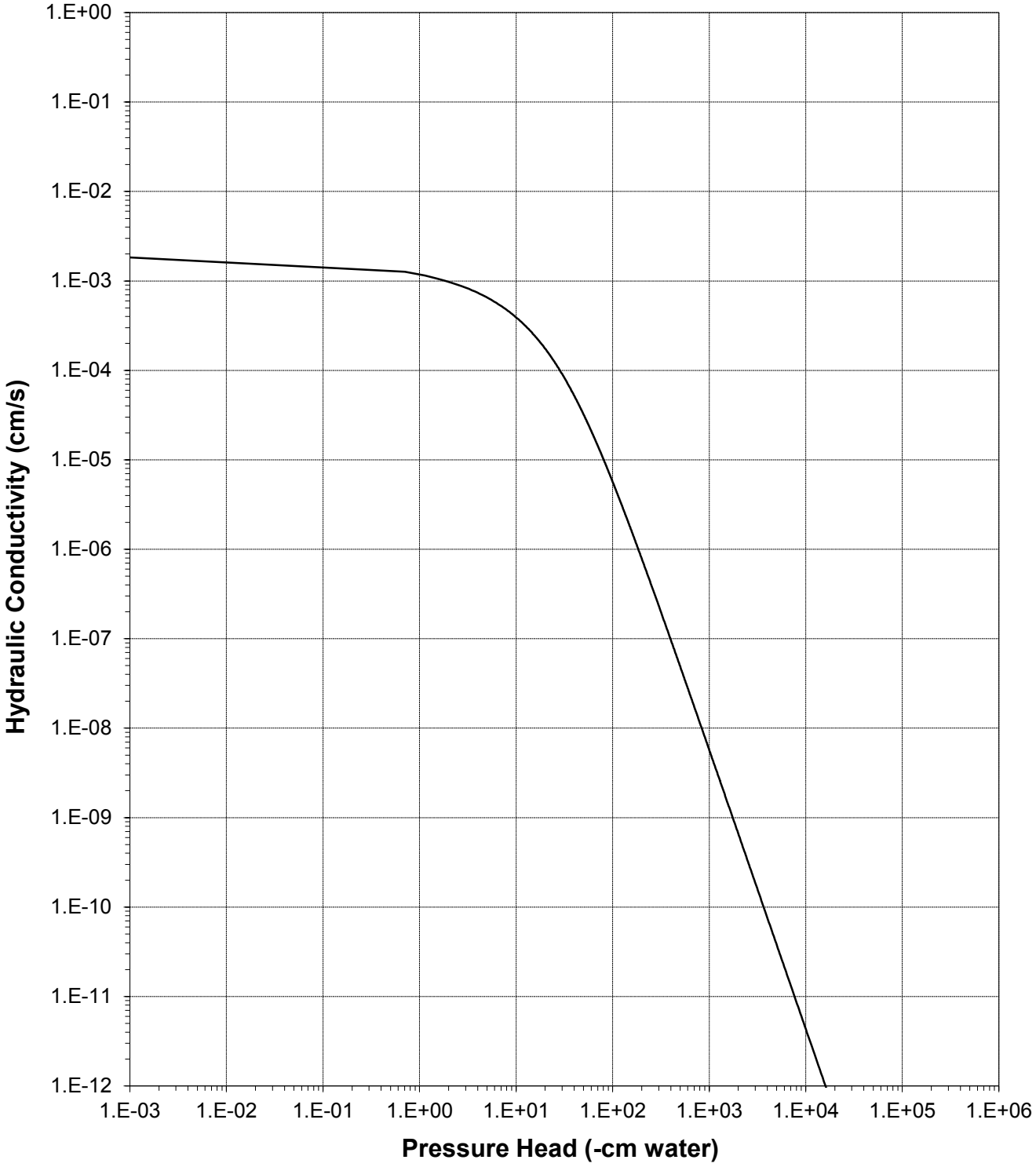
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-16 (58-60) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-16 (58-60) Core*



Daniel B. Stephens & Associates, Inc.

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 587.77
*Tare wt., ring* (g): 221.77
*Tare wt., screen & clamp* (g): 28.26
*Initial sample volume* ($cm^3$): 320.75
*Initial dry bulk density* ($g/cm^3$): 1.83
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 30.85

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Hanging column:* | 2-Oct-14 | 12:00 | 939.30 | 0 | 31.65 |
| | 9-Oct-14 | 9:25 | 932.70 | 5.0 | 29.59 |
| | 16-Oct-14 | 8:00 | 925.60 | 9.0 | 27.37 |
| | 23-Oct-14 | 10:20 | 873.90 | 47.0 | 11.26 |
| | 30-Oct-14 | 12:30 | 864.60 | 190.0 | 8.36 |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | --- | --- | --- | --- |
| | 5.0 | --- | --- | --- | --- |
| | 9.0 | --- | --- | --- | --- |
| | 47.0 | --- | --- | --- | --- |
| | 190.0 | --- | --- | --- | --- |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-17 (8-12) Bag

*Initial sample bulk density* (g/cm$^3$)*:* 1.83
*Fraction of test sample used (<2.00mm fraction) (%):* 45.54

*Dry weight* of dew point potentiometer sample* (g)*:* 172.42
*Tare weight, jar* (g)*:* 112.75

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 13-Oct-14 | 15:10 | 173.79 | 18662 | 1.92 |
| | 13-Oct-14 | 13:25 | 173.38 | 53641 | 1.34 |
| | 10-Oct-14 | 10:55 | 173.01 | 242814 | 0.83 |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 18662 | --- | --- | --- | --- |
| | 53641 | --- | --- | --- | --- |
| | 242814 | --- | --- | --- | --- |

*Dry weight* of relative humidity box sample* (g)*:* 81.44
*Tare weight* (g)*:* 41.62

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 81.69 | 848426 | 0.53 |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | --- | --- | --- | --- |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

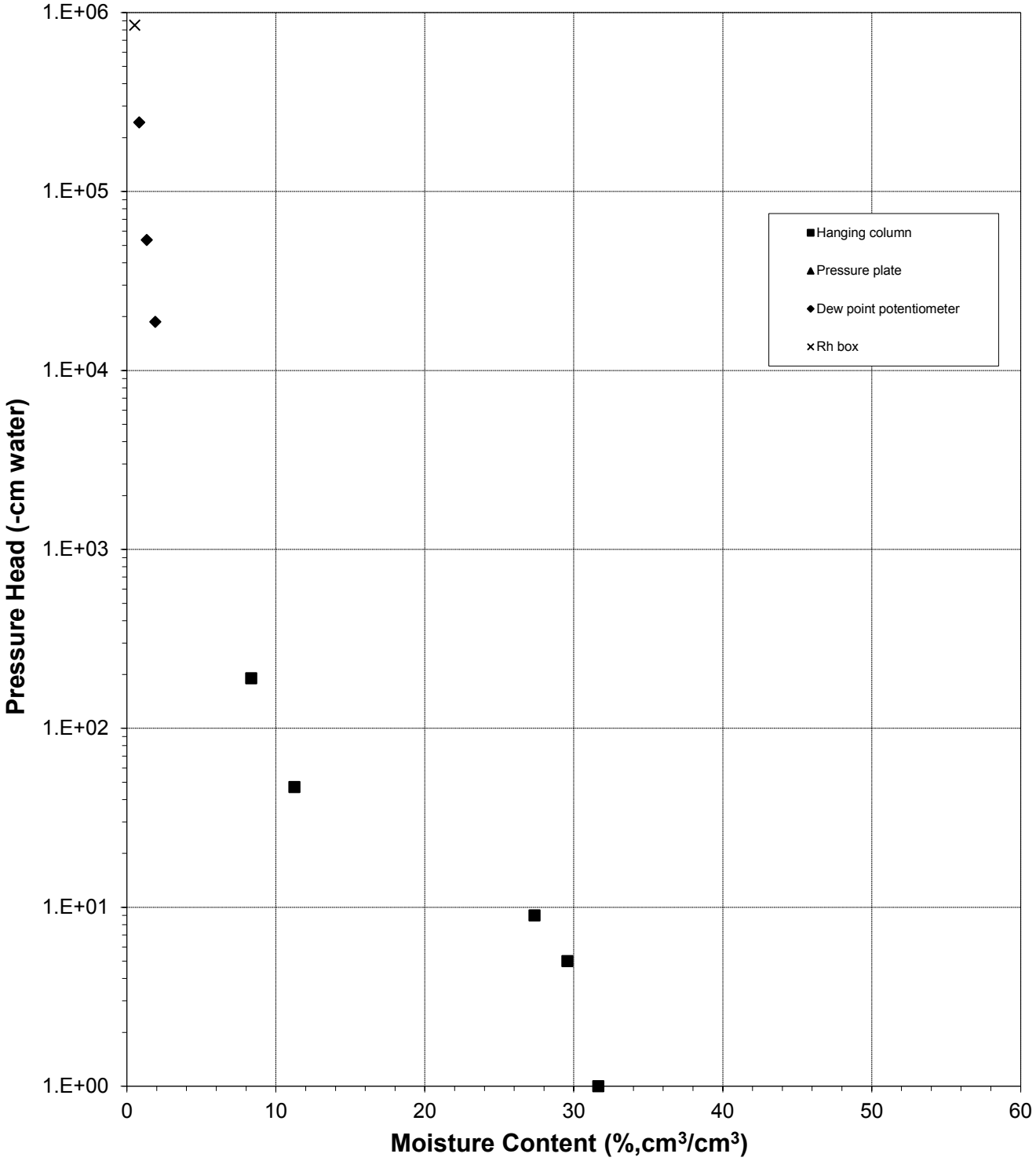
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

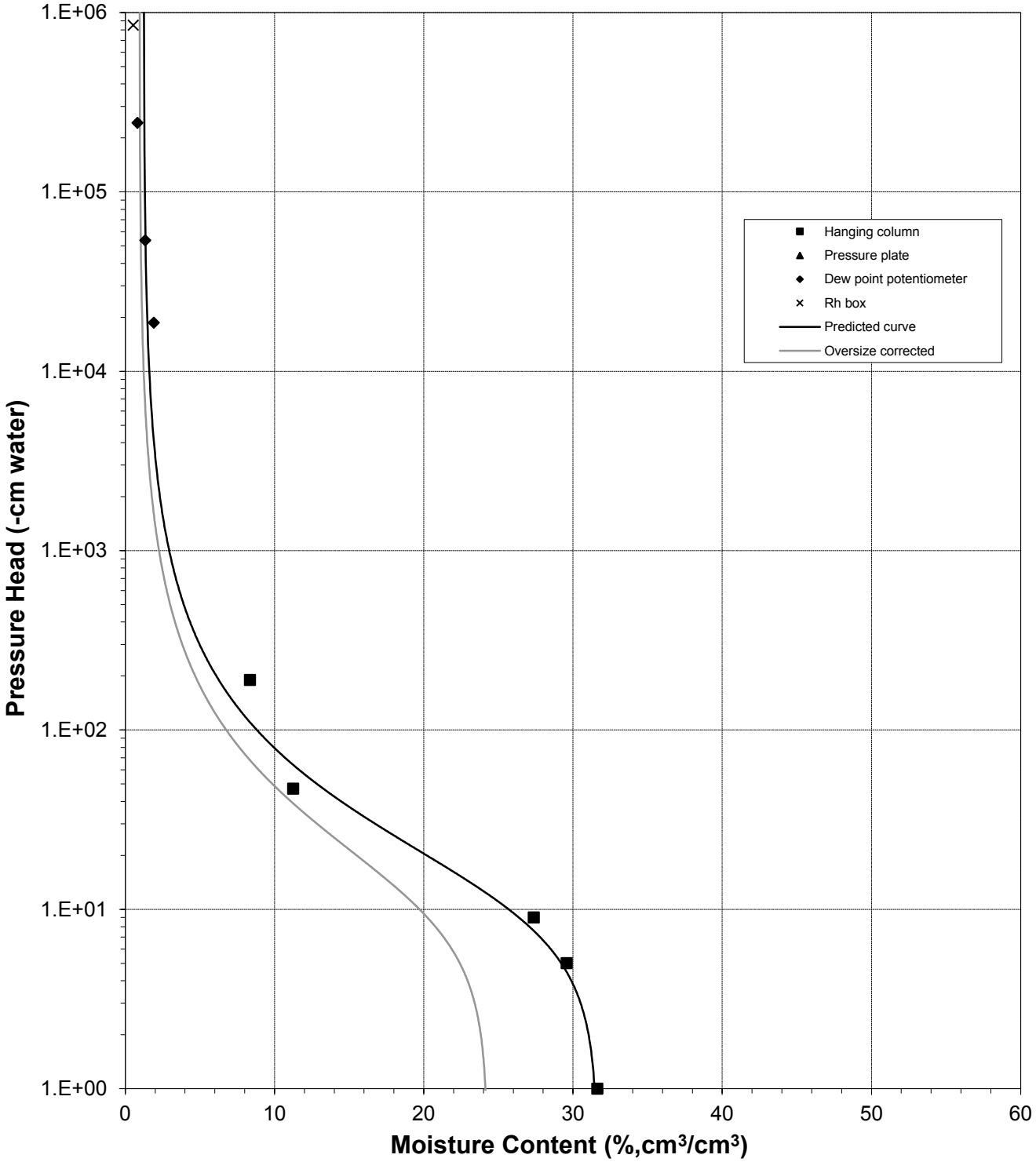
## Water Retention Data Points

*Sample Number: 200-SB-17 (8-12) Bag*



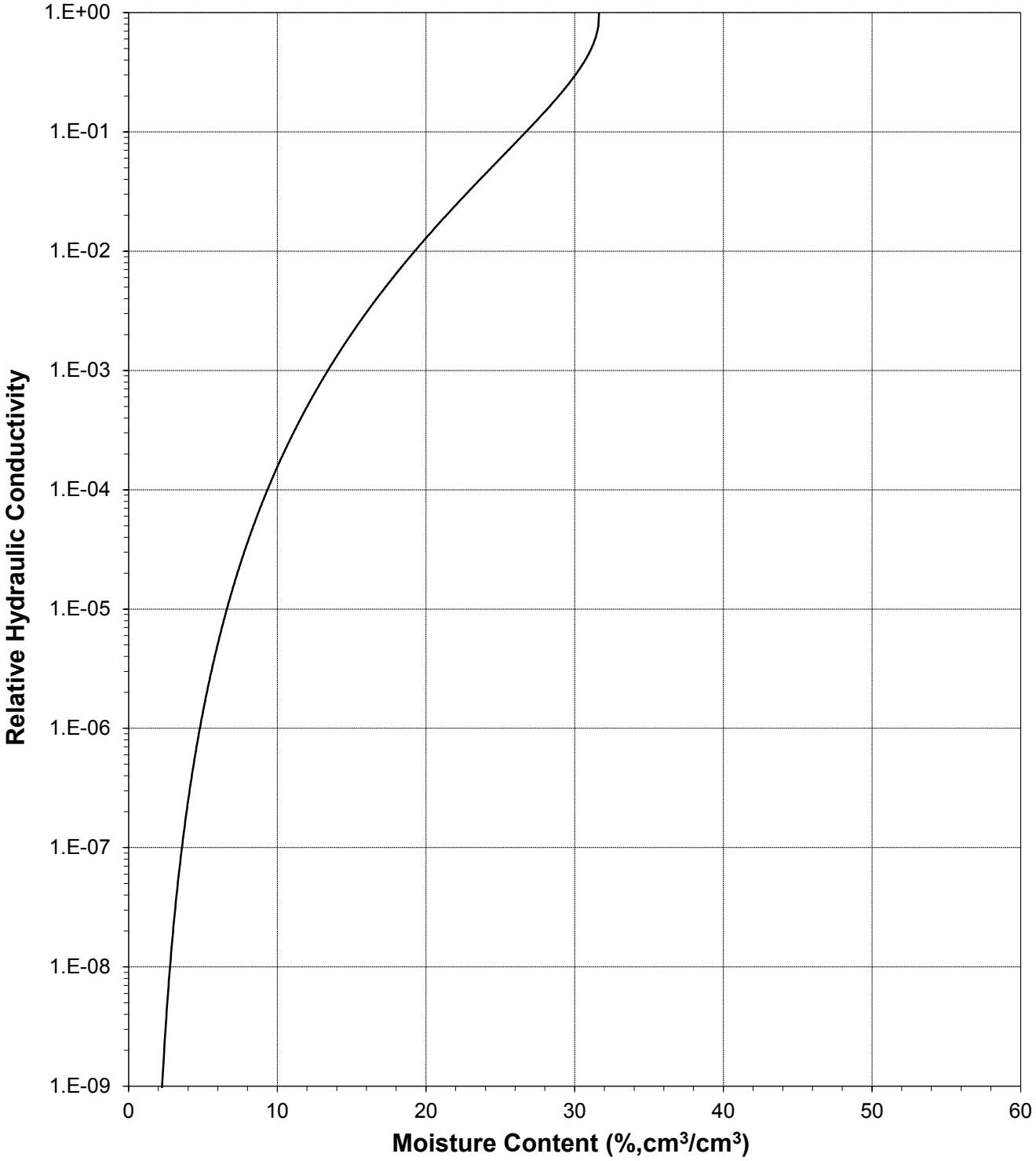
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-17 (8-12) Bag*



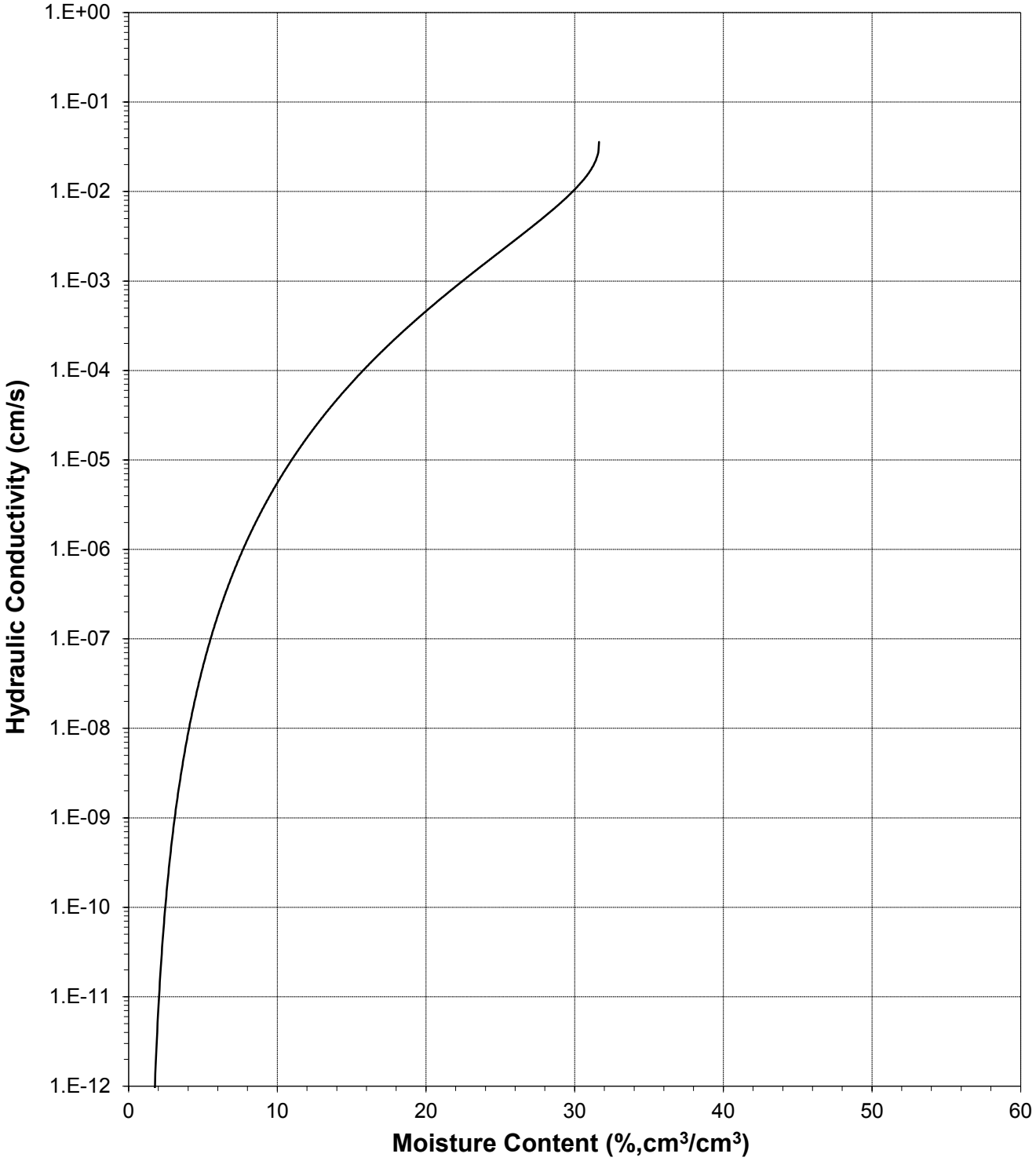
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-17 (8-12) Bag*



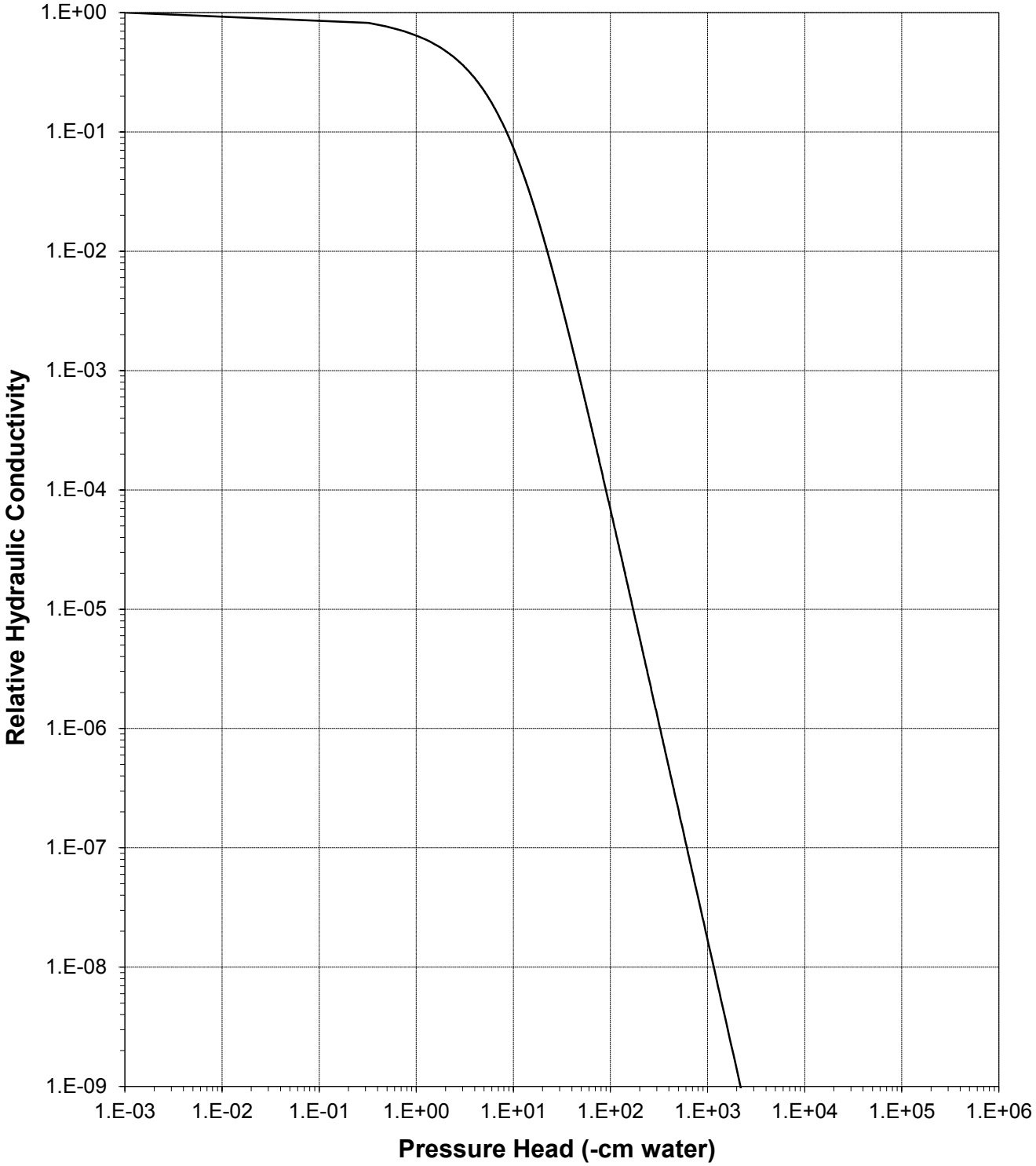
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-17 (8-12) Bag*



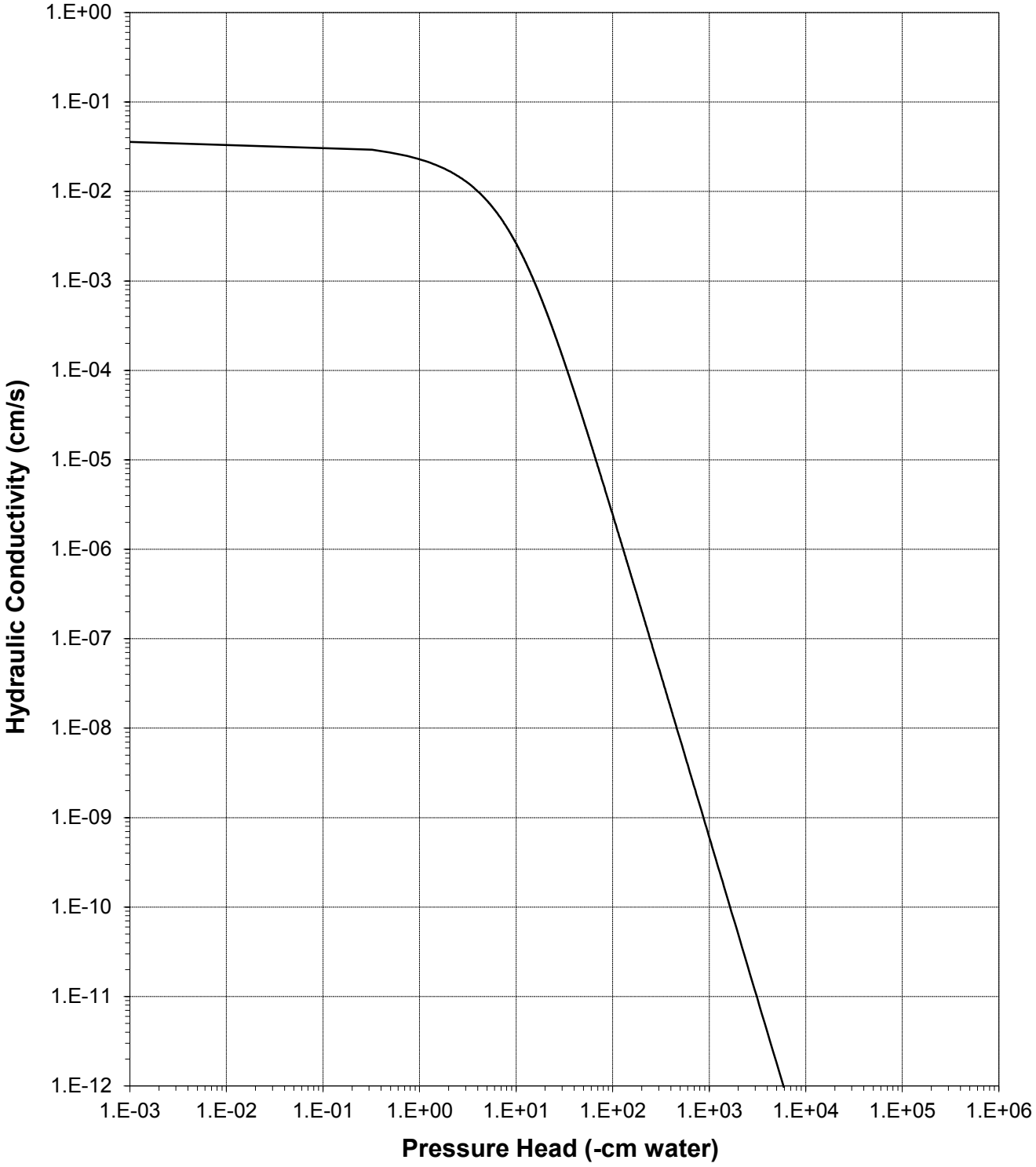
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-17 (8-12) Bag*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-17 (8-12) Bag*



Daniel B. Stephens & Associates, Inc.

# Oversize Correction Data Sheet

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Split (3/4", 3/8", #4):* 3/8

| | Coarse Fraction* | Fines Fraction** | Composite |
|---|---|---|---|
| *Subsample Mass* (g): | 1006.62 | 2296.18 | 3302.80 |
| *Mass Fraction* (%): | 30.48 | 69.52 | 100.00 |
| *Initial Sample* $\theta_i$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.83 | 2.02 |
| *Calculated Porosity* (% vol): | 0.00 | 30.85 | 23.67 |
| *Volume of Solids* (cm$^3$): | 379.86 | 866.48 | 1246.34 |
| *Volume of Voids* (cm$^3$): | 0.00 | 386.54 | 386.54 |
| *Total Volume* (cm$^3$): | 379.86 | 1253.02 | 1632.88 |
| *Volumetric Fraction* (%): | 23.26 | 76.74 | 100.00 |
| *Initial Moisture Content* (% vol): | 0.00 | 7.37 | 5.65 |
| *Saturated Sample* $\theta_s$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.83 | 2.02 |
| *Calculated Porosity* (% vol): | 0.00 | 30.85 | 23.67 |
| *Volume of Solids* (cm$^3$): | 379.86 | 866.48 | 1246.34 |
| *Volume of Voids* (cm$^3$): | 0.00 | 386.54 | 386.54 |
| *Total Volume* (cm$^3$): | 379.86 | 1253.02 | 1632.88 |
| *Volumetric Fraction* (%): | 23.26 | 76.74 | 100.00 |
| *Saturated Moisture Content* (% vol): | 0.00 | 31.65 | 24.28 |
| *Residual Sample* $\theta_r$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.83 | 2.02 |
| *Calculated Porosity* (% vol): | 0.00 | 30.85 | 23.67 |
| *Volume of Solids* (cm$^3$): | 379.86 | 866.48 | 1246.34 |
| *Volume of Voids* (cm$^3$): | 0.00 | 386.54 | 386.54 |
| *Total Volume* (cm$^3$): | 379.86 | 1253.02 | 1632.88 |
| *Volumetric Fraction* (%): | 23.26 | 76.74 | 100.00 |
| *Residual Moisture Content* (% vol): | 0.00 | 1.22 | 0.94 |
| *Ksat* (cm/sec): | NM | 3.6E-02 | 2.5E-02 |

* = Porosity and moisture content of coarse fraction assumed to be zero.
** = Volume adjusted, if applicable. See notes on Moisture Retention Data pages.
NM = Not measured

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
Checked by: J. Hines

Daniel B. Stephens & Associates, Inc.

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 597.69
*Tare wt., ring* (g): 221.71
*Tare wt., screen & clamp* (g): 27.78
*Initial sample volume* ($cm^3$): 319.75
*Initial dry bulk density* ($g/cm^3$): 1.87
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 29.46

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 2-Oct-14 | 12:00 | 959.80 | 0 | 33.64 | ‡‡ |
| | 9-Oct-14 | 9:20 | 959.90 | 18.0 | 33.67 | ‡‡ |
| | 16-Oct-14 | 7:55 | 954.20 | 56.0 | 31.97 | ‡‡ |
| | 23-Oct-14 | 10:15 | 946.80 | 121.0 | 29.84 | ‡‡ |
| *Pressure plate:* | 5-Nov-14 | 8:30 | 940.50 | 337 | 27.96 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 334.78 | +4.70% | 1.79 | 32.63 |
| | 18.0 | 334.78 | +4.70% | 1.79 | 32.63 |
| | 56.0 | 334.78 | +4.70% | 1.79 | 32.63 |
| | 121.0 | 333.81 | +4.40% | 1.79 | 32.43 |
| *Pressure plate:* | 337 | 333.81 | +4.40% | 1.79 | 32.43 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-18 (88-90) Bag

*Initial sample bulk density* (g/cm$^3$)*:* 1.87

*Fraction of test sample used (<2.00mm fraction) (%):* 84.06

*Dry weight* of dew point potentiometer sample* (g)*:* 158.34

*Tare weight, jar* (g)*:* 116.53

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 13:52 | 161.12 | 70570 | 10.01 | ‡‡ |
| | 9-Oct-14 | 11:00 | 160.54 | 245364 | 7.92 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 70570 | 333.81 | +4.40% | 1.79 | 32.43 |
| | 245364 | 333.81 | +4.40% | 1.79 | 32.43 |

*Dry weight* of relative humidity box sample* (g)*:* 64.21

*Tare weight* (g)*:* 40.79

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 64.89 | 848426 | 4.39 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 333.81 | +4.40% | 1.79 | 32.43 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

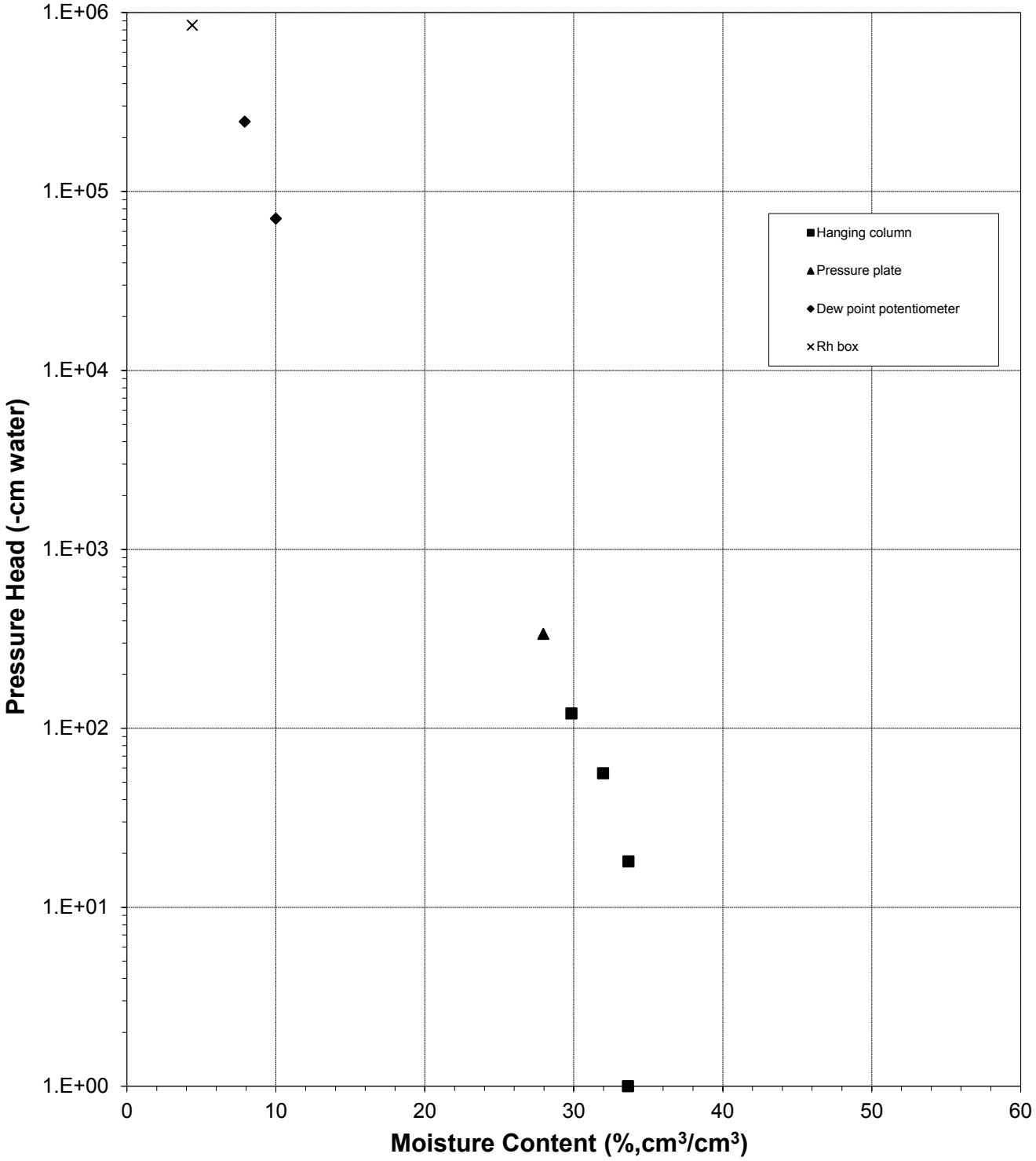
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

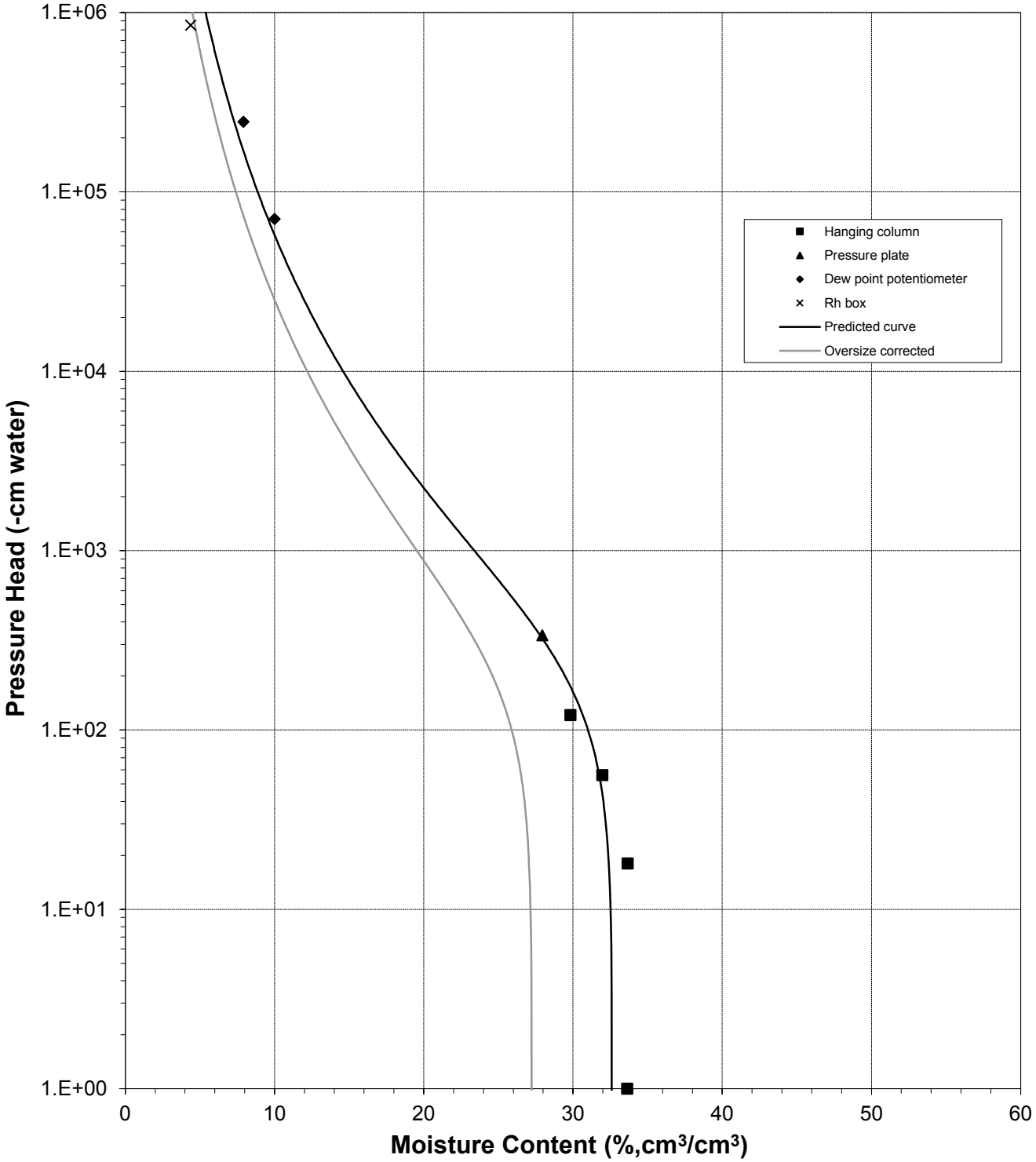
## Water Retention Data Points

*Sample Number: 200-SB-18 (88-90) Bag*



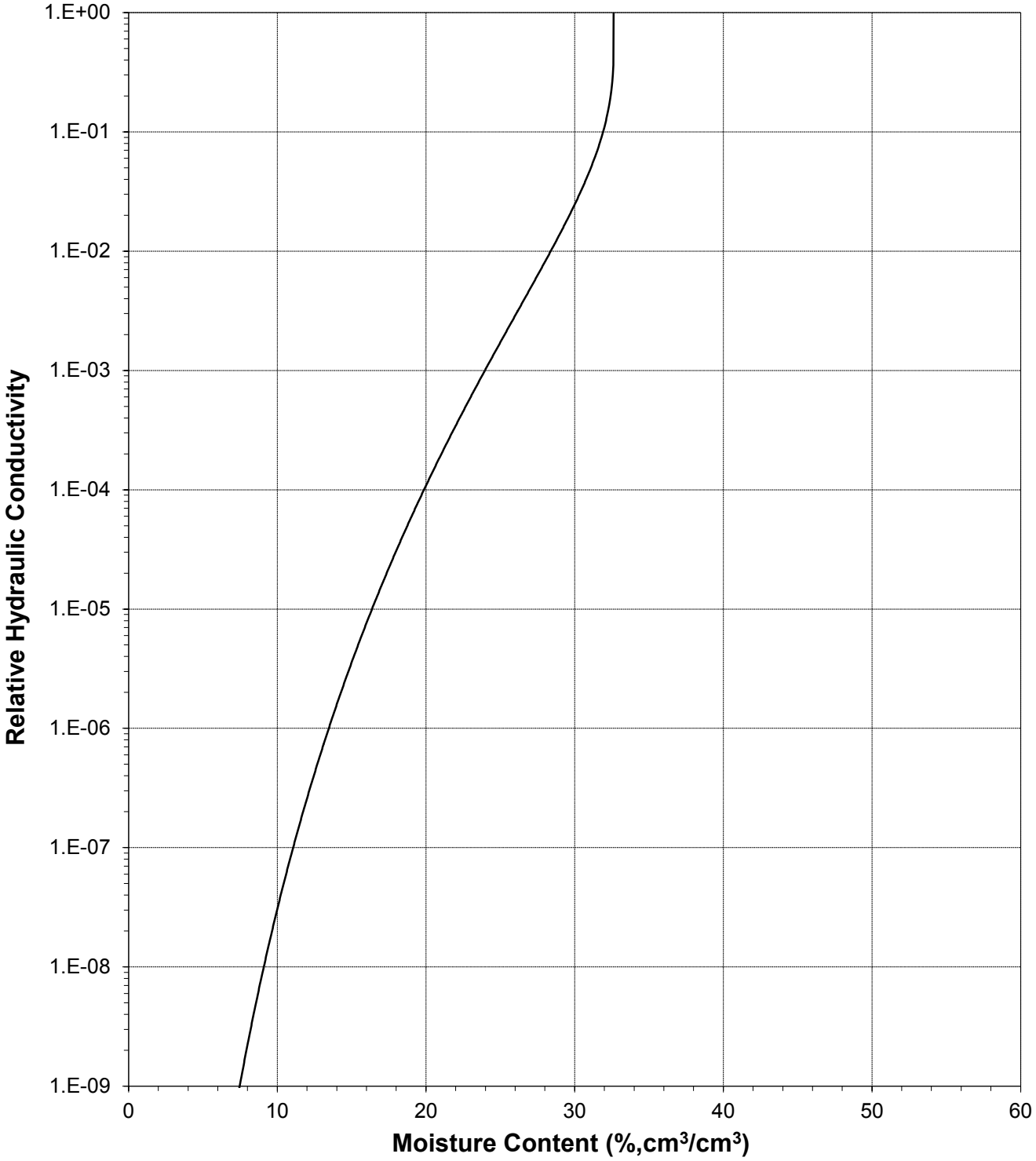
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-18 (88-90) Bag*



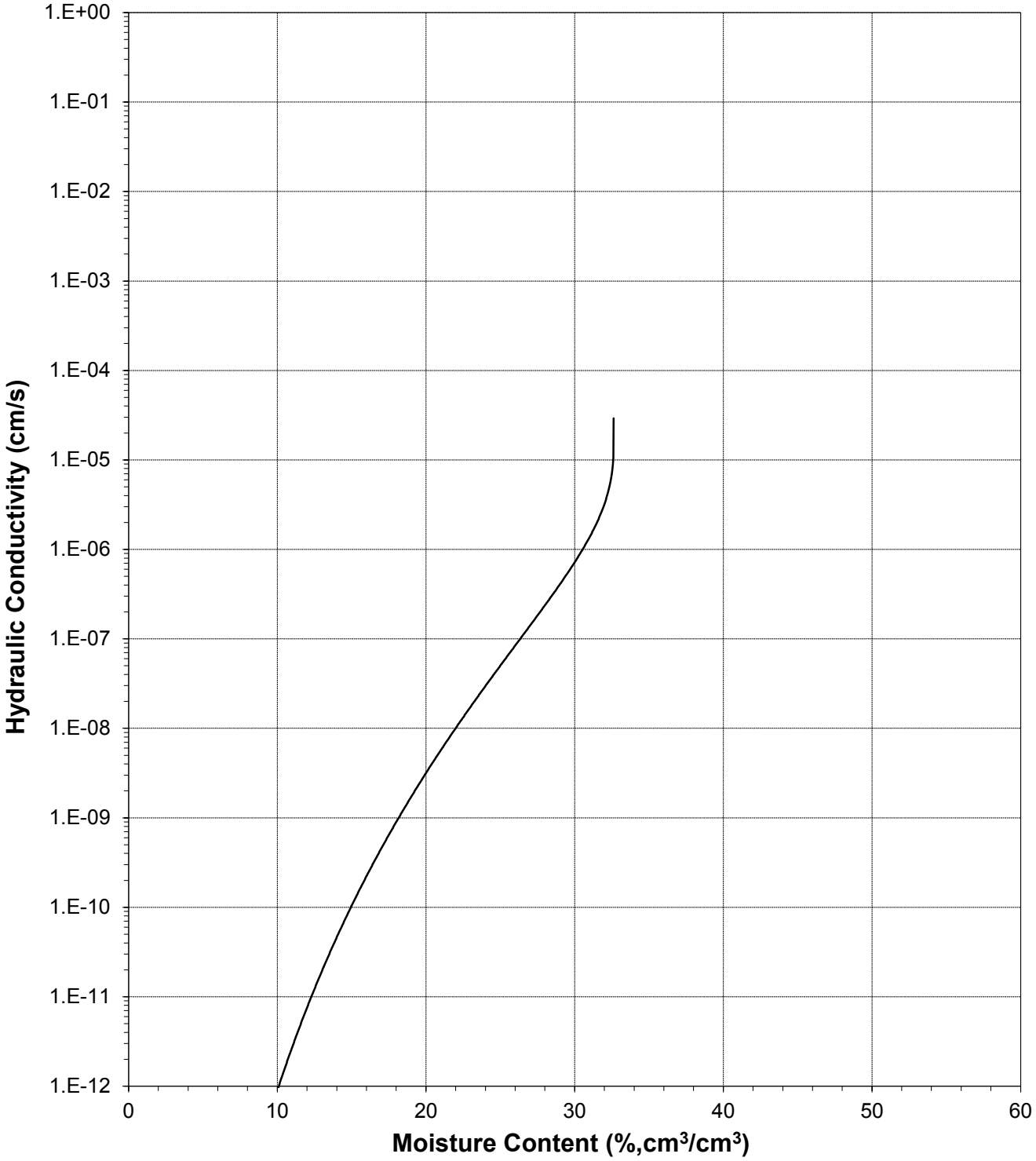
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-18 (88-90) Bag*



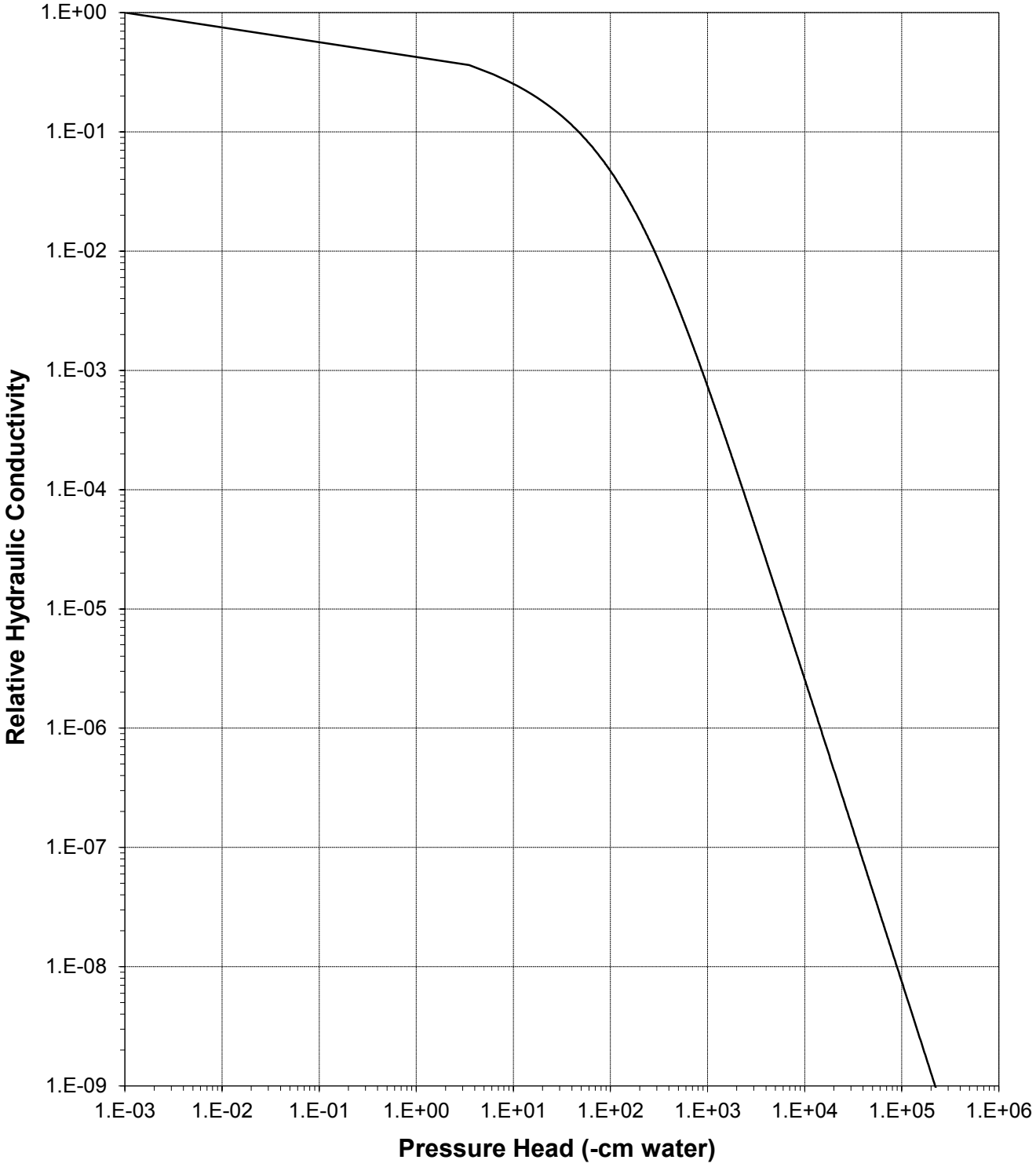
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-18 (88-90) Bag*



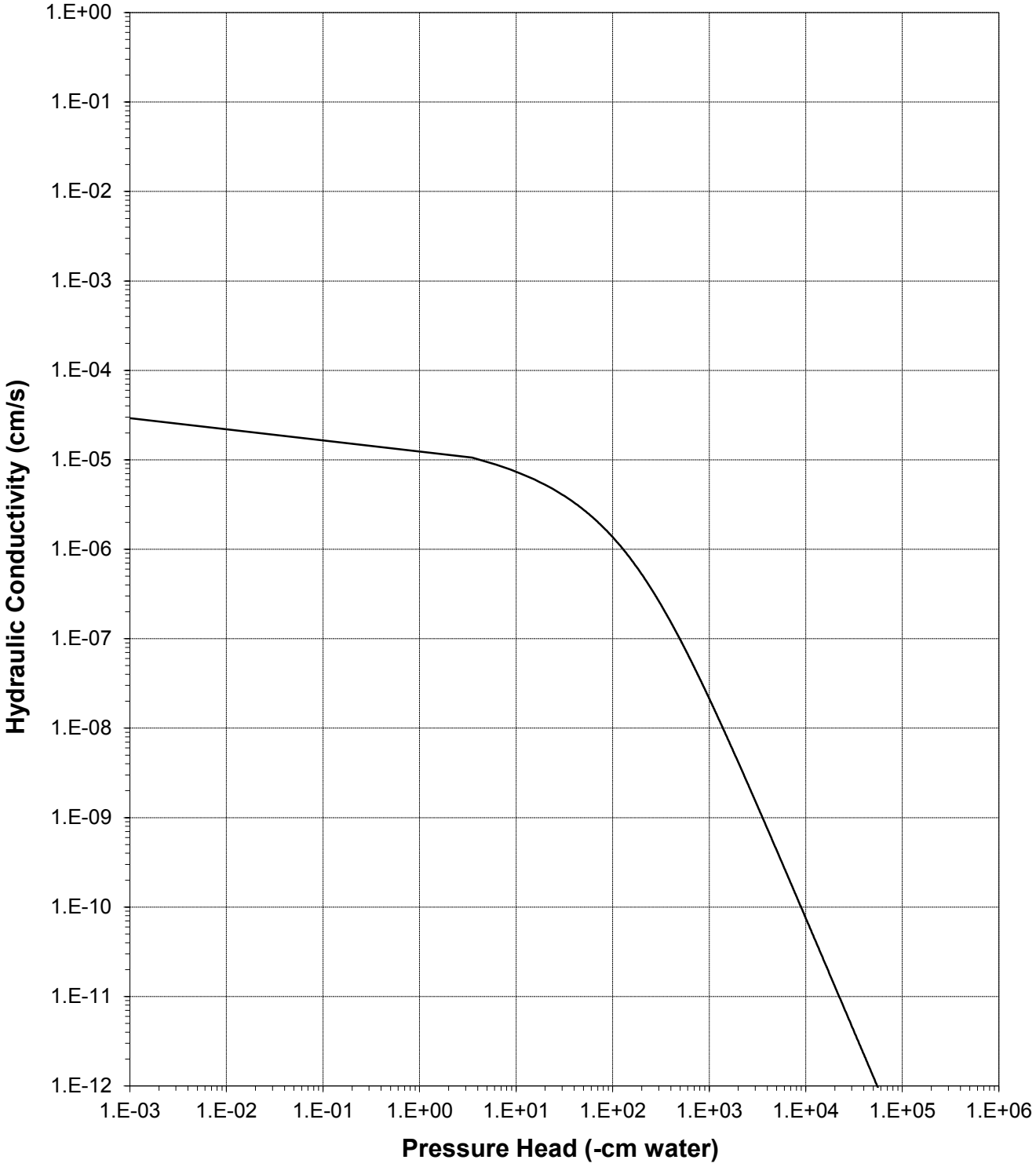
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-18 (88-90) Bag*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-18 (88-90) Bag*



# Oversize Correction Data Sheet

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Split (3/4", 3/8", #4):* 3/8

| | Coarse Fraction* | Fines Fraction** | Composite |
|---|---|---|---|
| *Subsample Mass* (g): | 1021.32 | 3484.67 | 4505.99 |
| *Mass Fraction* (%): | 22.67 | 77.33 | 100.00 |
| *Initial Sample* $\theta_i$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.87 | 2.00 |
| *Calculated Porosity* (% vol): | 0.00 | 29.46 | 24.42 |
| *Volume of Solids* (cm$^3$): | 385.40 | 1314.97 | 1700.37 |
| *Volume of Voids* (cm$^3$): | 0.00 | 549.27 | 549.27 |
| *Total Volume* (cm$^3$): | 385.40 | 1864.24 | 2249.64 |
| *Volumetric Fraction* (%): | 17.13 | 82.87 | 100.00 |
| *Initial Moisture Content* (% vol): | 0.00 | 17.10 | 14.17 |
| *Saturated Sample* $\theta_s$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.79 | 1.93 |
| *Calculated Porosity* (% vol): | 0.00 | 32.63 | 27.25 |
| *Volume of Solids* (cm$^3$): | 385.40 | 1314.97 | 1700.37 |
| *Volume of Voids* (cm$^3$): | 0.00 | 636.88 | 636.88 |
| *Total Volume* (cm$^3$): | 385.40 | 1951.85 | 2337.26 |
| *Volumetric Fraction* (%): | 16.49 | 83.51 | 100.00 |
| *Saturated Moisture Content* (% vol): | 0.00 | 32.63 | 27.25 |
| *Residual Sample* $\theta_r$ | | | |
| *Bulk Density* (g/cm$^3$): | 2.65 | 1.79 | 1.93 |
| *Calculated Porosity* (% vol): | 0.00 | 32.43 | 27.07 |
| *Volume of Solids* (cm$^3$): | 385.40 | 1314.97 | 1700.37 |
| *Volume of Voids* (cm$^3$): | 0.00 | 631.24 | 631.24 |
| *Total Volume* (cm$^3$): | 385.40 | 1946.21 | 2331.61 |
| *Volumetric Fraction* (%): | 16.53 | 83.47 | 100.00 |
| *Residual Moisture Content* (% vol): | 0.00 | 0.00 | 0.00 |
| *Ksat* (cm/sec): | NM | 2.9E-05 | 2.3E-05 |

* = Porosity and moisture content of coarse fraction assumed to be zero.
** = Volume adjusted, if applicable. See notes on Moisture Retention Data pages.
NM = Not measured

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
Checked by: J. Hines

# Moisture Retention Data

## Hanging Column / Pressure Plate

(Soil-Water Characteristic Curve)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Dry wt. of sample* (g): 362.28
*Tare wt., ring* (g): 128.97
*Tare wt., screen & clamp* (g): 27.31
*Initial sample volume* ($cm^3$): 224.73
*Initial dry bulk density* ($g/cm^3$): 1.61
*Assumed particle density* ($g/cm^3$): 2.65
*Initial calculated total porosity* (%): 39.17

| | Date | Time | Weight* (g) | Matric Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Hanging column:* | 24-Sep-14 | 13:32 | 599.97 | 0 | 38.27 | ‡‡ |
| | 1-Oct-14 | 14:45 | 595.60 | 5.0 | 37.05 | ‡‡ |
| | 8-Oct-14 | 12:30 | 593.00 | 18.0 | 35.86 | ‡‡ |
| | 15-Oct-14 | 12:05 | 583.40 | 74.0 | 31.61 | ‡‡ |
| *Pressure plate:* | 24-Oct-14 | 9:45 | 558.80 | 337 | 19.62 | ‡‡ |

Volume Adjusted Data [1]

| | Matric Potential (-cm water) | Adjusted Volume ($cm^3$) | % Volume Change [2] (%) | Adjusted Density ($g/cm^3$) | Adjusted Calculated Porosity (%) |
|---|---|---|---|---|---|
| *Hanging column:* | 0.0 | 212.73 | -5.34% | 1.70 | 35.74 |
| | 5.0 | 207.96 | -7.46% | 1.74 | 34.26 |
| | 18.0 | 207.58 | -7.63% | 1.75 | 34.14 |
| | 74.0 | 205.15 | -8.71% | 1.77 | 33.36 |
| *Pressure plate:* | 337 | 205.15 | -8.71% | 1.77 | 33.36 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent each of the volume change measurements obtained after saturated hydraulic conductivity testing and throughout hanging column/pressure plate testing. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

† Assumed density of water is 1.0 $g/cm^3$

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Technician Notes:*

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Moisture Retention Data

## Dew Point Potentiometer / Relative Humidity Box

(Soil-Water Characteristic Curve)

*Sample Number:* 200-SB-19 (8-10) Core

*Initial sample bulk density* (g/cm$^3$)*:* 1.61

*Fraction of bulk sample used (<2.00mm fraction) (%):* 67.13

*Dry weight* of dew point potentiometer sample* (g)*:* 165.86

*Tare weight, jar* (g)*:* 116.43

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Dew point potentiometer:* | 9-Oct-14 | 14:29 | 168.18 | 15909 | 5.56 | ‡‡ |
| | 9-Oct-14 | 13:20 | 167.29 | 64655 | 3.43 | ‡‡ |
| | 9-Oct-14 | 10:50 | 166.96 | 193660 | 2.64 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Dew point potentiometer:* | 15909 | 205.15 | -8.71% | 1.77 | 33.36 |
| | 64655 | 205.15 | -8.71% | 1.77 | 33.36 |
| | 193660 | 205.15 | -8.71% | 1.77 | 33.36 |

*Dry weight* of relative humidity box sample* (g)*:* 57.76

*Tare weight* (g)*:* 36.82

| | Date | Time | Weight* (g) | Water Potential (-cm water) | Moisture Content † (% vol) | |
|---|---|---|---|---|---|---|
| *Relative humidity box:* | 13-Oct-14 | 10:30 | 57.97 | 848426 | 1.22 | ‡‡ |

Volume Adjusted Data [1]

| | Water Potential (-cm water) | Adjusted Volume (cm$^3$) | % Volume Change [2] (%) | Adjusted Density (g/cm$^3$) | Adjusted Calc. Porosity (%) |
|---|---|---|---|---|---|
| *Relative humidity box:* | 848426 | 205.15 | -8.71% | 1.77 | 33.36 |

*Comments:*

[1] Applicable if the sample experienced volume changes during testing. 'Volume Adjusted' values represent the volume change measurements obtained after the last hanging column or pressure plate point. "---" indicates no volume changes occurred.

[2] Represents percent volume change from original sample volume. A '+' denotes measured sample swelling, a '-' denotes measured sample settling, and '---' denotes no volume change occurred.

* Weight including tares

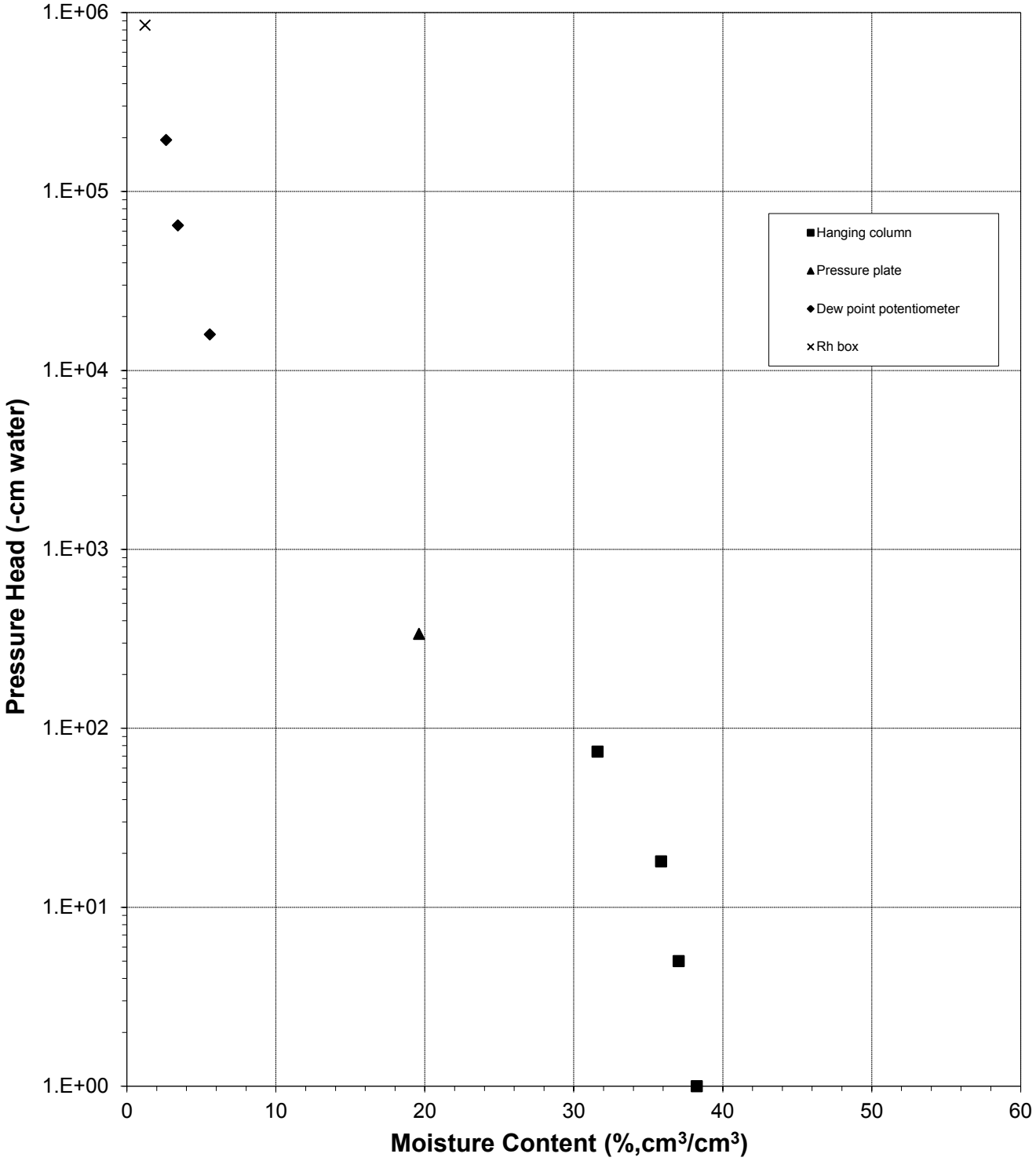
† Adjusted for >2.00mm (#10 sieve) material not used in DPP/RH testing. Assumed moisture content of material >2.00mm is zero, and assumed density of water is 1.0 g/cm$^3$.

‡‡ Volume adjustments are applicable at this matric potential (see comment #1). Changes in volume, if applicable, are estimated based on obtainable measurements of changes in sample length and diameter.

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

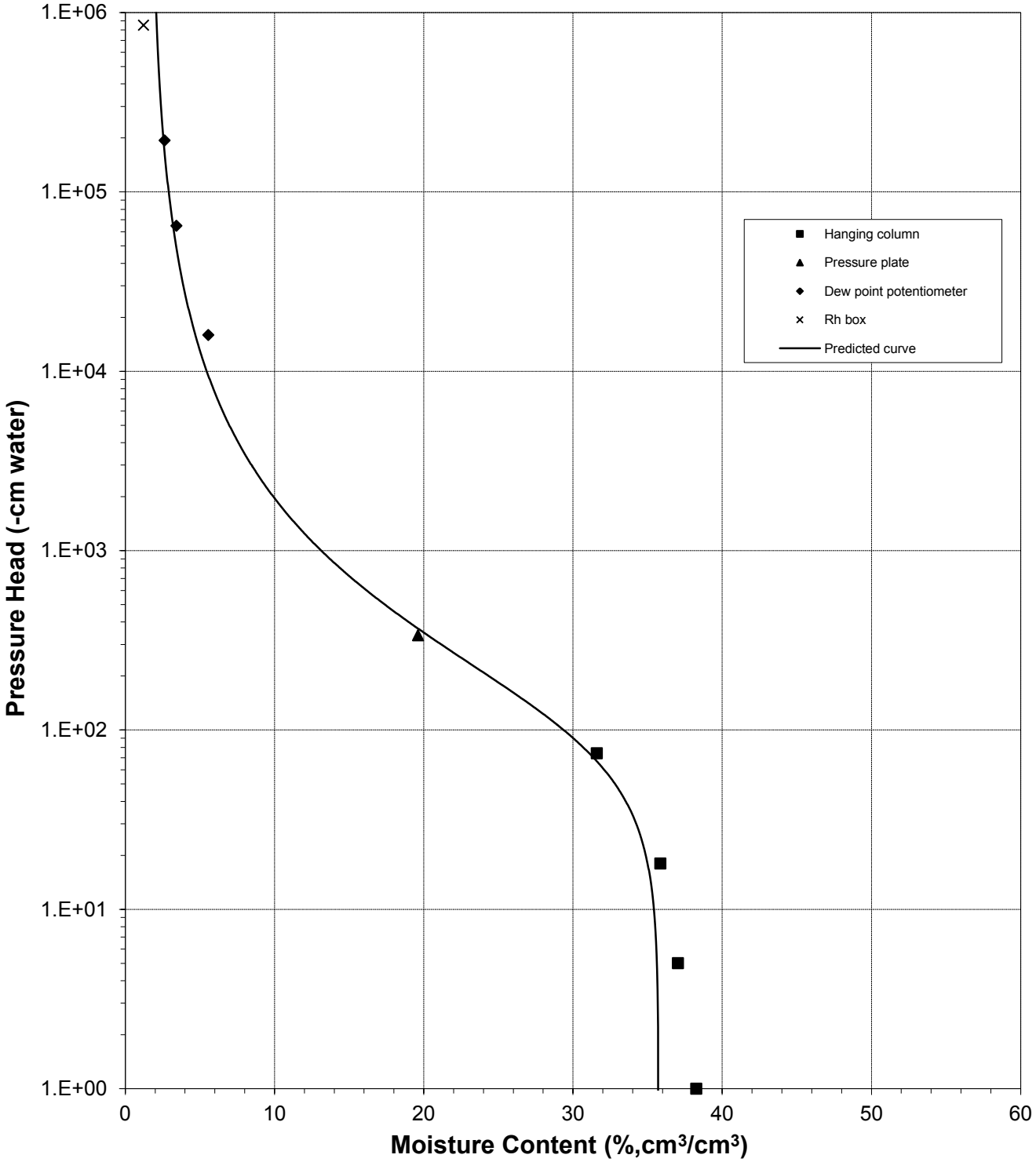
## Water Retention Data Points

*Sample Number: 200-SB-19 (8-10) Core*



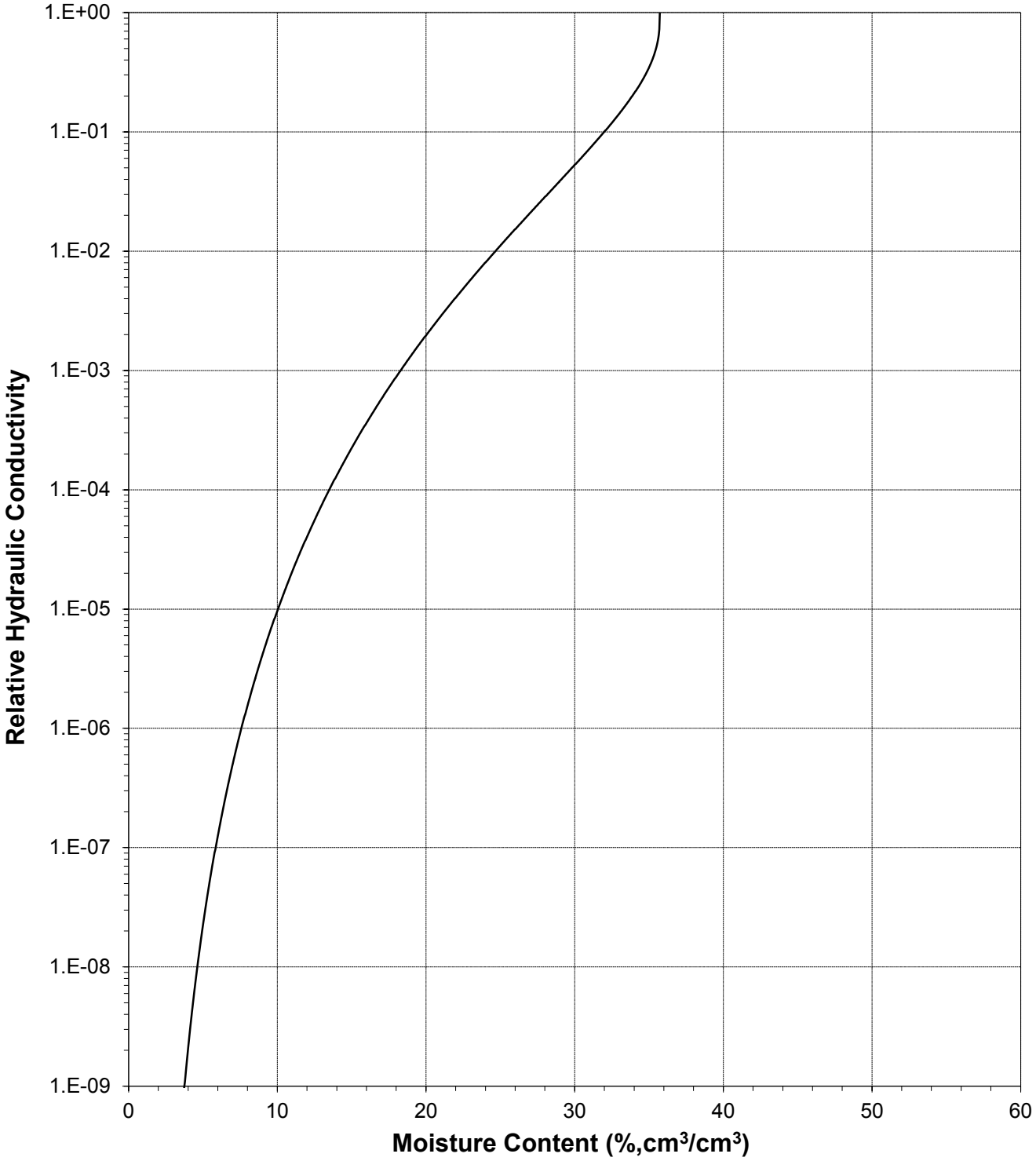
## Predicted Water Retention Curve and Data Points

*Sample Number: 200-SB-19 (8-10) Core*



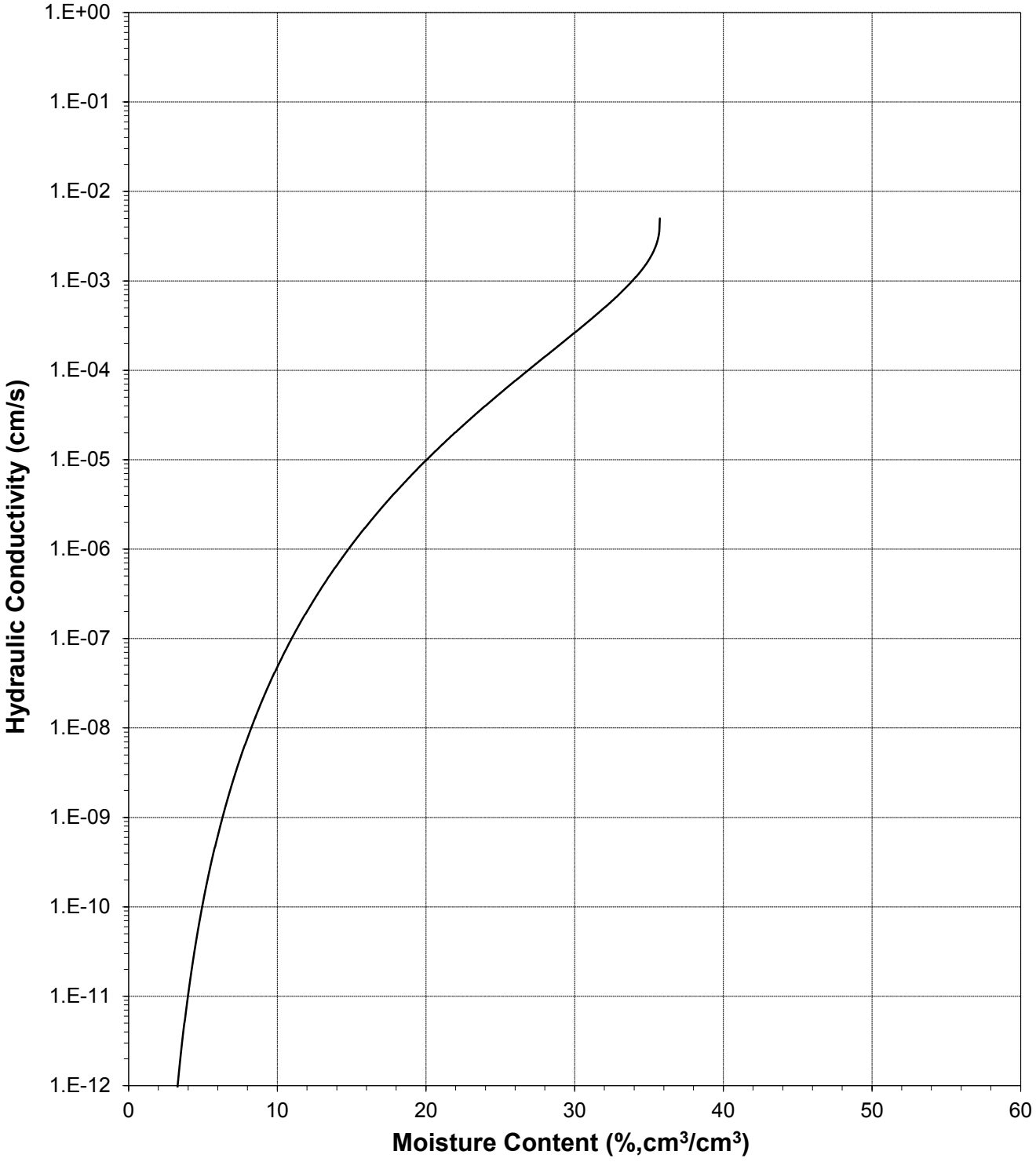
## Plot of Relative Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-19 (8-10) Core*



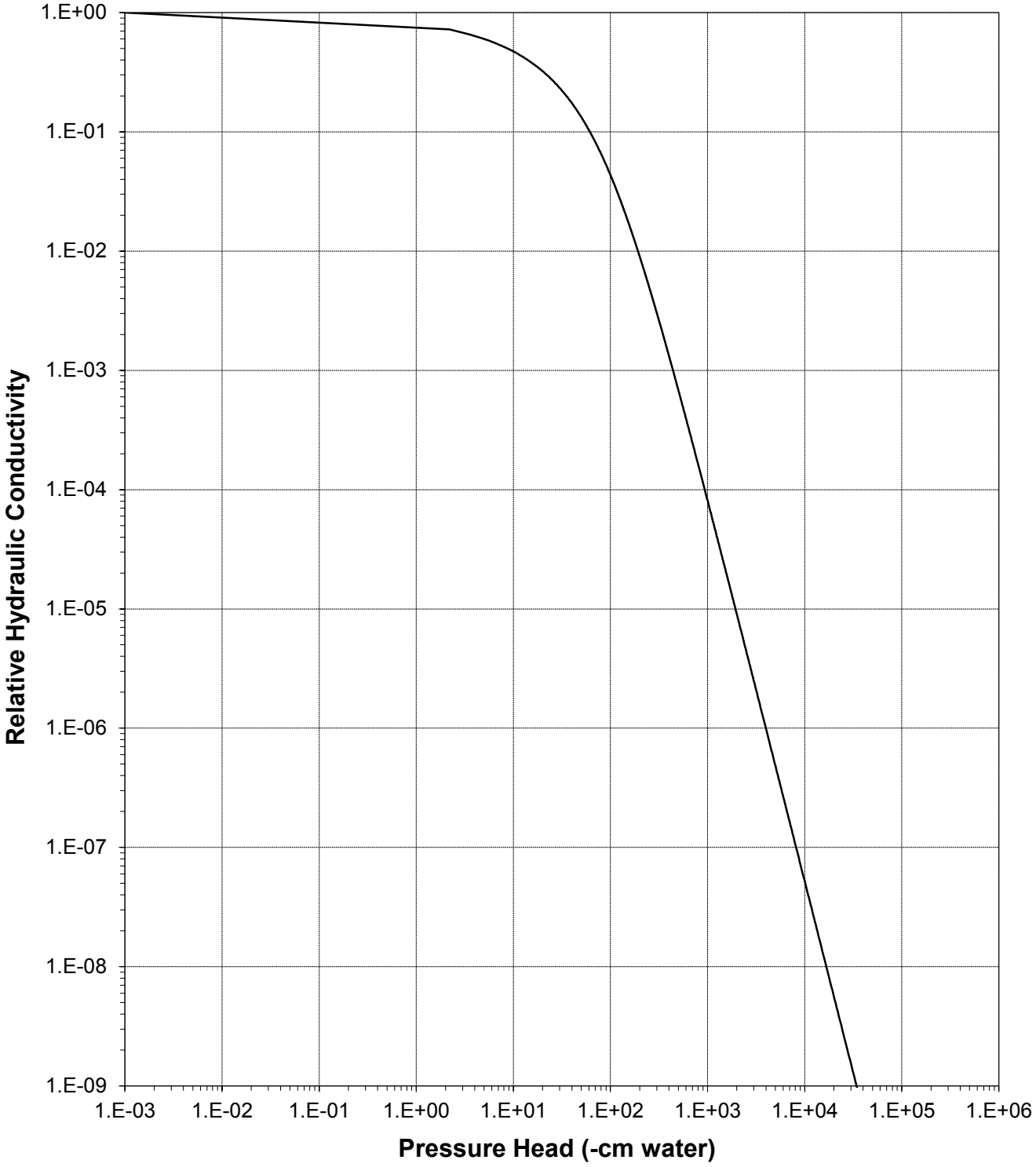
## Plot of Hydraulic Conductivity vs Moisture Content

*Sample Number: 200-SB-19 (8-10) Core*



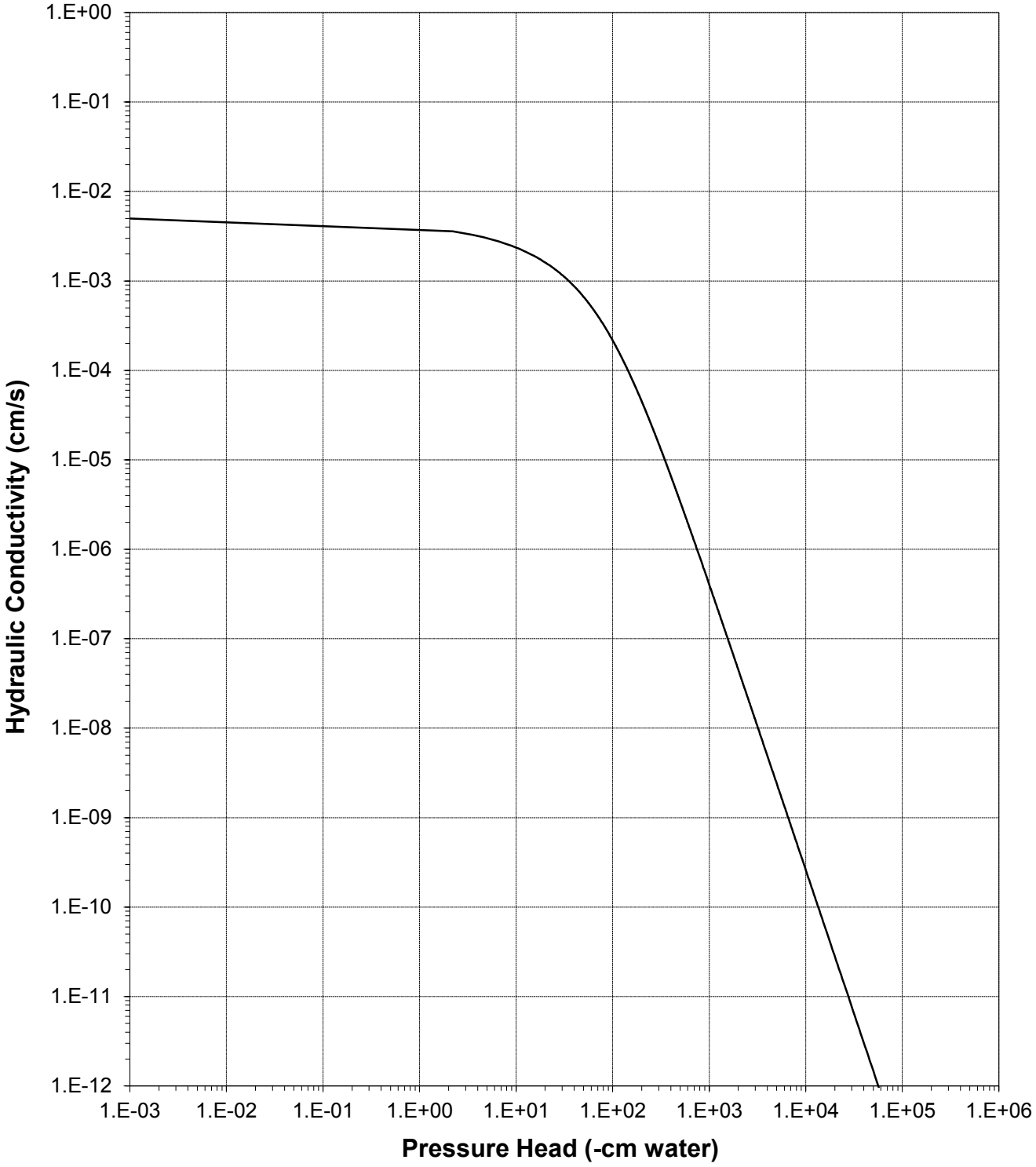
## Plot of Relative Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-19 (8-10) Core*



## Plot of Hydraulic Conductivity vs Pressure Head

*Sample Number: 200-SB-19 (8-10) Core*



# Particle Size Analysis

## Summary of Particle Size Characteristics

| Sample Number | $d_{10}$ (mm) | $d_{50}$ (mm) | $d_{60}$ (mm) | $C_u$ | $C_c$ | Method | ASTM Classification | USDA Classification |
|---|---|---|---|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 0.19 | 4.3 | 5.9 | 31 | 2.9 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-09 (8-10) Bag | 0.065 | 4.0 | 6.5 | 100 | 2.9 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-10 (16-18) Core | 0.0016 | 0.36 | 1.1 | 688 | 2.4 | WS/H | Silty, clayey sand with gravel (SC-SM)g | Sandy Loam † |
| 200-SB-10 (16-18) Bag | 0.0016 | 0.51 | 2.0 | 1250 | 1.6 | WS/H | Silty, clayey sand with gravel (SC-SM)g | Sandy Loam † |
| 200-SB-11 (28-30) Core | 0.11 | 3.7 | 5.1 | 46 | 5.2 | WS/H | Poorly-graded sand with silt and gravel (SP-SM)g | Loamy Sand † |
| 200-SB-12 (8-10') Bag | 0.26 | 11 | 13 | 50 | 9.6 | WS/H | Poorly-graded gravel with silt and sand (GP-GM)s | Sandy Loam † |
| 200-SB-15 (8-10) Core | 0.0024 | 0.053 | 0.064 | 27 | 2.6 | WS/H | Sandy silt s(ML) | Loam |
| 200-SB-15 (8-10) Bag | 0.00087 | 0.042 | 0.053 | 61 | 3.7 | WS/H | Silt with sand (ML)s | Loam (Est) |
| 200-SB-15 (66-68') Bag | 0.52 | 13 | 15 | 29 | 6.8 | WS/H | Poorly-graded gravel with silt (GP-GM) | Sandy Loam † |
| 200-SB-15 (98-100') Bag | 4.3 | 11 | 12 | 2.8 | 1.1 | WS/H | Poorly-graded gravel (GP) | Loam † |
| 200-SB-16 (18-20) Core | 0.0016 | 0.040 | 0.053 | 33 | 0.87 | WS/H | Silt with sand (ML)s | Loam |

$d_{50}$ = Median particle diameter

Est = Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material

## Summary of Particle Size Characteristics (Continued)

| Sample Number | $d_{10}$ (mm) | $d_{50}$ (mm) | $d_{60}$ (mm) | $C_u$ | $C_c$ | Method | ASTM Classification | USDA Classification |
|---|---|---|---|---|---|---|---|---|
| 200-SB-16 (58-60) Core | 0.065 | 2.7 | 5.7 | 88 | 0.97 | WS/H | Poorly-graded sand with silt and gravel (SP-SM)g | Loamy Sand † |
| 200-SB-16 (58-60) Bag | 0.082 | 5.6 | 9.7 | 118 | 1.5 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Loamy Sand † |
| 200-SB-17 (8-12) Bag | 0.27 | 4.8 | 6.8 | 25 | 1.8 | WS/H | Well-graded gravel with silt and sand (GW-GM)s | Sand † |
| 200-SB-18 (48-50') Bag | 0.85 | 8.3 | 11 | 13 | 2.7 | WS/H | Well-graded gravel with clay and sand (GW-GC)s | Sandy Loam † |
| 200-SB-18 (58-60') Bag | 0.86 | 7.6 | 9.3 | 11 | 3.3 | WS/H | Poorly-graded gravel with sand (GP)s | Sand † |
| 200-SB-18 (88-90) Bag | 0.0011 | 0.11 | 0.68 | 618 | 0.051 | WS/H | Clayey gravel with sand (GC)s | Loam † (Est) |
| 200-SB-19 (8-10) Core | 0.0039 | 0.17 | 0.55 | 141 | 1.4 | WS/H | Silty sand with gravel (SM)g | Sandy Loam † |
| 200-SB-19 (8-10') Bag | 0.013 | 3.6 | 8.0 | 615 | 0.31 | WS/H | Silty gravel with sand (GM)s | Sandy Loam † |

$d_{50}$ = Median particle diameter

Est = Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

$$C_u = \frac{d_{60}}{d_{10}}$$

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})}$$

DS = Dry sieve

H = Hydrometer

WS = Wet sieve

† Greater than 10% of sample is coarse material

## Percent Gravel, Sand, Silt and Clay*

| Sample Number | % Gravel (>4.75mm) | % Sand (<4.75mm, >0.075mm) | % Silt (<0.075mm, >0.002mm) | % Clay (<0.002mm) |
|---|---|---|---|---|
| 200-SB-09 (8-10) Core | 47.8 | 44.3 | 6.7 | 1.2 |
| 200-SB-09 (8-10) Bag | 47.1 | 42.1 | 8.8 | 2.1 |
| 200-SB-10 (16-18) Core | 31.0 | 35.6 | 22.5 | 10.8 |
| 200-SB-10 (16-18) Bag | 34.6 | 34.7 | 19.9 | 10.8 |
| 200-SB-11 (28-30) Core | 43.1 | 47.6 | 7.4 | 1.9 |
| 200-SB-12 (8-10') Bag | 74.1 | 19.6 | 4.8 | 1.5 |
| 200-SB-15 (8-10) Core | 7.0 | 23.6 | 60.2 | 9.1 |
| 200-SB-15 (8-10) Bag | 1.4 | 25.0 | 60.0 | 13.6 |
| 200-SB-15 (66-68') Bag | 80.3 | 12.7 | 5.7 | 1.3 |
| 200-SB-15 (98-100') Bag | 89.4 | 7.3 | 2.5 | 0.8 |
| 200-SB-16 (18-20) Core | 2.1 | 21.4 | 64.7 | 11.8 |
| 200-SB-16 (58-60) Core | 43.0 | 45.1 | 8.4 | 3.5 |
| 200-SB-16 (58-60) Bag | 52.7 | 37.6 | 7.5 | 2.2 |
| 200-SB-17 (8-12) Bag | 50.4 | 43.3 | 5.9 | 0.5 |
| 200-SB-18 (48-50') Bag | 72.4 | 22.6 | 3.7 | 1.3 |
| 200-SB-18 (58-60') Bag | 73.2 | 24.2 | 2.1 | 0.6 |
| 200-SB-18 (88-90) Bag | 29.6 | 22.2 | 32.5 | 15.7 |
| 200-SB-19 (8-10) Core | 27.1 | 32.6 | 32.8 | 7.4 |
| 200-SB-19 (8-10') Bag | 47.6 | 29.0 | 18.7 | 4.7 |

*USCS classification does not classify clay fraction based on particle size. USDA definition of clay (<0.002mm) used in this table.

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 376.62
*Weight Passing #10 (g):* 118.64
*Weight Retained #10 (g):* 257.98
*Weight of Hydrometer Sample (g):* 46.54
*Calculated Weight of Sieve Sample (g):* 147.74

*Shape:* Rounded
*Hardness:* Soft

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 376.62 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 376.62 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 376.62 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 376.62 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 376.62 | 100.00 |
| | 3/8" | 9.5 | 89.22 | 89.22 | 287.40 | 76.31 |
| | 4 | 4.75 | 90.96 | 180.18 | 196.44 | 52.16 |
| | 10 | 2.00 | 77.80 | 257.98 | 118.64 | 31.50 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 18.06 | 119.26 | 28.48 | 19.28 |
| | 40 | 0.425 | 8.67 | 127.93 | 19.81 | 13.41 |
| | 60 | 0.250 | 3.94 | 131.87 | 15.87 | 10.74 |
| | 140 | 0.106 | 3.16 | 135.03 | 12.71 | 8.60 |
| | 200 | 0.075 | 1.14 | 136.17 | 11.57 | 7.83 |
| | dry pan | | 0.17 | 136.34 | 11.40 | |
| | wet pan | | | 11.40 | 0.00 | |

$d_{10}$ (mm): 0.19 $d_{50}$ (mm): 4.3
$d_{16}$ (mm): 0.58 $d_{60}$ (mm): 5.9
$d_{30}$ (mm): 1.8 $d_{84}$ (mm): 12

*Median Particle Diameter* --$d_{50}$ (mm): 4.3
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 31
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 2.9
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 5.6

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded gravel with silt and sand (GW-GM)s
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* J. Samson
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 3-Nov-14
*Start Time:* 9:48

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

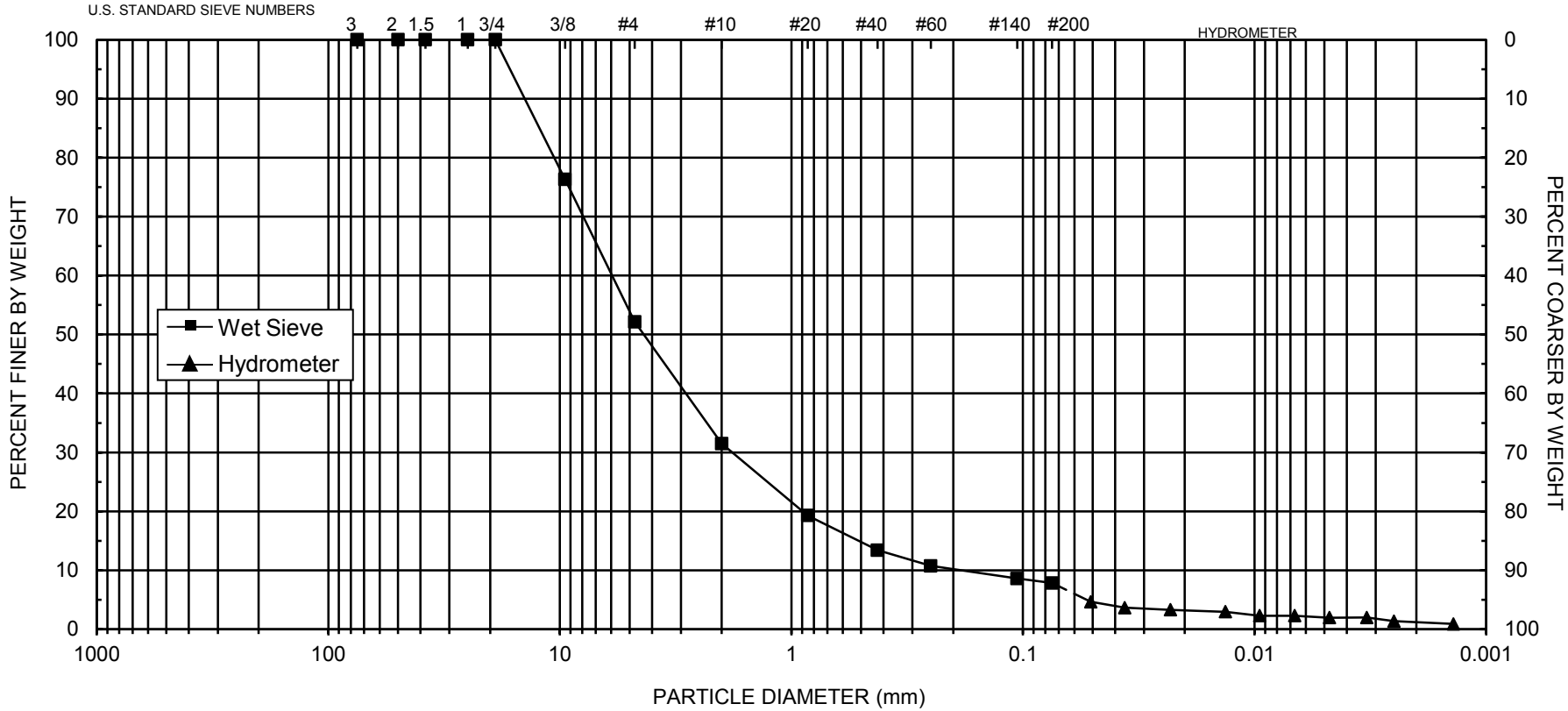
*Initial Wt.* (g)*:* 46.54
*Total Sample Wt.* (g)*:* 376.62
*Wt. Passing #10 (g):* 118.64

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 3-Nov-14 | 1 | 20.5 | 13.0 | 6.1 | 6.9 | 14.2 | 0.05096 | 14.8 | 4.7 |
| | 2 | 20.5 | 11.5 | 6.1 | 5.4 | 14.4 | 0.03635 | 11.5 | 3.6 |
| | 5 | 20.5 | 11.0 | 6.1 | 4.9 | 14.5 | 0.02305 | 10.5 | 3.3 |
| | 15 | 20.5 | 10.5 | 6.1 | 4.4 | 14.6 | 0.01335 | 9.4 | 3.0 |
| | 30 | 20.5 | 9.5 | 6.1 | 3.4 | 14.7 | 0.00949 | 7.2 | 2.3 |
| | 60 | 20.5 | 9.5 | 6.1 | 3.4 | 14.7 | 0.00671 | 7.2 | 2.3 |
| | 120 | 20.7 | 9.0 | 6.1 | 2.9 | 14.8 | 0.00475 | 6.2 | 2.0 |
| | 250 | 21.0 | 9.0 | 6.1 | 2.9 | 14.8 | 0.00328 | 6.3 | 2.0 |
| | 432 | 21.3 | 8.0 | 6.0 | 2.0 | 15.0 | 0.00250 | 4.3 | 1.4 |
| 4-Nov-14 | 1460 | 20.1 | 7.5 | 6.2 | 1.3 | 15.1 | 0.00138 | 2.8 | 0.9 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* J. Samson
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.19** | $d_{30}$ = **1.8** | $d_{50}$ = **4.3** | $d_{60}$ = **5.9** | $C_u$ = **31** | $C_c$ = **2.9** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-09 (8-10) Core** | **14EC016B** | **Well-graded gravel with silt and sand (GW-GM)s** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 2767.45
*Weight Passing #10 (g):* 1062.81
*Weight Retained #10 (g):* 1704.64
*Weight of Hydrometer Sample (g):* 100.37
*Calculated Weight of Sieve Sample (g):* 261.35

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2767.45 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 2767.45 | 100.00 |
| | 1.5" | 38.1 | 217.05 | 217.05 | 2550.40 | 92.16 |
| | 1" | 25 | 25.10 | 242.15 | 2525.30 | 91.25 |
| | 3/4" | 19.0 | 183.59 | 425.74 | 2341.71 | 84.62 |
| | 3/8" | 9.5 | 439.23 | 864.97 | 1902.48 | 68.74 |
| | 4 | 4.75 | 437.39 | 1302.36 | 1465.09 | 52.94 |
| | 10 | 2.00 | 402.28 | 1704.64 | 1062.81 | 38.40 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 31.59 | 192.57 | 68.78 | 26.32 |
| | 40 | 0.425 | 19.38 | 211.95 | 49.40 | 18.90 |
| | 60 | 0.250 | 9.53 | 221.48 | 39.87 | 15.26 |
| | 140 | 0.106 | 8.60 | 230.08 | 31.27 | 11.96 |
| | 200 | 0.075 | 2.81 | 232.89 | 28.46 | 10.89 |
| | dry pan | | 0.60 | 233.49 | 27.86 | |
| | wet pan | | | 27.86 | 0.00 | |

$d_{10}$ (mm): 0.065 $d_{50}$ (mm): 4.0
$d_{16}$ (mm): 0.28 $d_{60}$ (mm): 6.5
$d_{30}$ (mm): 1.1 $d_{84}$ (mm): 18

*Median Particle Diameter* --$d_{50}$ (mm): 4.0
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 100
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 2.9
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 7.4

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded gravel with silt and sand (GW-GM)s
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:00

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

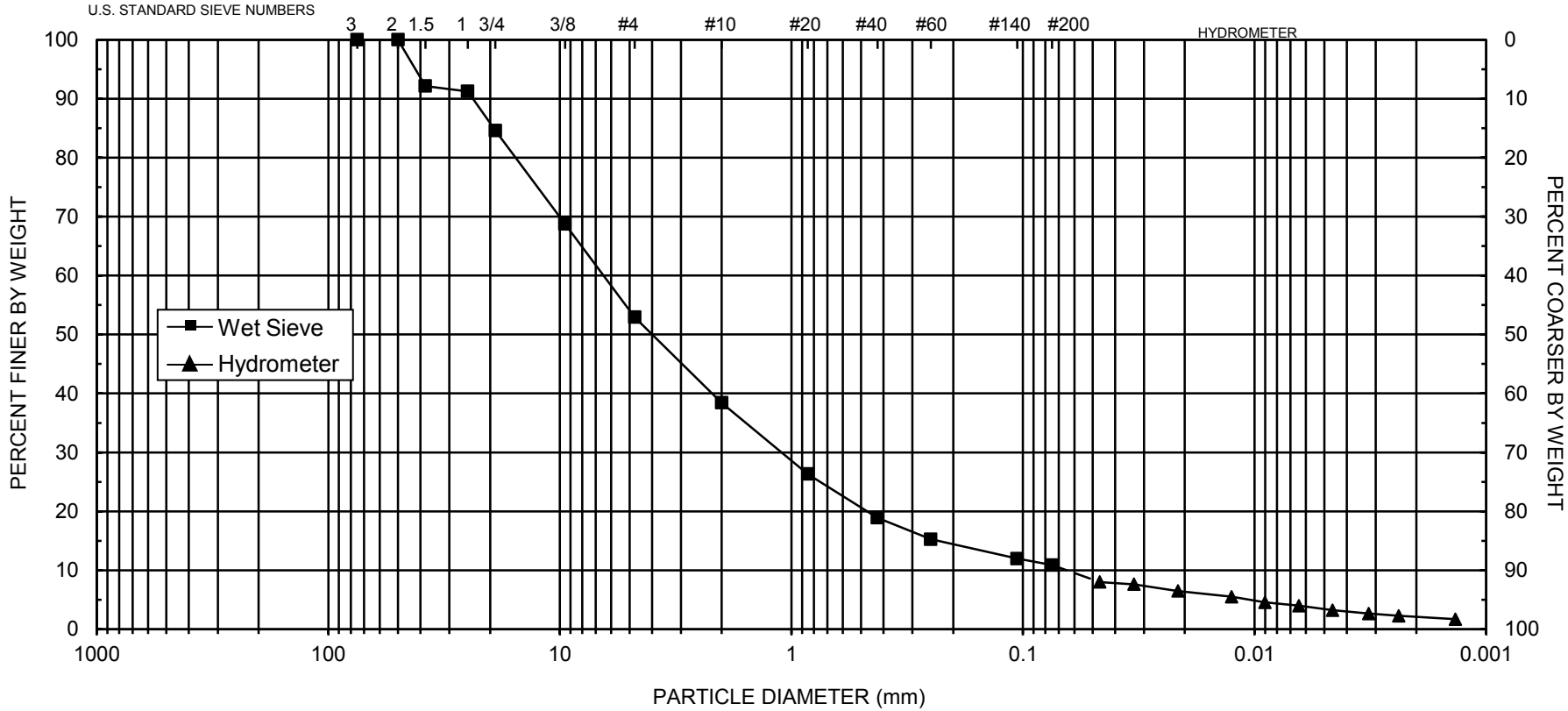
*Initial Wt.* (g)*:* 100.37
*Total Sample Wt.* (g)*:* 2767.45
*Wt. Passing #10 (g):* 1062.81

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.7 | 27.0 | 6.1 | 20.9 | 11.9 | 0.04654 | 20.8 | 8.0 |
| | 2 | 20.7 | 26.0 | 6.1 | 19.9 | 12.0 | 0.03313 | 19.8 | 7.6 |
| | 5 | 20.7 | 23.0 | 6.1 | 16.9 | 12.5 | 0.02138 | 16.8 | 6.5 |
| | 15 | 20.7 | 20.5 | 6.1 | 14.4 | 12.9 | 0.01254 | 14.3 | 5.5 |
| | 30 | 20.7 | 18.0 | 6.1 | 11.9 | 13.3 | 0.00901 | 11.9 | 4.6 |
| | 60 | 20.8 | 16.5 | 6.1 | 10.4 | 13.6 | 0.00642 | 10.4 | 4.0 |
| | 120 | 20.8 | 14.5 | 6.1 | 8.4 | 13.9 | 0.00460 | 8.4 | 3.2 |
| | 250 | 20.8 | 13.0 | 6.1 | 6.9 | 14.2 | 0.00321 | 6.9 | 2.6 |
| | 461 | 20.8 | 12.0 | 6.1 | 5.9 | 14.3 | 0.00238 | 5.9 | 2.3 |
| 10-Oct-14 | 1443 | 20.8 | 10.5 | 6.1 | 4.4 | 14.6 | 0.00136 | 4.4 | 1.7 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.065** | $d_{30}$ = **1.1** | $d_{50}$ = **4.0** | $d_{60}$ = **6.5** | $C_u$ = **100** | $C_c$ = **2.9** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-09 (8-10) Bag** | **14EC016B** | **Well-graded gravel with silt and sand (GW-GM)s** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 256.54
*Weight Passing #10 (g):* 162.42
*Weight Retained #10 (g):* 94.12
*Weight of Hydrometer Sample (g):* 41.74
*Calculated Weight of Sieve Sample (g):* 65.93

*Shape:* Angular
*Hardness:* Weathered and friable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 256.54 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 256.54 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 256.54 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 256.54 | 100.00 |
| | 3/4" | 19.0 | 38.94 | 38.94 | 217.60 | 84.82 |
| | 3/8" | 9.5 | 23.02 | 61.96 | 194.58 | 75.85 |
| | 4 | 4.75 | 17.65 | 79.61 | 176.93 | 68.97 |
| | 10 | 2.00 | 14.51 | 94.12 | 162.42 | 63.31 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 3.22 | 27.41 | 38.52 | 58.43 |
| | 40 | 0.425 | 4.44 | 31.85 | 34.08 | 51.69 |
| | 60 | 0.250 | 3.59 | 35.44 | 30.49 | 46.25 |
| | 140 | 0.106 | 5.90 | 41.34 | 24.59 | 37.30 |
| | 200 | 0.075 | 2.59 | 43.93 | 22.00 | 33.37 |
| | dry pan | | 0.79 | 44.72 | 21.21 | |
| | wet pan | | | 21.21 | 0.00 | |

$d_{10}$ (mm): 0.0016 $d_{50}$ (mm): 0.36
$d_{16}$ (mm): 0.0052 $d_{60}$ (mm): 1.1
$d_{30}$ (mm): 0.065 $d_{84}$ (mm): 18

*Median Particle Diameter* --$d_{50}$ (mm): 0.36
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 688
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 2.4
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 6.1

*Classification of fines:* CL-ML

*ASTM Soil Classification:* Silty, clayey sand with gravel (SC-SM)g
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 4-Nov-14
*Start Time:* 9:36

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

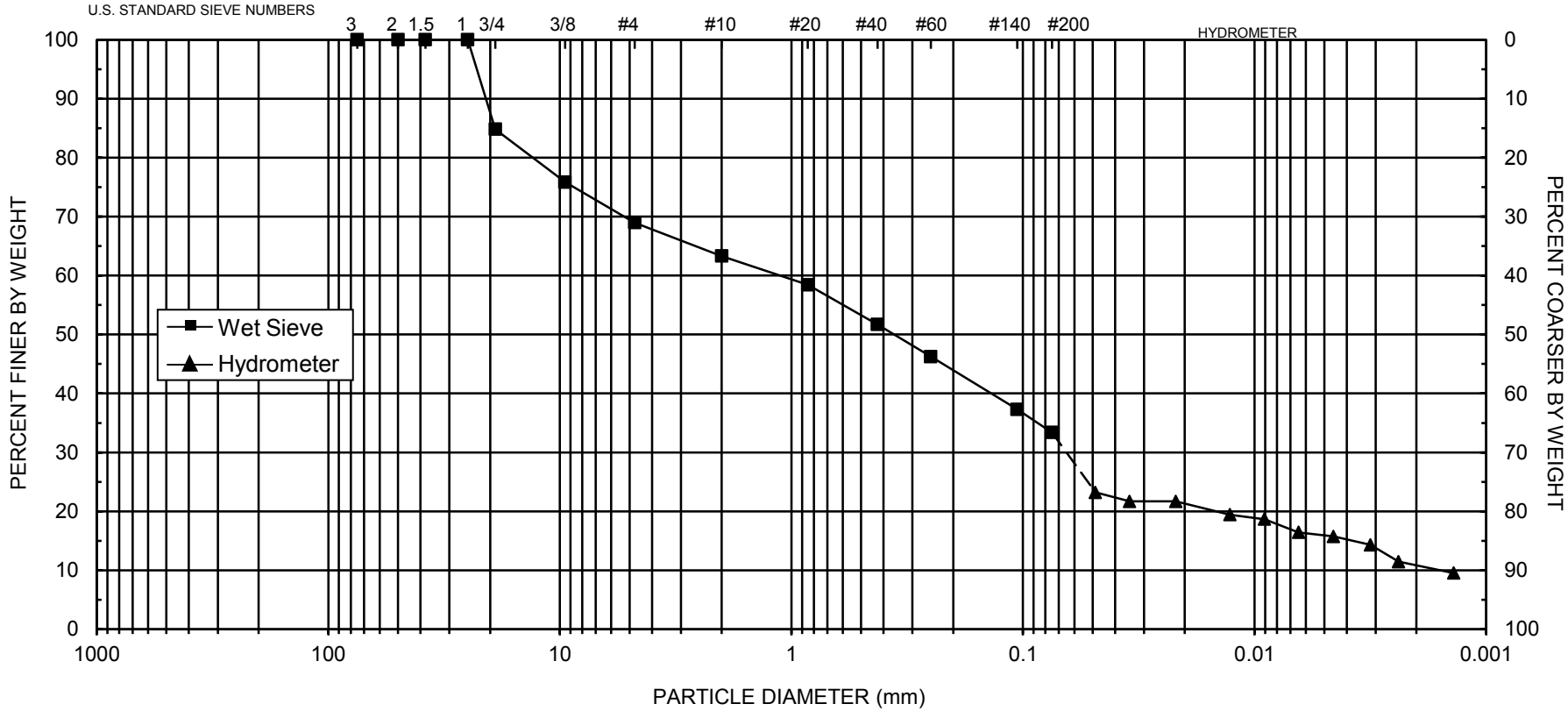
*Initial Wt.* (g)*:* 41.74
*Total Sample Wt.* (g)*:* 256.54
*Wt. Passing #10 (g):* 162.42

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 4-Nov-14 | 1 | 20.1 | 21.5 | 6.2 | 15.3 | 12.8 | 0.04863 | 36.7 | 23.2 |
| | 2 | 20.1 | 20.5 | 6.2 | 14.3 | 12.9 | 0.03460 | 34.3 | 21.7 |
| | 5 | 20.1 | 20.5 | 6.2 | 14.3 | 12.9 | 0.02189 | 34.3 | 21.7 |
| | 15 | 20.1 | 19.0 | 6.2 | 12.8 | 13.2 | 0.01275 | 30.7 | 19.4 |
| | 30 | 20.1 | 18.5 | 6.2 | 12.3 | 13.3 | 0.00905 | 29.5 | 18.7 |
| | 60 | 20.2 | 17.0 | 6.2 | 10.8 | 13.5 | 0.00645 | 25.9 | 16.4 |
| | 120 | 20.5 | 16.5 | 6.1 | 10.4 | 13.6 | 0.00456 | 24.8 | 15.7 |
| | 250 | 20.9 | 15.5 | 6.1 | 9.4 | 13.8 | 0.00316 | 22.6 | 14.3 |
| | 441 | 21.6 | 13.5 | 6.0 | 7.6 | 14.1 | 0.00239 | 18.1 | 11.5 |
| 5-Nov-14 | 1394 | 20.0 | 12.5 | 6.2 | 6.3 | 14.3 | 0.00138 | 15.0 | 9.5 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* P. Barlow
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0016** | $d_{30}$ = **0.065** | $d_{50}$ = **0.36** | $d_{60}$ = **1.1** | $C_u$ = **688** | $C_c$ = **2.4** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-10 (16-18) Core** | **14EC016B** | **Silty, clayey sand with gravel (SC-SM)g** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 2613.67
*Weight Passing #10 (g):* 1564.59
*Weight Retained #10 (g):* 1049.08
*Weight of Hydrometer Sample (g):* 104.56
*Calculated Weight of Sieve Sample (g):* 174.67
*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2613.67 | 100.00 |
| | 2" | 50 | 225.49 | 225.49 | 2388.18 | 91.37 |
| | 1.5" | 38.1 | 137.47 | 362.96 | 2250.71 | 86.11 |
| | 1" | 25 | 35.50 | 398.46 | 2215.21 | 84.75 |
| | 3/4" | 19.0 | 115.78 | 514.24 | 2099.43 | 80.32 |
| | 3/8" | 9.5 | 244.55 | 758.79 | 1854.88 | 70.97 |
| | 4 | 4.75 | 146.15 | 904.94 | 1708.73 | 65.38 |
| | 10 | 2.00 | 144.14 | 1049.08 | 1564.59 | 59.86 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 9.06 | 79.17 | 95.50 | 54.67 |
| | 40 | 0.425 | 11.21 | 90.38 | 84.29 | 48.26 |
| | 60 | 0.250 | 9.50 | 99.88 | 74.79 | 42.82 |
| | 140 | 0.106 | 14.64 | 114.52 | 60.15 | 34.44 |
| | 200 | 0.075 | 6.55 | 121.07 | 53.60 | 30.69 |
| | dry pan | | 3.75 | 124.82 | 49.85 | |
| | wet pan | | | 49.85 | 0.00 | |

$d_{10}$ (mm): 0.0016 $d_{50}$ (mm): 0.51
$d_{16}$ (mm): 0.0071 $d_{60}$ (mm): 2.0
$d_{30}$ (mm): 0.071 $d_{84}$ (mm): 24

*Median Particle Diameter* --$d_{50}$ (mm): 0.51
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 1250
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.6
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 8.2

*Classification of fines:* CL-ML

*ASTM Soil Classification:* Silty, clayey sand with gravel (SC-SM)g
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:06

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

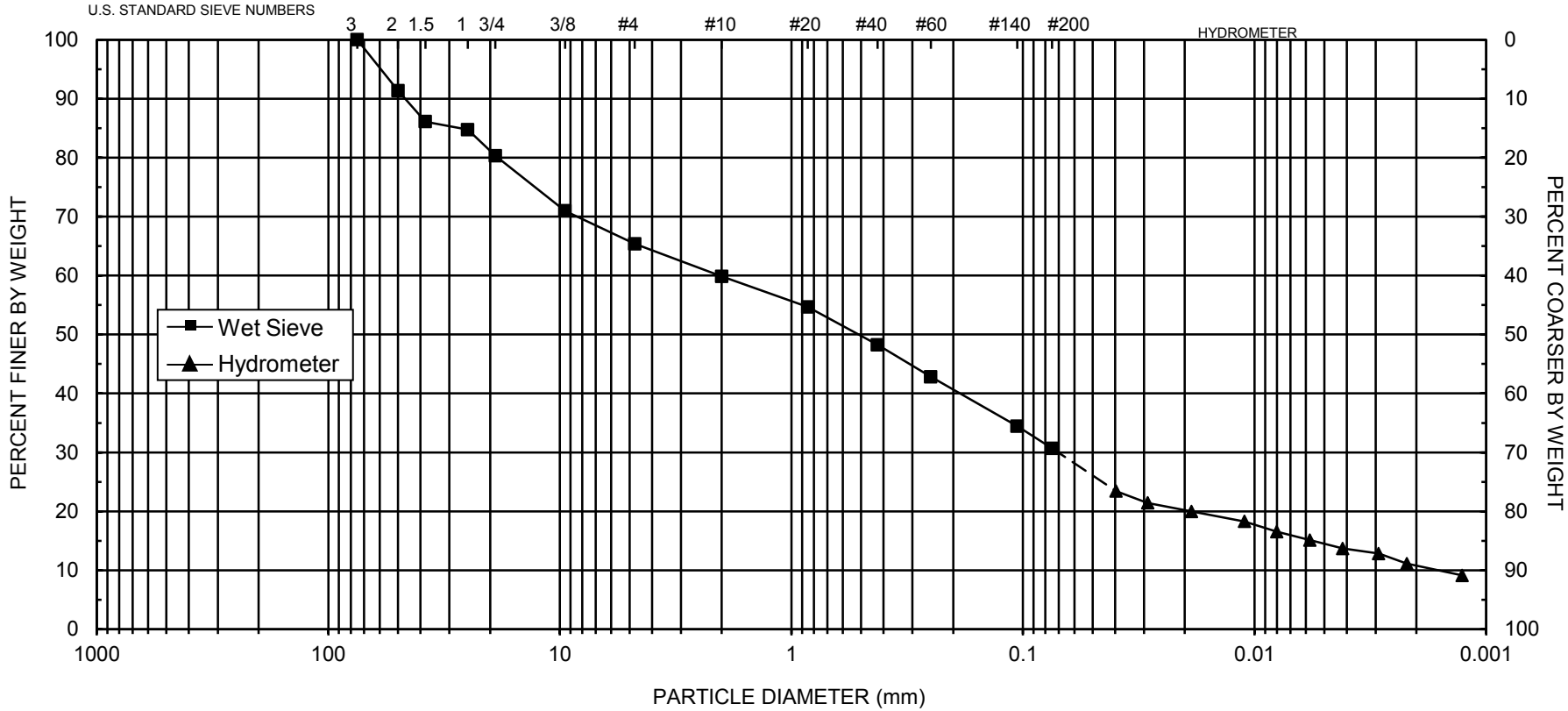
*Initial Wt.* (g)*:* 104.56
*Total Sample Wt.* (g)*:* 2613.67
*Wt. Passing #10 (g):* 1564.59

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.7 | 47.0 | 6.1 | 40.9 | 8.6 | 0.03960 | 39.1 | 23.4 |
| | 2 | 20.7 | 43.5 | 6.1 | 37.4 | 9.2 | 0.02892 | 35.8 | 21.4 |
| | 5 | 20.7 | 41.0 | 6.1 | 34.9 | 9.6 | 0.01869 | 33.4 | 20.0 |
| | 15 | 20.8 | 38.0 | 6.1 | 31.9 | 10.1 | 0.01105 | 30.5 | 18.3 |
| | 30 | 20.7 | 35.0 | 6.1 | 28.9 | 10.6 | 0.00801 | 27.6 | 16.5 |
| | 60 | 20.8 | 32.5 | 6.1 | 26.4 | 11.0 | 0.00577 | 25.3 | 15.1 |
| | 120 | 20.8 | 30.0 | 6.1 | 23.9 | 11.4 | 0.00415 | 22.9 | 13.7 |
| | 250 | 20.8 | 28.5 | 6.1 | 22.4 | 11.6 | 0.00291 | 21.4 | 12.8 |
| | 456 | 20.8 | 25.5 | 6.1 | 19.4 | 12.1 | 0.00220 | 18.6 | 11.1 |
| 10-Oct-14 | 1438 | 20.8 | 22.0 | 6.1 | 15.9 | 12.7 | 0.00127 | 15.2 | 9.1 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0016** | $d_{30}$ = **0.071** | $d_{50}$ = **0.51** | $d_{60}$ = **2.0** | $C_u$ = **1250** | $C_c$ = **1.6** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-10 (16-18) Bag** | **14EC016B** | **Silty, clayey sand with gravel (SC-SM)g** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 389.59
*Weight Passing #10 (g):* 126.50
*Weight Retained #10 (g):* 263.09
*Weight of Hydrometer Sample (g):* 47.85
*Calculated Weight of Sieve Sample (g):* 147.37

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 389.59 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 389.59 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 389.59 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 389.59 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 389.59 | 100.00 |
| | 3/8" | 9.5 | 57.87 | 57.87 | 331.72 | 85.15 |
| | 4 | 4.75 | 110.09 | 167.96 | 221.63 | 56.89 |
| | 10 | 2.00 | 95.13 | 263.09 | 126.50 | 32.47 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 17.29 | 116.81 | 30.56 | 20.74 |
| | 40 | 0.425 | 7.95 | 124.76 | 22.61 | 15.34 |
| | 60 | 0.250 | 3.91 | 128.67 | 18.70 | 12.69 |
| | 140 | 0.106 | 4.02 | 132.69 | 14.68 | 9.96 |
| | 200 | 0.075 | 1.01 | 133.70 | 13.67 | 9.28 |
| | dry pan | | 0.08 | 133.78 | 13.59 | |
| | wet pan | | | 13.59 | 0.00 | |

$d_{10}$ (mm): 0.11 $d_{50}$ (mm): 3.7
$d_{16}$ (mm): 0.46 $d_{60}$ (mm): 5.1
$d_{30}$ (mm): 1.7 $d_{84}$ (mm): 9.2

*Median Particle Diameter* --$d_{50}$ (mm): 3.7
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 46
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 5.2
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 4.5

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded sand with silt and gravel (SP-SM)g
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Nov-14
*Start Time:* 9:18

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

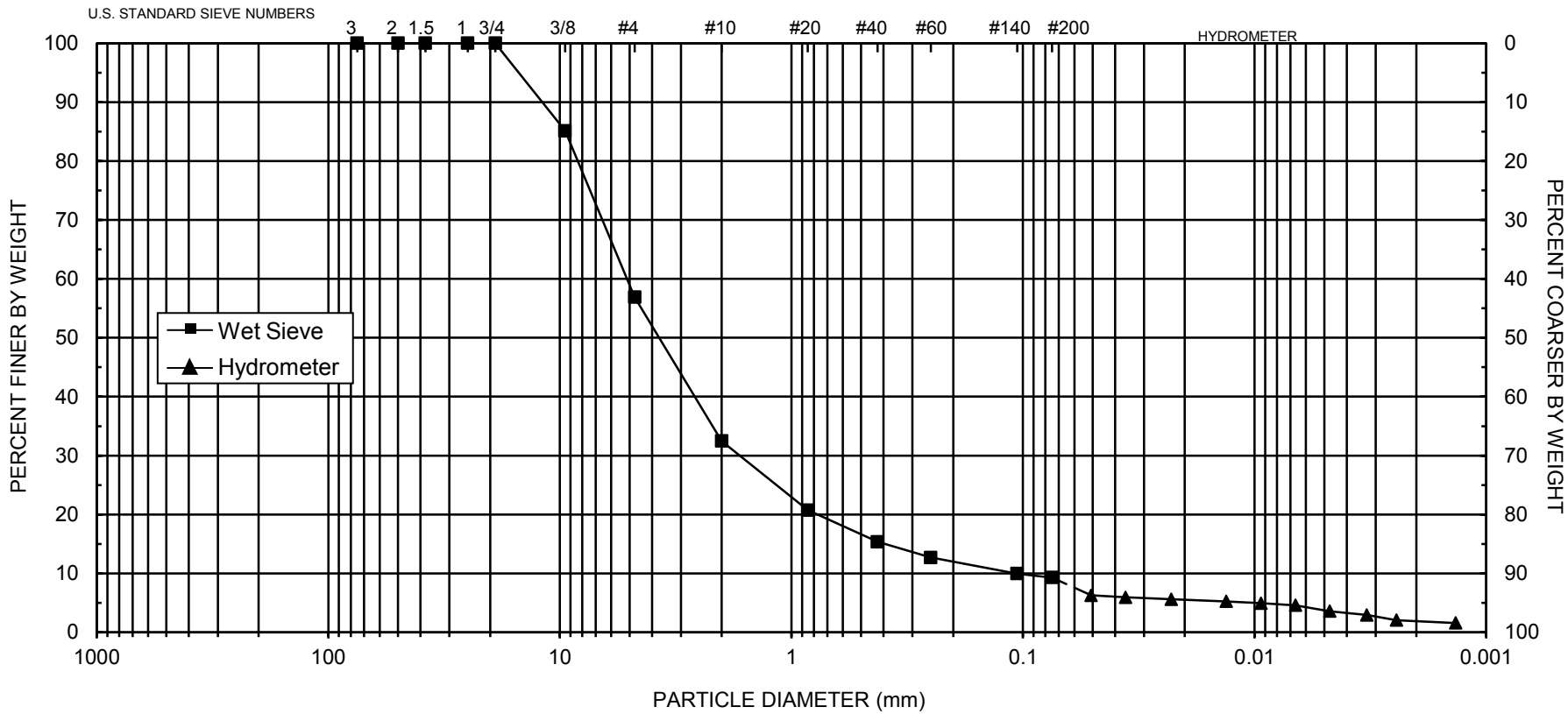
*Initial Wt.* (g)*:* 47.85
*Total Sample Wt.* (g)*:* 389.59
*Wt. Passing #10 (g):* 126.50

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 7-Nov-14 | 1 | 19.7 | 15.5 | 6.3 | 9.2 | 13.8 | 0.05076 | 19.3 | 6.3 |
| | 2 | 19.7 | 15.0 | 6.3 | 8.7 | 13.8 | 0.03600 | 18.2 | 5.9 |
| | 5 | 19.7 | 14.5 | 6.3 | 8.2 | 13.9 | 0.02284 | 17.2 | 5.6 |
| | 15 | 19.7 | 14.0 | 6.3 | 7.7 | 14.0 | 0.01322 | 16.2 | 5.2 |
| | 30 | 19.8 | 13.5 | 6.3 | 7.3 | 14.1 | 0.00937 | 15.2 | 4.9 |
| | 60 | 19.8 | 13.0 | 6.3 | 6.8 | 14.2 | 0.00664 | 14.1 | 4.6 |
| | 120 | 19.9 | 11.5 | 6.2 | 5.3 | 14.4 | 0.00473 | 11.0 | 3.6 |
| | 250 | 20.3 | 10.5 | 6.2 | 4.3 | 14.6 | 0.00328 | 9.0 | 2.9 |
| | 449 | 21.4 | 9.0 | 6.0 | 3.0 | 14.8 | 0.00243 | 6.3 | 2.0 |
| 8-Nov-14 | 1512 | 20.1 | 8.5 | 6.2 | 2.3 | 14.9 | 0.00135 | 4.8 | 1.6 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* P. Barlow
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.11** | $d_{30}$ = **1.7** | $d_{50}$ = **3.7** | $d_{60}$ = **5.1** | $C_u$ = **46** | $C_c$ = **5.2** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-11 (28-30) Core** | **14EC016B** | **Poorly-graded sand with silt and gravel (SP-SM)g** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-12 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 1004.20
*Weight Passing #10 (g):* 185.95
*Weight Retained #10 (g):* 818.25
*Weight of Hydrometer Sample (g):* 81.24
*Calculated Weight of Sieve Sample (g):* 438.73

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 1004.20 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 1004.20 | 100.00 |
| | 1.5" | 38.1 | 72.50 | 72.50 | 931.70 | 92.78 |
| | 1" | 25 | 68.44 | 140.94 | 863.26 | 85.96 |
| | 3/4" | 19.0 | 71.10 | 212.04 | 792.16 | 78.88 |
| | 3/8" | 9.5 | 372.99 | 585.03 | 419.17 | 41.74 |
| | 4 | 4.75 | 159.26 | 744.29 | 259.91 | 25.88 |
| | 10 | 2.00 | 73.96 | 818.25 | 185.95 | 18.52 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 16.92 | 374.41 | 64.32 | 14.66 |
| | 40 | 0.425 | 12.09 | 386.50 | 52.23 | 11.90 |
| | 60 | 0.250 | 9.05 | 395.55 | 43.18 | 9.84 |
| | 140 | 0.106 | 11.39 | 406.94 | 31.79 | 7.25 |
| | 200 | 0.075 | 4.06 | 411.00 | 27.73 | 6.32 |
| | dry pan | | 0.70 | 411.70 | 27.03 | |
| | wet pan | | | 27.03 | 0.00 | |

$d_{10}$ (mm): 0.26 $d_{50}$ (mm): 11
$d_{16}$ (mm): 1.1 $d_{60}$ (mm): 13
$d_{30}$ (mm): 5.7 $d_{84}$ (mm): 23

*Median Particle Diameter* --$d_{50}$ (mm): 11
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 50
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 9.6
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 12

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded gravel with silt and sand (GP-GM)s
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-12 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:12

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

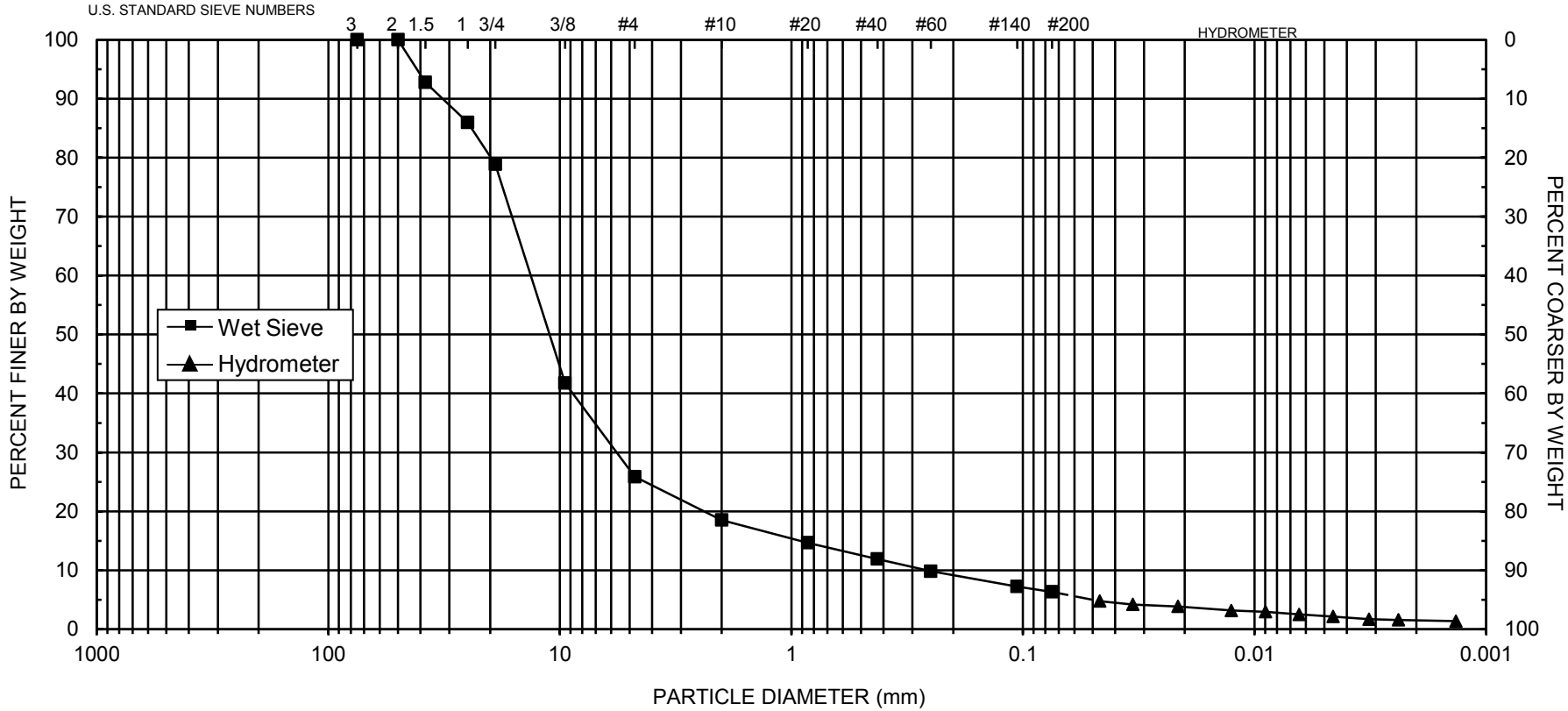
*Initial Wt.* (g)*:* 81.24
*Total Sample Wt.* (g)*:* 1004.20
*Wt. Passing #10 (g):* 185.95

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.7 | 27.0 | 6.1 | 20.9 | 11.9 | 0.04654 | 25.7 | 4.8 |
| | 2 | 20.7 | 24.5 | 6.1 | 18.4 | 12.3 | 0.03347 | 22.6 | 4.2 |
| | 5 | 20.7 | 23.0 | 6.1 | 16.9 | 12.5 | 0.02138 | 20.8 | 3.9 |
| | 15 | 20.8 | 20.0 | 6.1 | 13.9 | 13.0 | 0.01258 | 17.1 | 3.2 |
| | 30 | 20.8 | 19.0 | 6.1 | 12.9 | 13.2 | 0.00895 | 15.9 | 2.9 |
| | 60 | 20.8 | 17.0 | 6.1 | 10.9 | 13.5 | 0.00640 | 13.4 | 2.5 |
| | 120 | 20.8 | 15.5 | 6.1 | 9.4 | 13.8 | 0.00457 | 11.6 | 2.1 |
| | 250 | 20.8 | 13.5 | 6.1 | 7.4 | 14.1 | 0.00320 | 9.1 | 1.7 |
| | 451 | 20.8 | 13.0 | 6.1 | 6.9 | 14.2 | 0.00239 | 8.5 | 1.6 |
| 10-Oct-14 | 1433 | 20.8 | 12.0 | 6.1 | 5.9 | 14.3 | 0.00135 | 7.3 | 1.3 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.26** | $d_{30}$ = **5.7** | $d_{50}$ = **11** | $d_{60}$ = **13** | $C_u$ = **50** | $C_c$ = **9.6** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-12 (8-10') Bag** | **14EC016B** | **Poorly-graded gravel with silt and sand (GP-GM)s** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 304.80
*Weight Passing #10 (g):* 281.27
*Weight Retained #10 (g):* 23.53
*Weight of Hydrometer Sample (g):* 41.35
*Calculated Weight of Sieve Sample (g):* 44.81

*Shape:* Angular
*Hardness:* Weathered and friable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 304.80 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 304.80 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 304.80 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 304.80 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 304.80 | 100.00 |
| | 3/8" | 9.5 | 16.66 | 16.66 | 288.14 | 94.53 |
| | 4 | 4.75 | 4.77 | 21.43 | 283.37 | 92.97 |
| | 10 | 2.00 | 2.10 | 23.53 | 281.27 | 92.28 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 0.16 | 3.62 | 41.19 | 91.92 |
| | 40 | 0.425 | 0.55 | 4.17 | 40.64 | 90.70 |
| | 60 | 0.250 | 1.05 | 5.22 | 39.59 | 88.35 |
| | 140 | 0.106 | 4.25 | 9.47 | 35.34 | 78.87 |
| | 200 | 0.075 | 4.26 | 13.73 | 31.08 | 69.36 |
| | dry pan | | 3.36 | 17.09 | 27.72 | |
| | wet pan | | | 27.72 | 0.00 | |

$d_{10}$ (mm): 0.0024 $d_{50}$ (mm): 0.053
$d_{16}$ (mm): 0.0039 $d_{60}$ (mm): 0.064
$d_{30}$ (mm): 0.020 $d_{84}$ (mm): 0.17

*Median Particle Diameter* --$d_{50}$ (mm): 0.053
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 27
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 2.6
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 0.076

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Sandy silt s(ML)
*USDA Soil Classification:* Loam

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 4-Nov-14
*Start Time:* 9:48

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

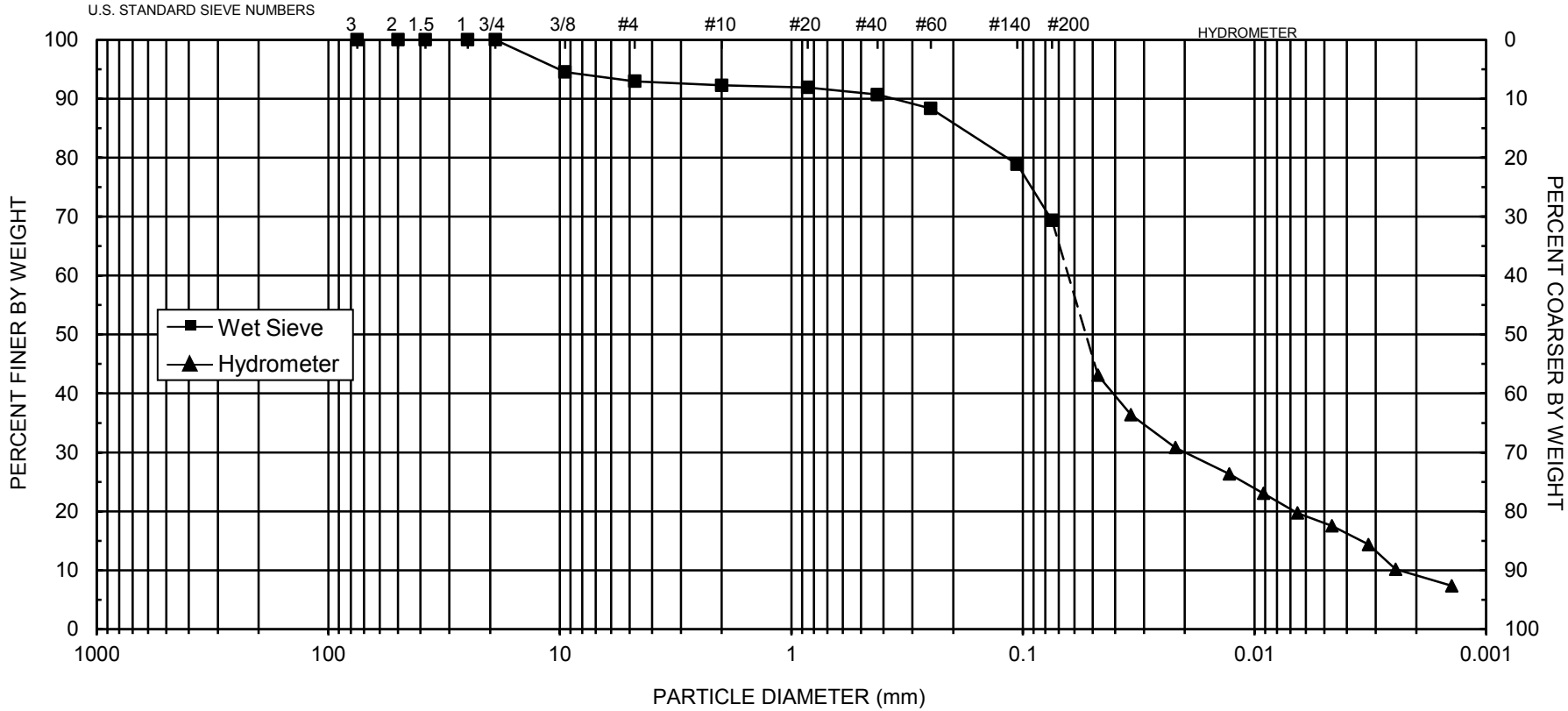
*Initial Wt.* (g)*:* 41.35
*Total Sample Wt.* (g)*:* 304.80
*Wt. Passing #10 (g):* 281.27

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 4-Nov-14 | 1 | 20.1 | 25.5 | 6.2 | 19.3 | 12.1 | 0.04736 | 46.7 | 43.1 |
| | 2 | 20.1 | 22.5 | 6.2 | 16.3 | 12.6 | 0.03416 | 39.4 | 36.4 |
| | 5 | 20.1 | 20.0 | 6.2 | 13.8 | 13.0 | 0.02195 | 33.4 | 30.8 |
| | 15 | 20.1 | 18.0 | 6.2 | 11.8 | 13.3 | 0.01283 | 28.5 | 26.3 |
| | 30 | 20.2 | 16.5 | 6.2 | 10.3 | 13.6 | 0.00915 | 25.0 | 23.0 |
| | 60 | 20.3 | 15.0 | 6.2 | 8.8 | 13.8 | 0.00652 | 21.4 | 19.7 |
| | 120 | 20.5 | 14.0 | 6.2 | 7.9 | 14.0 | 0.00463 | 19.0 | 17.5 |
| | 250 | 20.9 | 12.5 | 6.1 | 6.4 | 14.3 | 0.00322 | 15.6 | 14.3 |
| | 431 | 21.6 | 10.5 | 6.0 | 4.6 | 14.6 | 0.00246 | 11.0 | 10.2 |
| 5-Nov-14 | 1384 | 20.0 | 9.5 | 6.2 | 3.3 | 14.7 | 0.00141 | 8.0 | 7.4 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0024** | $d_{30}$ = **0.020** | $d_{50}$ = **0.053** | $d_{60}$ = **0.064** | $C_u$ = **27** | $C_c$ = **2.6** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-15 (8-10) Core** | **14EC016B** | **Sandy silt s(ML)** | **Loam** |

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 982.81
*Weight Passing #10 (g):* 960.69
*Weight Retained #10 (g):* 22.12
*Weight of Hydrometer Sample (g):* 99.00
*Calculated Weight of Sieve Sample (g):* 101.28

*Shape:* Angular
*Hardness:* Weathered and friable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 982.81 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 982.81 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 982.81 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 982.81 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 982.81 | 100.00 |
| | 3/8" | 9.5 | 4.48 | 4.48 | 978.33 | 99.54 |
| | 4 | 4.75 | 9.34 | 13.82 | 968.99 | 98.59 |
| | 10 | 2.00 | 8.30 | 22.12 | 960.69 | 97.75 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 0.78 | 3.06 | 98.22 | 96.98 |
| | 40 | 0.425 | 1.48 | 4.54 | 96.74 | 95.52 |
| | 60 | 0.250 | 2.56 | 7.10 | 94.18 | 92.99 |
| | 140 | 0.106 | 9.74 | 16.84 | 84.44 | 83.37 |
| | 200 | 0.075 | 9.88 | 26.72 | 74.56 | 73.62 |
| | dry pan | | 7.81 | 34.53 | 66.75 | |
| | wet pan | | | 66.75 | 0.00 | |

$d_{10}$ (mm): 0.00087 $d_{50}$ (mm): 0.042
$d_{16}$ (mm): 0.0029 $d_{60}$ (mm): 0.053
$d_{30}$ (mm): 0.013 $d_{84}$ (mm): 0.11

*Median Particle Diameter* --$d_{50}$ (mm): 0.042
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 61
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 3.7
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 0.052

Note: Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Silt with sand (ML)s
*USDA Soil Classification:* Loam

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:18

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

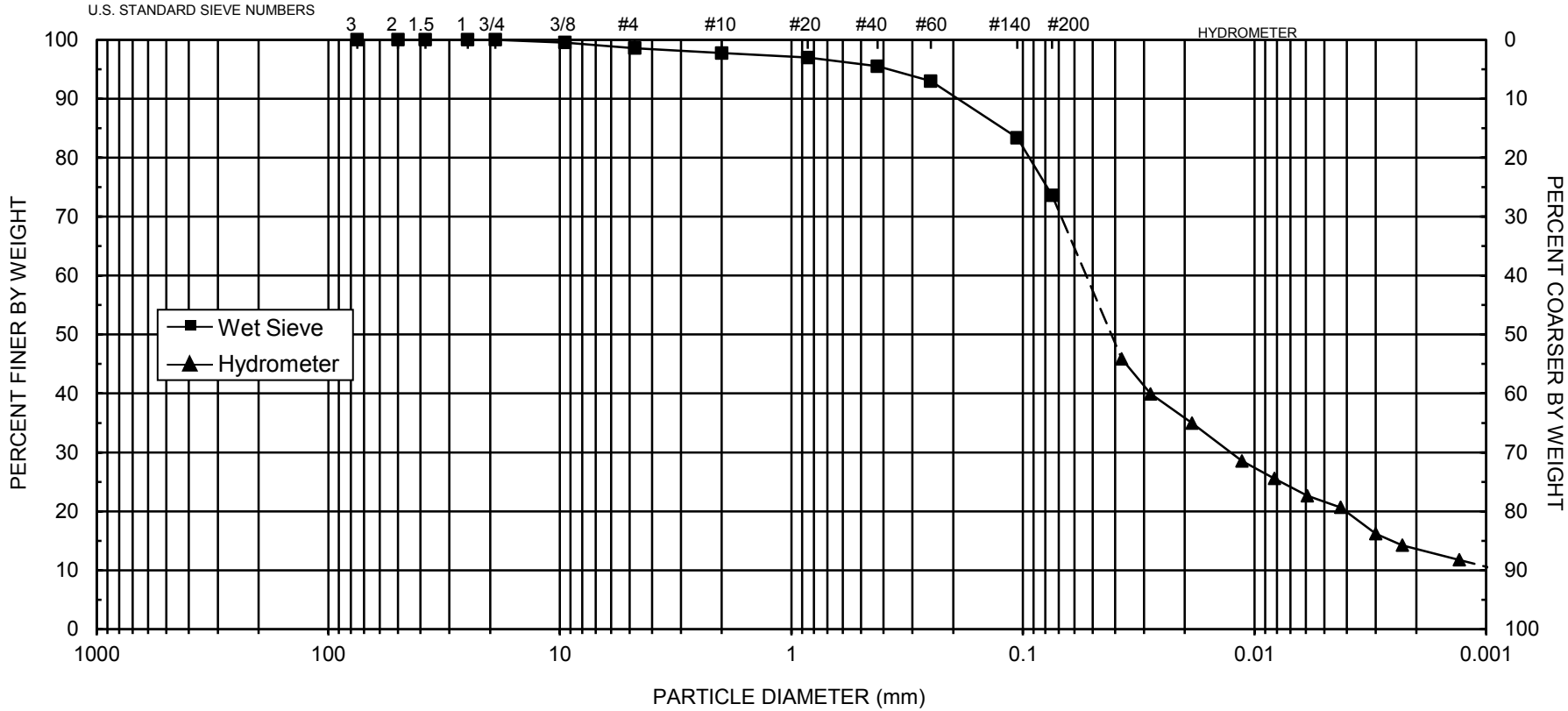
*Initial Wt.* (g)*:* 99.00
*Total Sample Wt.* (g)*:* 982.81
*Wt. Passing #10 (g):* 960.69

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.8 | 52.5 | 6.1 | 46.4 | 7.7 | 0.03742 | 46.9 | 45.8 |
| | 2 | 20.8 | 46.5 | 6.1 | 40.4 | 8.7 | 0.02810 | 40.8 | 39.9 |
| | 5 | 20.8 | 41.5 | 6.1 | 35.4 | 9.5 | 0.01860 | 35.8 | 35.0 |
| | 15 | 20.7 | 35.0 | 6.1 | 28.9 | 10.6 | 0.01133 | 29.2 | 28.5 |
| | 30 | 20.8 | 32.0 | 6.1 | 25.9 | 11.1 | 0.00819 | 26.2 | 25.6 |
| | 60 | 20.8 | 29.0 | 6.1 | 22.9 | 11.5 | 0.00592 | 23.2 | 22.6 |
| | 120 | 20.8 | 27.0 | 6.1 | 20.9 | 11.9 | 0.00424 | 21.1 | 20.7 |
| | 257 | 20.7 | 22.5 | 6.1 | 16.4 | 12.6 | 0.00299 | 16.6 | 16.2 |
| | 446 | 20.8 | 20.5 | 6.1 | 14.4 | 12.9 | 0.00230 | 14.6 | 14.2 |
| 10-Oct-14 | 1428 | 20.8 | 18.0 | 6.1 | 11.9 | 13.3 | 0.00130 | 12.0 | 11.8 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.00087** | $d_{30}$ = **0.013** | $d_{50}$ = **0.042** | $d_{60}$ = **0.053** | $C_u$ = **61** | $C_c$ = **3.7** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-15 (8-10) Bag** | **14EC016B** | **Silt with sand (ML)s** | **Loam** |

Note: Reported values for $d_{10}$, $C_u$, $C_c$, and ASTM classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

*Daniel B. Stephens & Associates, Inc.*

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# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (66-68') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 1837.69
*Weight Passing #10 (g):* 232.62
*Weight Retained #10 (g):* 1605.07
*Weight of Hydrometer Sample (g):* 65.32
*Calculated Weight of Sieve Sample (g):* 516.03

*Shape:* Angular
*Hardness:* Weathered and friable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 1837.69 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 1837.69 | 100.00 |
| | 1.5" | 38.1 | 101.23 | 101.23 | 1736.46 | 94.49 |
| | 1" | 25 | 225.04 | 326.27 | 1511.42 | 82.25 |
| | 3/4" | 19.0 | 219.38 | 545.65 | 1292.04 | 70.31 |
| | 3/8" | 9.5 | 626.56 | 1172.21 | 665.48 | 36.21 |
| | 4 | 4.75 | 302.77 | 1474.98 | 362.71 | 19.74 |
| | 10 | 2.00 | 130.09 | 1605.07 | 232.62 | 12.66 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 9.15 | 459.86 | 56.17 | 10.89 |
| | 40 | 0.425 | 6.35 | 466.21 | 49.82 | 9.65 |
| | 60 | 0.250 | 5.06 | 471.27 | 44.76 | 8.67 |
| | 140 | 0.106 | 6.43 | 477.70 | 38.33 | 7.43 |
| | 200 | 0.075 | 2.10 | 479.80 | 36.23 | 7.02 |
| | dry pan | | 0.45 | 480.25 | 35.78 | |
| | wet pan | | | 35.78 | 0.00 | |

$d_{10}$ (mm): 0.52 $d_{50}$ (mm): 13
$d_{16}$ (mm): 3.0 $d_{60}$ (mm): 15
$d_{30}$ (mm): 7.3 $d_{84}$ (mm): 27

*Median Particle Diameter* --$d_{50}$ (mm): 13
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 29
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 6.8
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 14

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded gravel with silt (GP-GM)
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (66-68') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:24

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

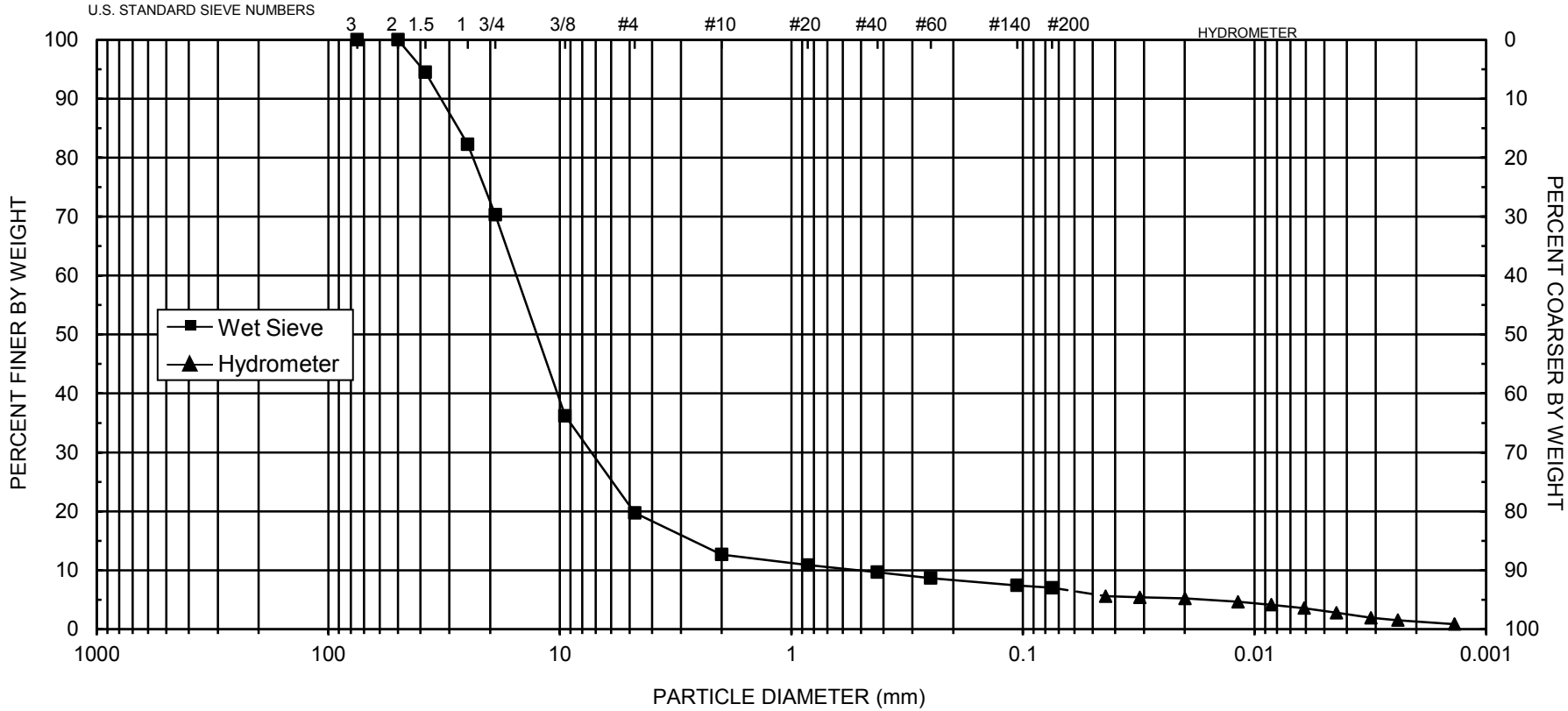
*Initial Wt.* (g)*:* 65.32
*Total Sample Wt.* (g)*:* 1837.69
*Wt. Passing #10 (g):* 232.62

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.8 | 35.0 | 6.1 | 28.9 | 10.6 | 0.04387 | 44.3 | 5.6 |
| | 2 | 20.8 | 34.0 | 6.1 | 27.9 | 10.7 | 0.03126 | 42.7 | 5.4 |
| | 5 | 20.7 | 33.0 | 6.1 | 26.9 | 10.9 | 0.01993 | 41.2 | 5.2 |
| | 15 | 20.7 | 30.0 | 6.1 | 23.9 | 11.4 | 0.01176 | 36.6 | 4.6 |
| | 30 | 20.8 | 27.5 | 6.1 | 21.4 | 11.8 | 0.00846 | 32.8 | 4.2 |
| | 60 | 20.8 | 24.5 | 6.1 | 18.4 | 12.3 | 0.00610 | 28.2 | 3.6 |
| | 120 | 20.8 | 20.5 | 6.1 | 14.4 | 12.9 | 0.00443 | 22.1 | 2.8 |
| | 253 | 20.7 | 16.0 | 6.1 | 9.9 | 13.7 | 0.00314 | 15.2 | 1.9 |
| | 441 | 20.8 | 14.0 | 6.1 | 7.9 | 14.0 | 0.00240 | 12.1 | 1.5 |
| 10-Oct-14 | 1423 | 20.8 | 10.5 | 6.1 | 4.4 | 14.6 | 0.00137 | 6.8 | 0.9 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.52** | $d_{30}$ = **7.3** | $d_{50}$ = **13** | $d_{60}$ = **15** | $C_u$ = **29** | $C_c$ = **6.8** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-15 (66-68') Bag** | **14EC016B** | **Poorly-graded gravel with silt (GP-GM)** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

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Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (98-100') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 2160.45
*Weight Passing #10 (g):* 122.07
*Weight Retained #10 (g):* 2038.38
*Weight of Hydrometer Sample (g):* 62.84
*Calculated Weight of Sieve Sample (g):* 1112.17

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2160.45 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 2160.45 | 100.00 |
| | 1.5" | 38.1 | 66.53 | 66.53 | 2093.92 | 96.92 |
| | 1" | 25 | 36.17 | 102.70 | 2057.75 | 95.25 |
| | 3/4" | 19.0 | 59.78 | 162.48 | 1997.97 | 92.48 |
| | 3/8" | 9.5 | 1150.35 | 1312.83 | 847.62 | 39.23 |
| | 4 | 4.75 | 618.49 | 1931.32 | 229.13 | 10.61 |
| | 10 | 2.00 | 107.06 | 2038.38 | 122.07 | 5.65 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 9.27 | 1058.60 | 53.57 | 4.82 |
| | 40 | 0.425 | 6.60 | 1065.20 | 46.97 | 4.22 |
| | 60 | 0.250 | 3.91 | 1069.11 | 43.06 | 3.87 |
| | 140 | 0.106 | 4.75 | 1073.86 | 38.31 | 3.44 |
| | 200 | 0.075 | 1.61 | 1075.47 | 36.70 | 3.30 |
| | dry pan | | 0.32 | 1075.79 | 36.38 | |
| | wet pan | | | 36.38 | 0.00 | |

$d_{10}$ (mm): 4.3 $d_{50}$ (mm): 11
$d_{16}$ (mm): 5.4 $d_{60}$ (mm): 12
$d_{30}$ (mm): 7.6 $d_{84}$ (mm): 17

*Median Particle Diameter* --$d_{50}$ (mm): 11
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 2.8
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.1
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 11

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded gravel (GP)
*USDA Soil Classification:* Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (98-100') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:30

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

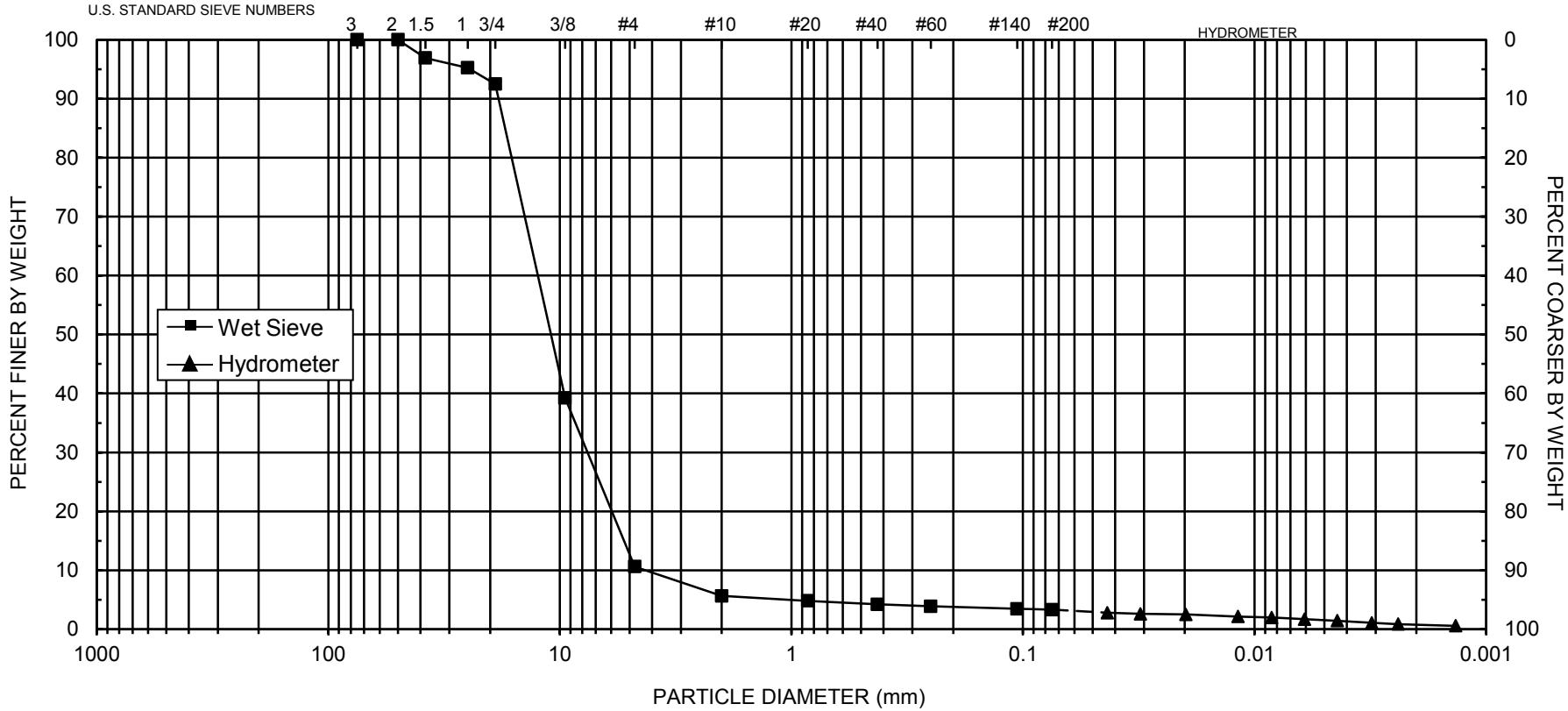
*Initial Wt.* (g)*:* 62.84
*Total Sample Wt.* (g)*:* 2160.45
*Wt. Passing #10 (g):* 122.07

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.7 | 37.0 | 6.1 | 30.9 | 10.2 | 0.04321 | 49.2 | 2.8 |
| | 2 | 20.7 | 35.0 | 6.1 | 28.9 | 10.6 | 0.03104 | 46.0 | 2.6 |
| | 5 | 20.7 | 34.0 | 6.1 | 27.9 | 10.7 | 0.01978 | 44.4 | 2.5 |
| | 15 | 20.8 | 30.0 | 6.1 | 23.9 | 11.4 | 0.01176 | 38.0 | 2.1 |
| | 30 | 20.8 | 28.0 | 6.1 | 21.9 | 11.7 | 0.00843 | 34.9 | 2.0 |
| | 60 | 20.8 | 25.0 | 6.1 | 18.9 | 12.2 | 0.00608 | 30.1 | 1.7 |
| | 120 | 20.8 | 22.0 | 6.1 | 15.9 | 12.7 | 0.00439 | 25.3 | 1.4 |
| | 250 | 20.8 | 18.0 | 6.1 | 11.9 | 13.3 | 0.00312 | 18.9 | 1.1 |
| | 436 | 20.8 | 15.5 | 6.1 | 9.4 | 13.8 | 0.00240 | 15.0 | 0.8 |
| 10-Oct-14 | 1418 | 20.8 | 12.5 | 6.1 | 6.4 | 14.3 | 0.00135 | 10.2 | 0.6 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **4.3** | $d_{30}$ = **7.6** | $d_{50}$ = **11** | $d_{60}$ = **12** | $C_u$ = **2.8** | $C_c$ = **1.1** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-15 (98-100') Bag** | **14EC016B** | **Poorly-graded gravel (GP)** | **Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 301.27
*Weight Passing #10 (g):* 291.64
*Weight Retained #10 (g):* 9.63
*Weight of Hydrometer Sample (g):* 40.43
*Calculated Weight of Sieve Sample (g):* 41.77

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 301.27 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 301.27 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 301.27 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 301.27 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 301.27 | 100.00 |
| | 3/8" | 9.5 | 2.28 | 2.28 | 298.99 | 99.24 |
| | 4 | 4.75 | 4.17 | 6.45 | 294.82 | 97.86 |
| | 10 | 2.00 | 3.18 | 9.63 | 291.64 | 96.80 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 0.82 | 2.16 | 39.61 | 94.84 |
| | 40 | 0.425 | 1.05 | 3.21 | 38.56 | 92.33 |
| | 60 | 0.250 | 0.99 | 4.20 | 37.57 | 89.96 |
| | 140 | 0.106 | 3.03 | 7.23 | 34.54 | 82.70 |
| | 200 | 0.075 | 2.60 | 9.83 | 31.94 | 76.48 |
| | dry pan | | 1.22 | 11.05 | 30.72 | |
| | wet pan | | | 30.72 | 0.00 | |

$d_{10}$ (mm): 0.0016 $d_{50}$ (mm): 0.040
$d_{16}$ (mm): 0.0029 $d_{60}$ (mm): 0.053
$d_{30}$ (mm): 0.0086 $d_{84}$ (mm): 0.12

*Median Particle Diameter* --$d_{50}$ (mm): 0.040
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 33
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 0.87
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 0.054

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Silt with sand (ML)s
*USDA Soil Classification:* Loam

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 4-Nov-14
*Start Time:* 9:42

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

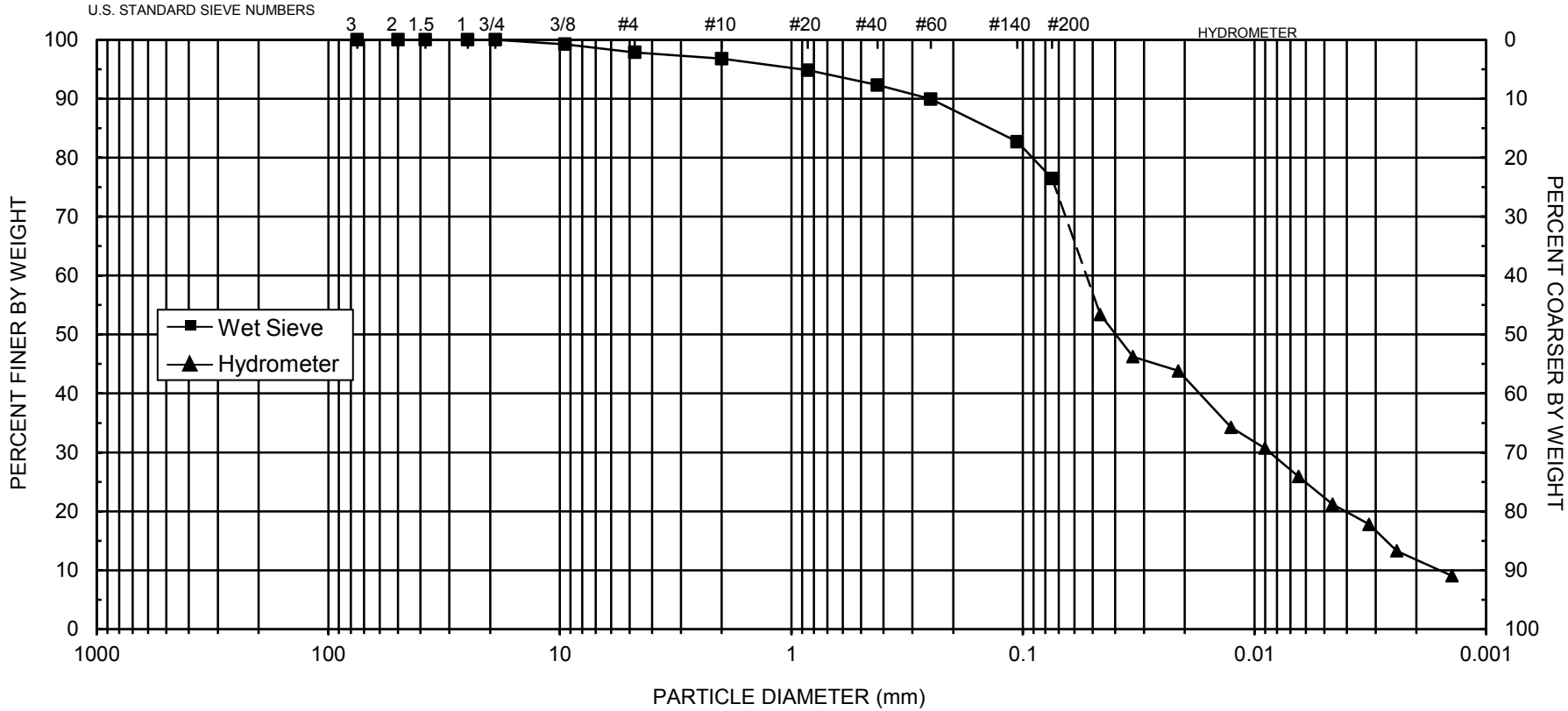
*Initial Wt.* (g)*:* 40.43
*Total Sample Wt.* (g)*:* 301.27
*Wt. Passing #10 (g):* 291.64

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 4-Nov-14 | 1 | 20.1 | 28.5 | 6.2 | 22.3 | 11.6 | 0.04639 | 55.2 | 53.4 |
| | 2 | 20.1 | 25.5 | 6.2 | 19.3 | 12.1 | 0.03349 | 47.7 | 46.2 |
| | 5 | 20.1 | 24.5 | 6.2 | 18.3 | 12.3 | 0.02132 | 45.3 | 43.8 |
| | 15 | 20.1 | 20.5 | 6.2 | 14.3 | 12.9 | 0.01264 | 35.4 | 34.2 |
| | 30 | 20.2 | 19.0 | 6.2 | 12.8 | 13.2 | 0.00901 | 31.7 | 30.7 |
| | 60 | 20.2 | 17.0 | 6.2 | 10.8 | 13.5 | 0.00645 | 26.8 | 25.9 |
| | 120 | 20.5 | 15.0 | 6.2 | 8.9 | 13.8 | 0.00460 | 21.9 | 21.2 |
| | 250 | 20.9 | 13.5 | 6.1 | 7.4 | 14.1 | 0.00320 | 18.4 | 17.8 |
| | 436 | 21.6 | 11.5 | 6.0 | 5.6 | 14.4 | 0.00243 | 13.7 | 13.3 |
| 5-Nov-14 | 1389 | 20.0 | 10.0 | 6.2 | 3.8 | 14.7 | 0.00140 | 9.3 | 9.1 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0016** | $d_{30}$ = **0.0086** | $d_{50}$ = **0.040** | $d_{60}$ = **0.053** | $C_u$ = **33** | $C_c$ = **0.87** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-16 (18-20) Core** | **14EC016B** | **Silt with sand (ML)s** | **Loam** |

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 428.58
*Weight Passing #10 (g):* 197.89
*Weight Retained #10 (g):* 230.69
*Weight of Hydrometer Sample (g):* 47.72
*Calculated Weight of Sieve Sample (g):* 103.35

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 428.58 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 428.58 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 428.58 | 100.00 |
| | 1" | 25 | 61.72 | 61.72 | 366.86 | 85.60 |
| | 3/4" | 19.0 | 25.50 | 87.22 | 341.36 | 79.65 |
| | 3/8" | 9.5 | 46.20 | 133.42 | 295.16 | 68.87 |
| | 4 | 4.75 | 50.85 | 184.27 | 244.31 | 57.00 |
| | 10 | 2.00 | 46.42 | 230.69 | 197.89 | 46.17 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 11.64 | 67.27 | 36.08 | 34.91 |
| | 40 | 0.425 | 10.10 | 77.37 | 25.98 | 25.14 |
| | 60 | 0.250 | 6.50 | 83.87 | 19.48 | 18.85 |
| | 140 | 0.106 | 5.77 | 89.64 | 13.71 | 13.27 |
| | 200 | 0.075 | 1.42 | 91.06 | 12.29 | 11.89 |
| | dry pan | | 0.36 | 91.42 | 11.93 | |
| | wet pan | | | 11.93 | 0.00 | |

$d_{10}$ (mm): 0.065 $d_{50}$ (mm): 2.7
$d_{16}$ (mm): 0.16 $d_{60}$ (mm): 5.7
$d_{30}$ (mm): 0.60 $d_{84}$ (mm): 23

*Median Particle Diameter* --$d_{50}$ (mm): 2.7
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 88
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 0.97
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 8.6

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded sand with silt and gravel (SP-SM)g
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* J. Samson
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Nov-14
*Start Time:* 9:00

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

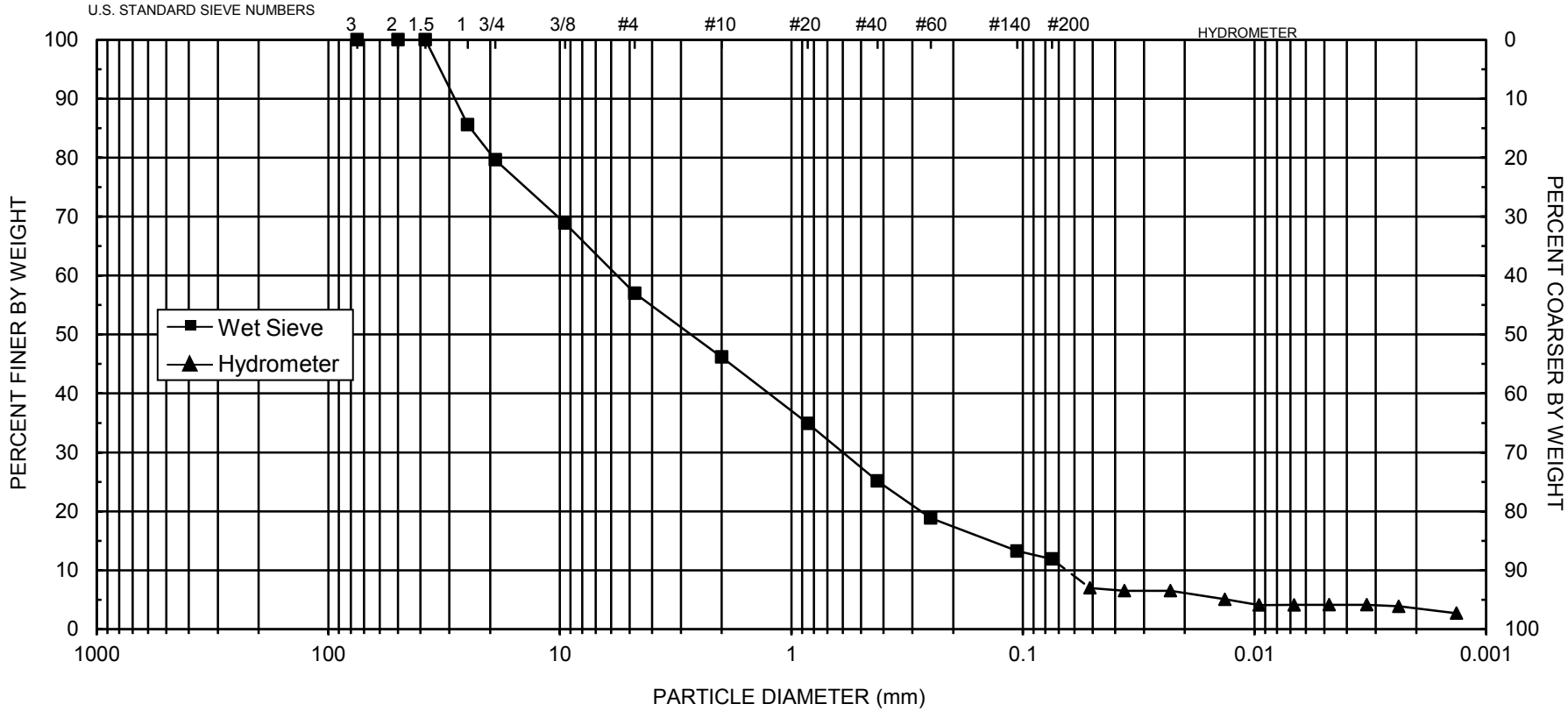
*Initial Wt.* (g)*:* 47.72
*Total Sample Wt.* (g)*:* 428.58
*Wt. Passing #10 (g):* 197.89

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 7-Nov-14 | 1 | 19.7 | 13.5 | 6.3 | 7.2 | 14.1 | 0.05136 | 15.2 | 7.0 |
| | 2 | 19.7 | 13.0 | 6.3 | 6.7 | 14.2 | 0.03642 | 14.1 | 6.5 |
| | 5 | 19.7 | 13.0 | 6.3 | 6.7 | 14.2 | 0.02304 | 14.1 | 6.5 |
| | 15 | 19.7 | 11.5 | 6.3 | 5.2 | 14.4 | 0.01342 | 11.0 | 5.1 |
| | 30 | 19.7 | 10.5 | 6.3 | 4.2 | 14.6 | 0.00954 | 8.9 | 4.1 |
| | 60 | 19.8 | 10.5 | 6.3 | 4.3 | 14.6 | 0.00674 | 8.9 | 4.1 |
| | 120 | 19.9 | 10.5 | 6.2 | 4.3 | 14.6 | 0.00476 | 8.9 | 4.1 |
| | 250 | 20.3 | 10.5 | 6.2 | 4.3 | 14.6 | 0.00328 | 8.9 | 4.1 |
| | 464 | 21.4 | 10.0 | 6.0 | 4.0 | 14.7 | 0.00238 | 8.4 | 3.9 |
| 8-Nov-14 | 1525 | 20.1 | 9.0 | 6.2 | 2.8 | 14.8 | 0.00134 | 5.9 | 2.7 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* J. Samson
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.065** | $d_{30}$ = **0.60** | $d_{50}$ = **2.7** | $d_{60}$ = **5.7** | $C_u$ = **88** | $C_c$ = **0.97** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-16 (58-60) Core** | **14EC016B** | **Poorly-graded sand with silt and gravel (SP-SM)g** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 1872.96
*Weight Passing #10 (g):* 690.37
*Weight Retained #10 (g):* 1182.59
*Weight of Hydrometer Sample (g):* 99.81
*Calculated Weight of Sieve Sample (g):* 270.78

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 1872.96 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 1872.96 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 1872.96 | 100.00 |
| | 1" | 25 | 216.77 | 216.77 | 1656.19 | 88.43 |
| | 3/4" | 19.0 | 140.39 | 357.16 | 1515.80 | 80.93 |
| | 3/8" | 9.5 | 406.54 | 763.70 | 1109.26 | 59.22 |
| | 4 | 4.75 | 222.82 | 986.52 | 886.44 | 47.33 |
| | 10 | 2.00 | 196.07 | 1182.59 | 690.37 | 36.86 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 24.77 | 195.74 | 75.04 | 27.71 |
| | 40 | 0.425 | 20.90 | 216.64 | 54.14 | 19.99 |
| | 60 | 0.250 | 12.88 | 229.52 | 41.26 | 15.24 |
| | 140 | 0.106 | 11.77 | 241.29 | 29.49 | 10.89 |
| | 200 | 0.075 | 3.19 | 244.48 | 26.30 | 9.71 |
| | dry pan | | 0.73 | 245.21 | 25.57 | |
| | wet pan | | | 25.57 | 0.00 | |

$d_{10}$ (mm): 0.082 $d_{50}$ (mm): 5.6
$d_{16}$ (mm): 0.27 $d_{60}$ (mm): 9.7
$d_{30}$ (mm): 1.1 $d_{84}$ (mm): 21

*Median Particle Diameter* --$d_{50}$ (mm): 5.6
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 118
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.5
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 9.0

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded gravel with silt and sand (GW-GM)s
*USDA Soil Classification:* Loamy Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:36

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

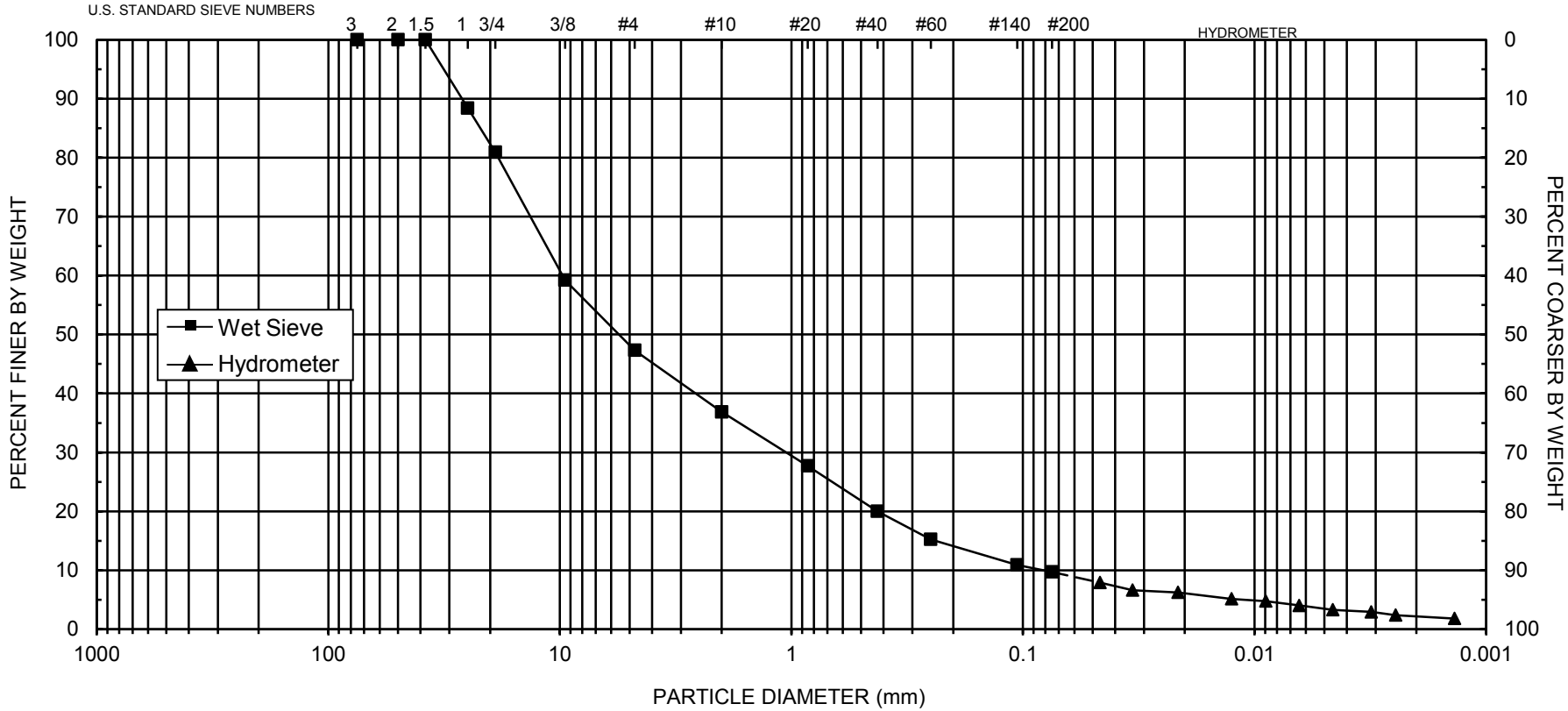
*Initial Wt.* (g)*:* 99.81
*Total Sample Wt.* (g)*:* 1872.96
*Wt. Passing #10 (g):* 690.37

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.7 | 27.5 | 6.1 | 21.4 | 11.8 | 0.04638 | 21.4 | 7.9 |
| | 2 | 20.7 | 24.0 | 6.1 | 17.9 | 12.4 | 0.03358 | 17.9 | 6.6 |
| | 5 | 20.7 | 23.0 | 6.1 | 16.9 | 12.5 | 0.02138 | 16.9 | 6.2 |
| | 15 | 20.8 | 20.0 | 6.1 | 13.9 | 13.0 | 0.01257 | 13.9 | 5.1 |
| | 30 | 20.8 | 19.0 | 6.1 | 12.9 | 13.2 | 0.00894 | 12.9 | 4.8 |
| | 60 | 20.7 | 17.0 | 6.1 | 10.9 | 13.5 | 0.00641 | 10.9 | 4.0 |
| | 120 | 20.8 | 15.0 | 6.1 | 8.9 | 13.8 | 0.00458 | 8.9 | 3.3 |
| | 260 | 20.8 | 14.0 | 6.1 | 7.9 | 14.0 | 0.00313 | 7.9 | 2.9 |
| | 431 | 20.8 | 12.5 | 6.1 | 6.4 | 14.3 | 0.00245 | 6.4 | 2.4 |
| 10-Oct-14 | 1413 | 20.8 | 11.0 | 6.1 | 4.9 | 14.5 | 0.00137 | 4.9 | 1.8 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.082** | $d_{30}$ = **1.1** | $d_{50}$ = **5.6** | $d_{60}$ = **9.7** | $C_u$ = **118** | $C_c$ = **1.5** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-16 (58-60) Bag** | **14EC016B** | **Well-graded gravel with silt and sand (GW-GM)s** | **Loamy Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 3302.80
*Weight Passing #10 (g):* 1045.77
*Weight Retained #10 (g):* 2257.03
*Weight of Hydrometer Sample (g):* 82.39
*Calculated Weight of Sieve Sample (g):* 260.21

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 3302.80 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 3302.80 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 3302.80 | 100.00 |
| | 1" | 25 | 130.22 | 130.22 | 3172.58 | 96.06 |
| | 3/4" | 19.0 | 135.93 | 266.15 | 3036.65 | 91.94 |
| | 3/8" | 9.5 | 740.47 | 1006.62 | 2296.18 | 69.52 |
| | 4 | 4.75 | 657.87 | 1664.49 | 1638.31 | 49.60 |
| | 10 | 2.00 | 592.54 | 2257.03 | 1045.77 | 31.66 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 31.17 | 208.99 | 51.22 | 19.68 |
| | 40 | 0.425 | 18.98 | 227.97 | 32.24 | 12.39 |
| | 60 | 0.250 | 7.46 | 235.43 | 24.78 | 9.52 |
| | 140 | 0.106 | 6.61 | 242.04 | 18.17 | 6.98 |
| | 200 | 0.075 | 1.67 | 243.71 | 16.50 | 6.34 |
| | dry pan | | 0.30 | 244.01 | 16.20 | |
| | wet pan | | | 16.20 | 0.00 | |

$d_{10}$ (mm): 0.27 $d_{50}$ (mm): 4.8
$d_{16}$ (mm): 0.60 $d_{60}$ (mm): 6.8
$d_{30}$ (mm): 1.8 $d_{84}$ (mm): 15

*Median Particle Diameter* --$d_{50}$ (mm): 4.8
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 25
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.8
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 6.8

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Well-graded gravel with silt and sand (GW-GM)s
*USDA Soil Classification:* Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 4-Nov-14
*Start Time:* 9:54

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

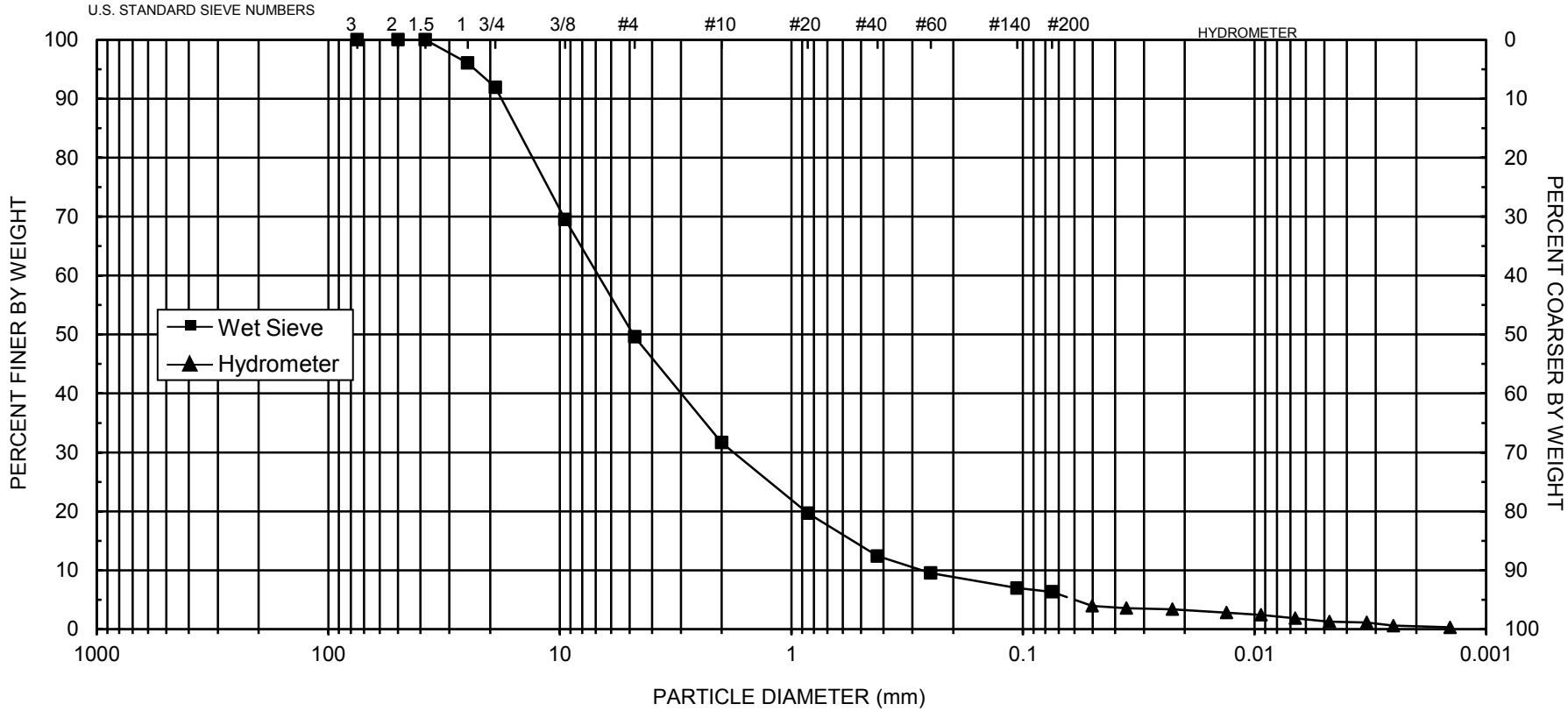
*Initial Wt.* (g)*:* 82.39
*Total Sample Wt.* (g)*:* 3302.80
*Wt. Passing #10 (g):* 1045.77

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 4-Nov-14 | 1 | 20.1 | 16.5 | 6.2 | 10.3 | 13.6 | 0.05016 | 12.5 | 4.0 |
| | 2 | 20.1 | 15.5 | 6.2 | 9.3 | 13.8 | 0.03568 | 11.3 | 3.6 |
| | 5 | 20.1 | 15.0 | 6.2 | 8.8 | 13.8 | 0.02263 | 10.7 | 3.4 |
| | 15 | 20.1 | 13.5 | 6.2 | 7.3 | 14.1 | 0.01318 | 8.9 | 2.8 |
| | 30 | 20.2 | 12.5 | 6.2 | 6.3 | 14.3 | 0.00937 | 7.7 | 2.4 |
| | 60 | 20.3 | 11.0 | 6.2 | 4.8 | 14.5 | 0.00667 | 5.9 | 1.9 |
| | 120 | 20.5 | 9.5 | 6.2 | 3.4 | 14.7 | 0.00475 | 4.1 | 1.3 |
| | 250 | 21.0 | 9.0 | 6.1 | 3.0 | 14.8 | 0.00328 | 3.6 | 1.1 |
| | 426 | 21.6 | 7.5 | 6.0 | 1.6 | 15.1 | 0.00251 | 1.9 | 0.6 |
| 5-Nov-14 | 1379 | 20.0 | 7.0 | 6.2 | 0.8 | 15.2 | 0.00143 | 0.9 | 0.3 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.27** | $d_{30}$ = **1.8** | $d_{50}$ = **4.8** | $d_{60}$ = **6.8** | $C_u$ = **25** | $C_c$ = **1.8** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-17 (8-12) Bag** | **14EC016B** | **Well-graded gravel with silt and sand (GW-GM)s** | **Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (48-50') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 3954.65
*Weight Passing #10 (g):* 570.31
*Weight Retained #10 (g):* 3384.34
*Weight of Hydrometer Sample (g):* 98.52
*Calculated Weight of Sieve Sample (g):* 683.16

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 3954.65 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 3954.65 | 100.00 |
| | 1.5" | 38.1 | 68.29 | 68.29 | 3886.36 | 98.27 |
| | 1" | 25 | 272.47 | 340.76 | 3613.89 | 91.38 |
| | 3/4" | 19.0 | 303.51 | 644.27 | 3310.38 | 83.71 |
| | 3/8" | 9.5 | 1109.87 | 1754.14 | 2200.51 | 55.64 |
| | 4 | 4.75 | 1108.07 | 2862.21 | 1092.44 | 27.62 |
| | 10 | 2.00 | 522.13 | 3384.34 | 570.31 | 14.42 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 30.38 | 615.02 | 68.14 | 9.97 |
| | 40 | 0.425 | 12.87 | 627.89 | 55.27 | 8.09 |
| | 60 | 0.250 | 7.71 | 635.60 | 47.56 | 6.96 |
| | 140 | 0.106 | 9.71 | 645.31 | 37.85 | 5.54 |
| | 200 | 0.075 | 3.64 | 648.95 | 34.21 | 5.01 |
| | dry pan | | 1.09 | 650.04 | 33.12 | |
| | wet pan | | | 33.12 | 0.00 | |

$d_{10}$ (mm): 0.85
$d_{16}$ (mm): 2.2
$d_{30}$ (mm): 5.0
$d_{50}$ (mm): 8.3
$d_{60}$ (mm): 11
$d_{84}$ (mm): 19

*Median Particle Diameter* --$d_{50}$ (mm): 8.3
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 13
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 2.7
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 9.8

*Classification of fines:* CL

*ASTM Soil Classification:* Well-graded gravel with clay and sand (GW-GC)s
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (48-50') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:42

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

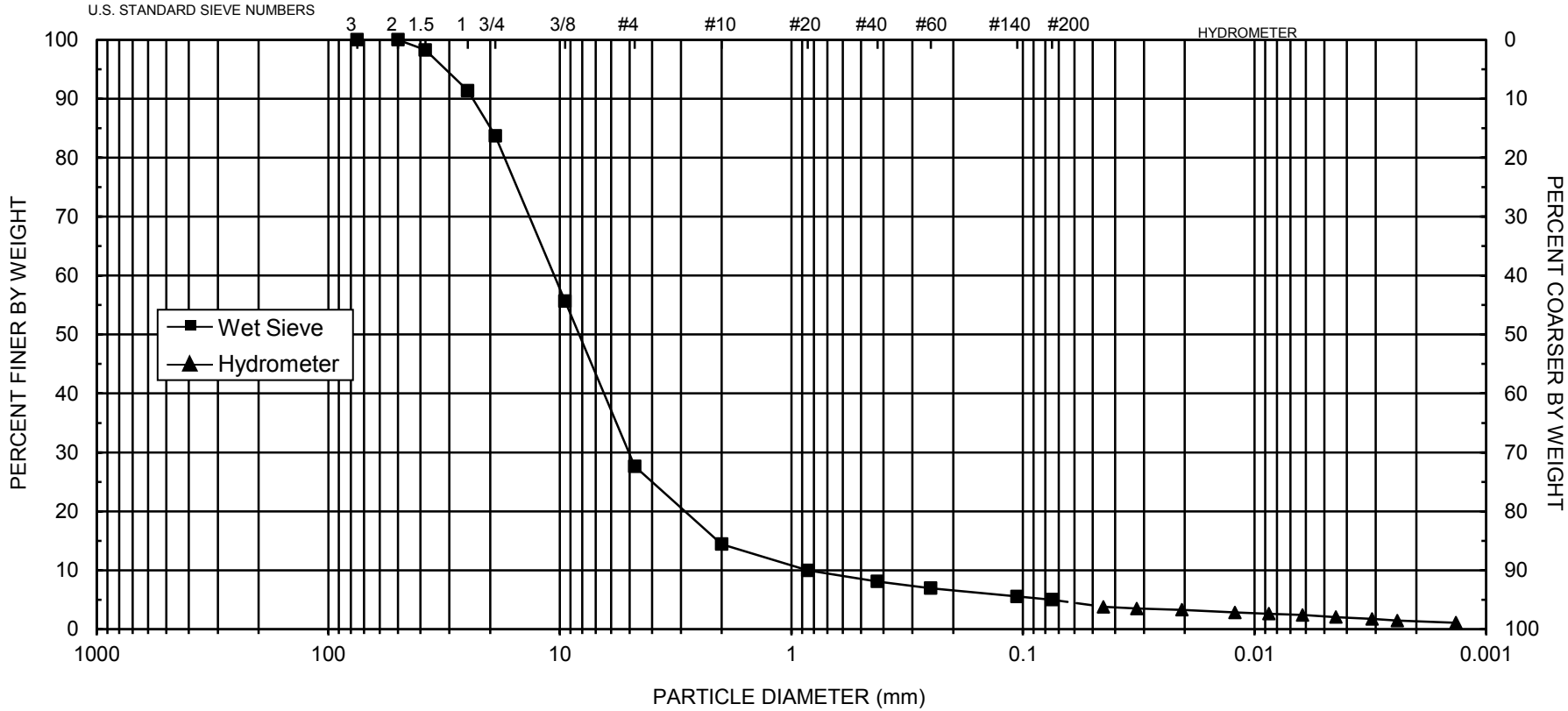
*Initial Wt.* (g)*:* 98.52
*Total Sample Wt.* (g)*:* 3954.65
*Wt. Passing #10 (g):* 570.31

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.8 | 32.0 | 6.1 | 25.9 | 11.1 | 0.04488 | 26.3 | 3.8 |
| | 2 | 20.8 | 30.0 | 6.1 | 23.9 | 11.4 | 0.03220 | 24.3 | 3.5 |
| | 5 | 20.8 | 28.5 | 6.1 | 22.4 | 11.6 | 0.02058 | 22.7 | 3.3 |
| | 15 | 20.8 | 25.5 | 6.1 | 19.4 | 12.1 | 0.01213 | 19.7 | 2.8 |
| | 30 | 20.8 | 24.0 | 6.1 | 17.9 | 12.4 | 0.00866 | 18.2 | 2.6 |
| | 60 | 20.7 | 22.5 | 6.1 | 16.4 | 12.6 | 0.00619 | 16.6 | 2.4 |
| | 120 | 20.8 | 20.0 | 6.1 | 13.9 | 13.0 | 0.00444 | 14.1 | 2.0 |
| | 252 | 20.8 | 18.0 | 6.1 | 11.9 | 13.3 | 0.00310 | 12.1 | 1.7 |
| | 426 | 20.8 | 16.0 | 6.1 | 9.9 | 13.7 | 0.00242 | 10.1 | 1.5 |
| 10-Oct-14 | 1408 | 20.8 | 13.5 | 6.1 | 7.4 | 14.1 | 0.00135 | 7.5 | 1.1 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | CLAY | |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.85** | $d_{30}$ = **5.0** | $d_{50}$ = **8.3** | $d_{60}$ = **11** | $C_u$ = **13** | $C_c$ = **2.7** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-18 (48-50') Bag** | **14EC016B** | **Well-graded gravel with clay and sand (GW-GC)s** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (58-60') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 1387.87
*Weight Passing #10 (g):* 214.64
*Weight Retained #10 (g):* 1173.23
*Weight of Hydrometer Sample (g):* 95.29
*Calculated Weight of Sieve Sample (g):* 616.15

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 1387.87 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 1387.87 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 1387.87 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 1387.87 | 100.00 |
| | 3/4" | 19.0 | 115.24 | 115.24 | 1272.63 | 91.70 |
| | 3/8" | 9.5 | 428.88 | 544.12 | 843.75 | 60.79 |
| | 4 | 4.75 | 471.12 | 1015.24 | 372.63 | 26.85 |
| | 10 | 2.00 | 157.99 | 1173.23 | 214.64 | 15.47 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 34.18 | 555.04 | 61.11 | 9.92 |
| | 40 | 0.425 | 20.48 | 575.52 | 40.63 | 6.59 |
| | 60 | 0.250 | 13.26 | 588.78 | 27.37 | 4.44 |
| | 140 | 0.106 | 9.36 | 598.14 | 18.01 | 2.92 |
| | 200 | 0.075 | 1.88 | 600.02 | 16.13 | 2.62 |
| | dry pan | | 0.31 | 600.33 | 15.82 | |
| | wet pan | | | 15.82 | 0.00 | |

$d_{10}$ (mm): 0.86 $d_{50}$ (mm): 7.6
$d_{16}$ (mm): 2.1 $d_{60}$ (mm): 9.3
$d_{30}$ (mm): 5.1 $d_{84}$ (mm): 16

*Median Particle Diameter* --$d_{50}$ (mm): 7.6
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 11
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 3.3
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 8.6

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Poorly-graded gravel with sand (GP)s
*USDA Soil Classification:* Sand †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (58-60') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:48

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

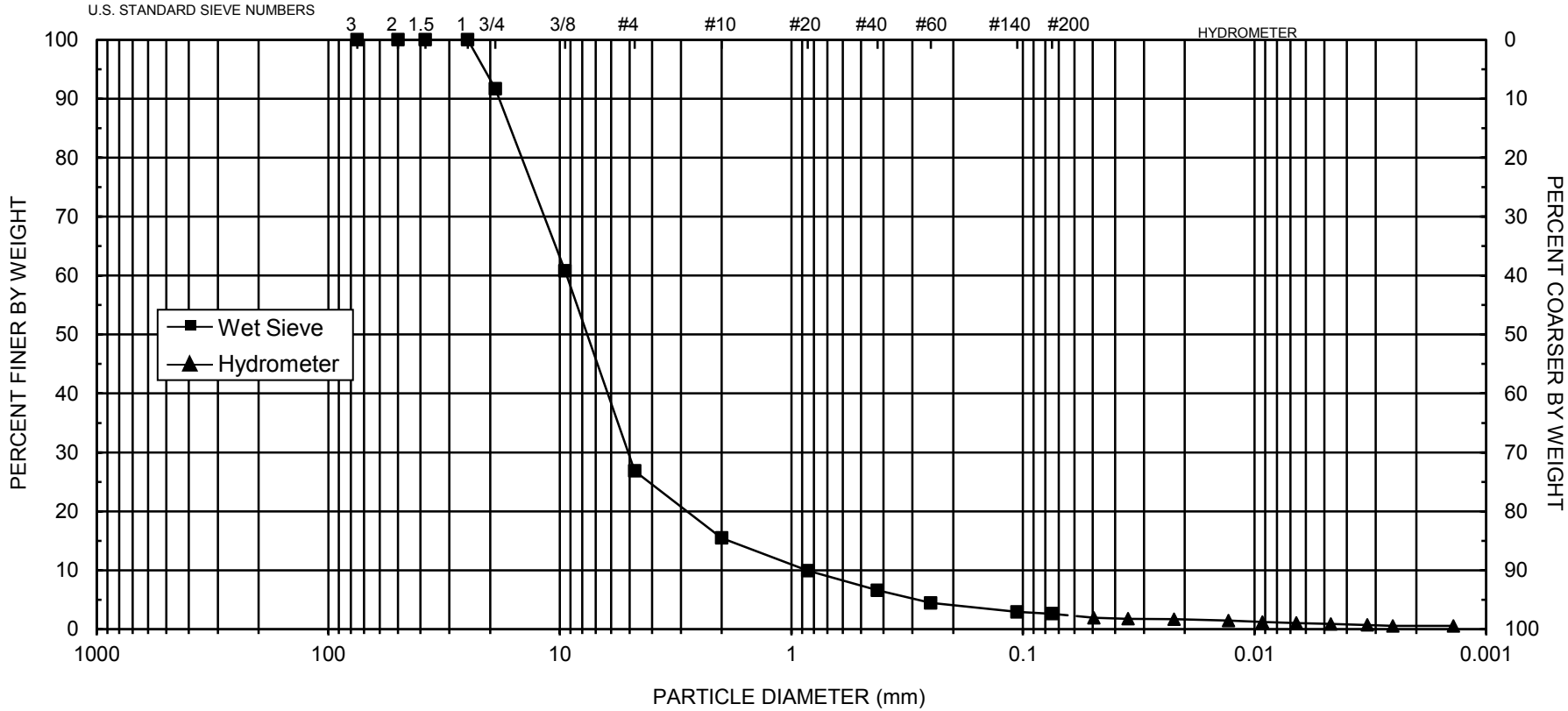
*Initial Wt.* (g)*:* 95.29
*Total Sample Wt.* (g)*:* 1387.87
*Wt. Passing #10 (g):* 214.64

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.8 | 18.0 | 6.1 | 11.9 | 13.3 | 0.04932 | 12.5 | 1.9 |
| | 2 | 20.8 | 17.0 | 6.1 | 10.9 | 13.5 | 0.03508 | 11.4 | 1.8 |
| | 5 | 20.8 | 16.5 | 6.1 | 10.4 | 13.6 | 0.02224 | 10.9 | 1.7 |
| | 15 | 20.8 | 15.0 | 6.1 | 8.9 | 13.8 | 0.01296 | 9.4 | 1.4 |
| | 30 | 20.8 | 13.5 | 6.1 | 7.4 | 14.1 | 0.00924 | 7.8 | 1.2 |
| | 60 | 20.7 | 12.5 | 6.1 | 6.4 | 14.3 | 0.00658 | 6.7 | 1.0 |
| | 120 | 20.7 | 11.5 | 6.1 | 5.4 | 14.4 | 0.00468 | 5.7 | 0.9 |
| | 250 | 20.8 | 10.5 | 6.1 | 4.4 | 14.6 | 0.00326 | 4.6 | 0.7 |
| | 421 | 20.8 | 9.5 | 6.1 | 3.4 | 14.7 | 0.00252 | 3.6 | 0.6 |
| 10-Oct-14 | 1403 | 20.8 | 9.5 | 6.1 | 3.4 | 14.7 | 0.00138 | 3.6 | 0.6 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | |

| $d_{10}$ = **0.86** | $d_{30}$ = **5.1** | $d_{50}$ = **7.6** | $d_{60}$ = **9.3** | $C_u$ = **11** | $C_c$ = **3.3** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-18 (58-60') Bag** | **14EC016B** | **Poorly-graded gravel with sand (GP)s** | **Sand †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 4505.99
*Weight Passing #10 (g):* 2929.06
*Weight Retained #10 (g):* 1576.93
*Weight of Hydrometer Sample (g):* 44.02
*Calculated Weight of Sieve Sample (g):* 67.72
*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 4505.99 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 4505.99 | 100.00 |
| | 1.5" | 38.1 | 77.04 | 77.04 | 4428.95 | 98.29 |
| | 1" | 25 | 185.87 | 262.91 | 4243.08 | 94.17 |
| | 3/4" | 19.0 | 70.10 | 333.01 | 4172.98 | 92.61 |
| | 3/8" | 9.5 | 688.31 | 1021.32 | 3484.67 | 77.33 |
| | 4 | 4.75 | 311.13 | 1332.45 | 3173.54 | 70.43 |
| | 10 | 2.00 | 244.48 | 1576.93 | 2929.06 | 65.00 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 2.35 | 26.05 | 41.67 | 61.53 |
| | 40 | 0.425 | 3.18 | 29.23 | 38.49 | 56.84 |
| | 60 | 0.250 | 2.14 | 31.37 | 36.35 | 53.68 |
| | 140 | 0.106 | 2.60 | 33.97 | 33.75 | 49.84 |
| | 200 | 0.075 | 1.11 | 35.08 | 32.64 | 48.20 |
| | dry pan | | 0.17 | 35.25 | 32.47 | |
| | wet pan | | | 32.47 | 0.00 | |

$d_{10}$ (mm): 0.0011 $d_{50}$ (mm): 0.11
$d_{16}$ (mm): 0.0021 $d_{60}$ (mm): 0.68
$d_{30}$ (mm): 0.0062 $d_{84}$ (mm): 13

*Median Particle Diameter* --$d_{50}$ (mm): 0.11
*Uniformity Coefficient, Cu* --$[d_{60}/d_{10}]$ (mm): 618
*Coefficient of Curvature, Cc* --$[(d_{30})^2/(d_{10}*d_{60})]$ (mm): 0.051
*Mean Particle Diameter* --$[(d_{16}+d_{50}+d_{84})/3]$ (mm): 4.4

Note: Reported values for $d_{10}$, $C_u$, $C_c$, and soil classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

*Classification of fines:* CL

*ASTM Soil Classification:* Clayey gravel with sand (GC)s
*USDA Soil Classification:* Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* C. Krous/N. Candelaria
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Nov-14
*Start Time:* 9:54

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

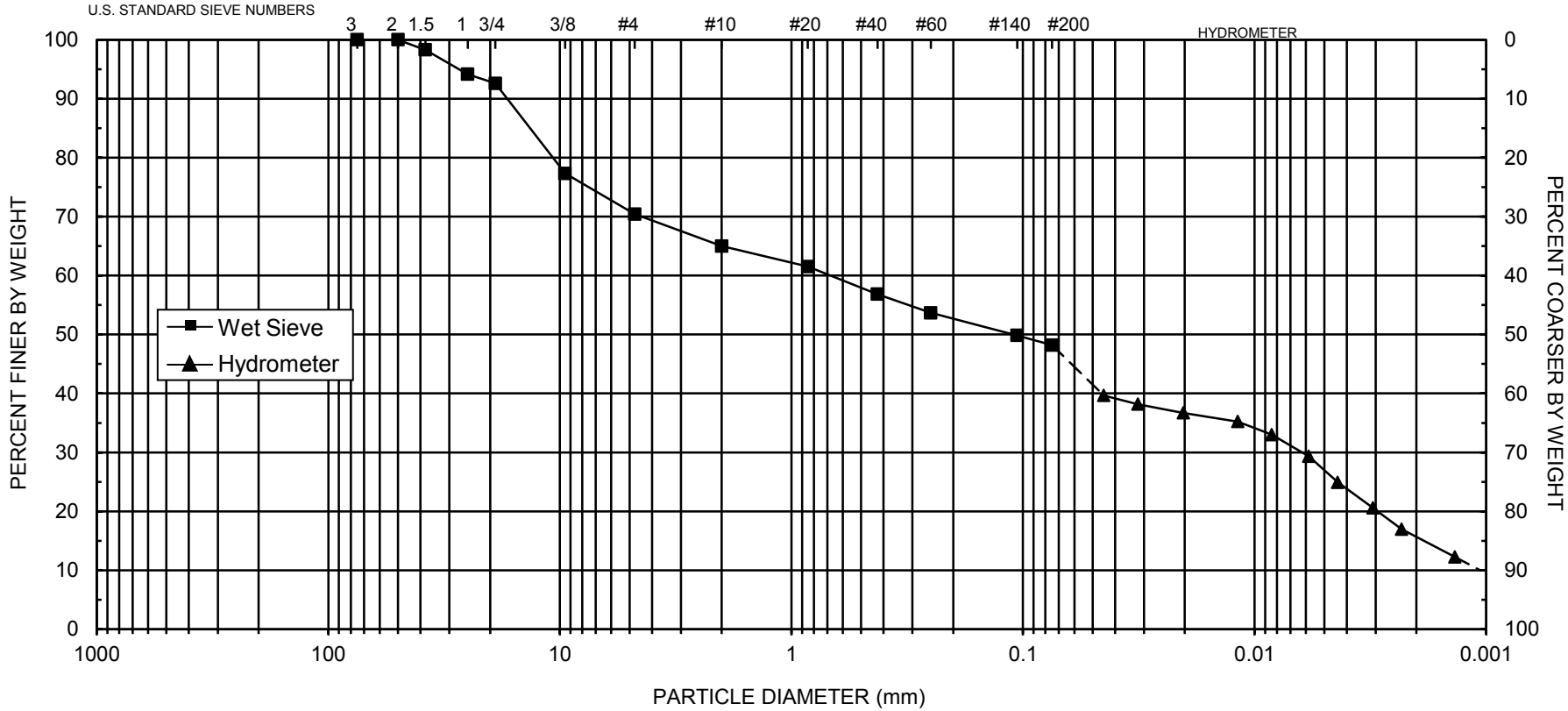
*Initial Wt.* (g)*:* 44.02
*Total Sample Wt.* (g)*:* 4505.99
*Wt. Passing #10 (g):* 2929.06

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 11-Nov-14 | 1 | 20.4 | 33.0 | 6.2 | 26.9 | 10.9 | 0.04473 | 61.0 | 39.6 |
| | 2 | 20.4 | 32.0 | 6.2 | 25.9 | 11.1 | 0.03187 | 58.7 | 38.2 |
| | 5 | 20.4 | 31.0 | 6.2 | 24.9 | 11.2 | 0.02030 | 56.5 | 36.7 |
| | 15 | 20.4 | 30.0 | 6.2 | 23.9 | 11.4 | 0.01181 | 54.2 | 35.2 |
| | 30 | 20.5 | 28.5 | 6.1 | 22.4 | 11.6 | 0.00843 | 50.8 | 33.0 |
| | 65 | 20.5 | 26.0 | 6.1 | 19.9 | 12.0 | 0.00583 | 45.1 | 29.3 |
| | 120 | 20.6 | 23.0 | 6.1 | 16.9 | 12.5 | 0.00437 | 38.3 | 24.9 |
| | 250 | 20.9 | 20.0 | 6.1 | 13.9 | 13.0 | 0.00307 | 31.6 | 20.6 |
| | 449 | 21.3 | 17.5 | 6.0 | 11.5 | 13.4 | 0.00232 | 26.1 | 17.0 |
| 12-Nov-14 | 1384 | 20.1 | 14.5 | 6.2 | 8.3 | 13.9 | 0.00136 | 18.9 | 12.3 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* C. Krous
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | SILT | | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0011** | $d_{30}$ = **0.0062** | $d_{50}$ = **0.11** | $d_{60}$ = **0.68** | $C_u$ = **618** | $C_c$ = **0.051** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-18 (88-90) Bag** | **14EC016B** | **Clayey gravel with sand (GC)s** | **Loam †** |

† Greater than 10% of sample is coarse material

Note: Reported values for $d_{10}$, $C_u$, $C_c$, and ASTM classification are estimates, since extrapolation was required to obtain the $d_{10}$ diameter

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Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 10-Nov-14

*Initial Dry Weight of Sample (g):* 362.75
*Weight Passing #10 (g):* 243.50
*Weight Retained #10 (g):* 119.25
*Weight of Hydrometer Sample (g):* 42.15
*Calculated Weight of Sieve Sample (g):* 62.79

*Shape:* Angular
*Hardness:* Weathered and friable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 362.75 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 362.75 | 100.00 |
| | 1.5" | 38.1 | 0.00 | 0.00 | 362.75 | 100.00 |
| | 1" | 25 | 0.00 | 0.00 | 362.75 | 100.00 |
| | 3/4" | 19.0 | 0.00 | 0.00 | 362.75 | 100.00 |
| | 3/8" | 9.5 | 64.02 | 64.02 | 298.73 | 82.35 |
| | 4 | 4.75 | 34.41 | 98.43 | 264.32 | 72.87 |
| | 10 | 2.00 | 20.82 | 119.25 | 243.50 | 67.13 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 2.83 | 23.47 | 39.32 | 62.62 |
| | 40 | 0.425 | 2.59 | 26.06 | 36.73 | 58.49 |
| | 60 | 0.250 | 2.77 | 28.83 | 33.96 | 54.08 |
| | 140 | 0.106 | 6.06 | 34.89 | 27.90 | 44.43 |
| | 200 | 0.075 | 2.63 | 37.52 | 25.27 | 40.24 |
| | dry pan | | 0.19 | 37.71 | 25.08 | |
| | wet pan | | | 25.08 | 0.00 | |

$d_{10}$ (mm): 0.0039 $d_{50}$ (mm): 0.17
$d_{16}$ (mm): 0.014 $d_{60}$ (mm): 0.55
$d_{30}$ (mm): 0.054 $d_{84}$ (mm): 10

*Median Particle Diameter* --$d_{50}$ (mm): 0.17
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 141
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 1.4
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 3.4

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Silty sand with gravel (SM)g
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* J. Samson
*Data entered by:* C. Krous
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Nov-14
*Start Time:* 9:12

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

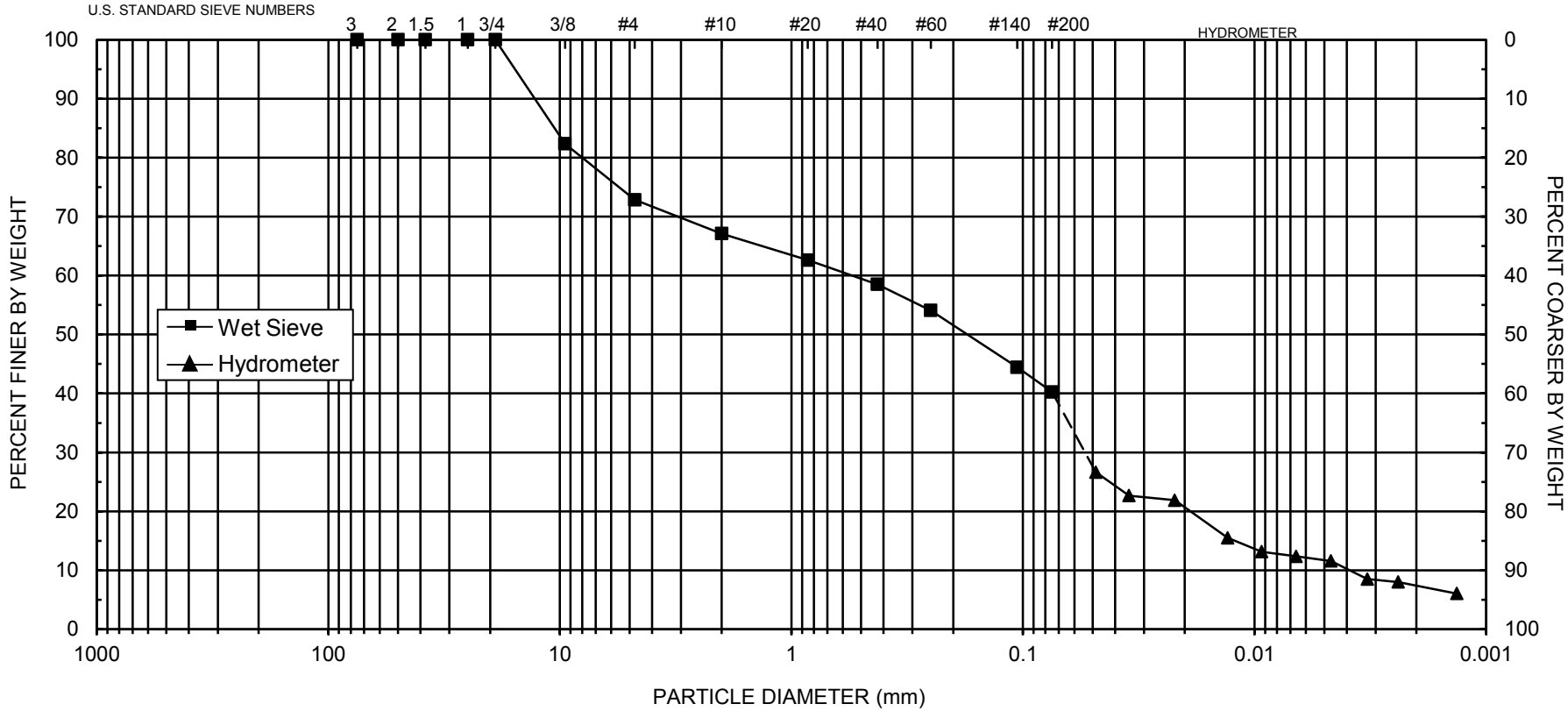
*Initial Wt.* (g)*:* 42.15
*Total Sample Wt.* (g)*:* 362.75
*Wt. Passing #10 (g):* 243.50

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 7-Nov-14 | 1 | 19.7 | 23.0 | 6.3 | 16.7 | 12.5 | 0.04844 | 39.7 | 26.6 |
| | 2 | 19.7 | 20.5 | 6.3 | 14.2 | 12.9 | 0.03481 | 33.8 | 22.7 |
| | 5 | 19.7 | 20.0 | 6.3 | 13.7 | 13.0 | 0.02208 | 32.6 | 21.9 |
| | 15 | 19.7 | 16.0 | 6.3 | 9.7 | 13.7 | 0.01307 | 23.1 | 15.5 |
| | 30 | 19.8 | 14.5 | 6.3 | 8.3 | 13.9 | 0.00931 | 19.6 | 13.1 |
| | 60 | 19.8 | 14.0 | 6.3 | 7.8 | 14.0 | 0.00660 | 18.4 | 12.3 |
| | 120 | 19.9 | 13.5 | 6.2 | 7.3 | 14.1 | 0.00468 | 17.2 | 11.6 |
| | 250 | 20.3 | 11.5 | 6.2 | 5.3 | 14.4 | 0.00326 | 12.6 | 8.5 |
| | 454 | 21.4 | 11.0 | 6.0 | 5.0 | 14.5 | 0.00239 | 11.9 | 8.0 |
| 8-Nov-14 | 1515 | 20.1 | 10.0 | 6.2 | 3.8 | 14.7 | 0.00134 | 9.0 | 6.1 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* P. Barlow
*Data entered by:* C. Krous
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.0039** | $d_{30}$ = **0.054** | $d_{50}$ = **0.17** | $d_{60}$ = **0.55** | $C_u$ = **141** | $C_c$ = **1.4** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-19 (8-10) Core** | **14EC016B** | **Silty sand with gravel (SM)g** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Wet Sieve Data (#10 Split)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B
*Test Date:* 13-Oct-14

*Initial Dry Weight of Sample (g):* 2077.83
*Weight Passing #10 (g):* 935.90
*Weight Retained #10 (g):* 1141.93
*Weight of Hydrometer Sample (g):* 82.02
*Calculated Weight of Sieve Sample (g):* 182.10

*Shape:* Angular
*Hardness:* Hard and durable

| Test Fraction | Sieve Number | Diameter (mm) | Wt. Retained | Cum Wt. Retained | Wt. Passing | % Passing |
|---|---|---|---|---|---|---|
| +10 | | | | | | |
| | 3" | 75 | 0.00 | 0.00 | 2077.83 | 100.00 |
| | 2" | 50 | 0.00 | 0.00 | 2077.83 | 100.00 |
| | 1.5" | 38.1 | 113.34 | 113.34 | 1964.49 | 94.55 |
| | 1" | 25 | 59.60 | 172.94 | 1904.89 | 91.68 |
| | 3/4" | 19.0 | 184.28 | 357.22 | 1720.61 | 82.81 |
| | 3/8" | 9.5 | 420.89 | 778.11 | 1299.72 | 62.55 |
| | 4 | 4.75 | 211.49 | 989.60 | 1088.23 | 52.37 |
| | 10 | 2.00 | 152.33 | 1141.93 | 935.90 | 45.04 |
| -10 | | | (Based on calculated sieve wt.) | | | |
| | 20 | 0.85 | 9.04 | 109.12 | 72.98 | 40.08 |
| | 40 | 0.425 | 7.54 | 116.66 | 65.44 | 35.94 |
| | 60 | 0.250 | 6.71 | 123.37 | 58.73 | 32.25 |
| | 140 | 0.106 | 11.08 | 134.45 | 47.65 | 26.17 |
| | 200 | 0.075 | 5.00 | 139.45 | 42.65 | 23.42 |
| | dry pan | | 1.67 | 141.12 | 40.98 | |
| | wet pan | | | 40.98 | 0.00 | |

$d_{10}$ (mm): 0.013 $d_{50}$ (mm): 3.6
$d_{16}$ (mm): 0.043 $d_{60}$ (mm): 8.0
$d_{30}$ (mm): 0.18 $d_{84}$ (mm): 20

*Median Particle Diameter* --$d_{50}$ (mm): 3.6
*Uniformity Coefficient, Cu* --[$d_{60}/d_{10}$] (mm): 615
*Coefficient of Curvature, Cc* --[$(d_{30})^2/(d_{10}*d_{60})$] (mm): 0.31
*Mean Particle Diameter* --[$(d_{16}+d_{50}+d_{84})/3$] (mm): 7.9

*Classification of fines (visual method):* ML

*ASTM Soil Classification:* Silty gravel with sand (GM)s
*USDA Soil Classification:* Sandy Loam †

† Greater than 10% of sample is coarse material

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

Daniel B. Stephens & Associates, Inc.

# Particle Size Analysis
## Hydrometer Data

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 9-Oct-14
*Start Time:* 9:54

*Type of Water Used:* DISTILLED
*Reaction with* $H_2O_2$*:* NA
*Dispersant*:* $(NaPO_3)_6$
*Assumed particle density:* 2.65

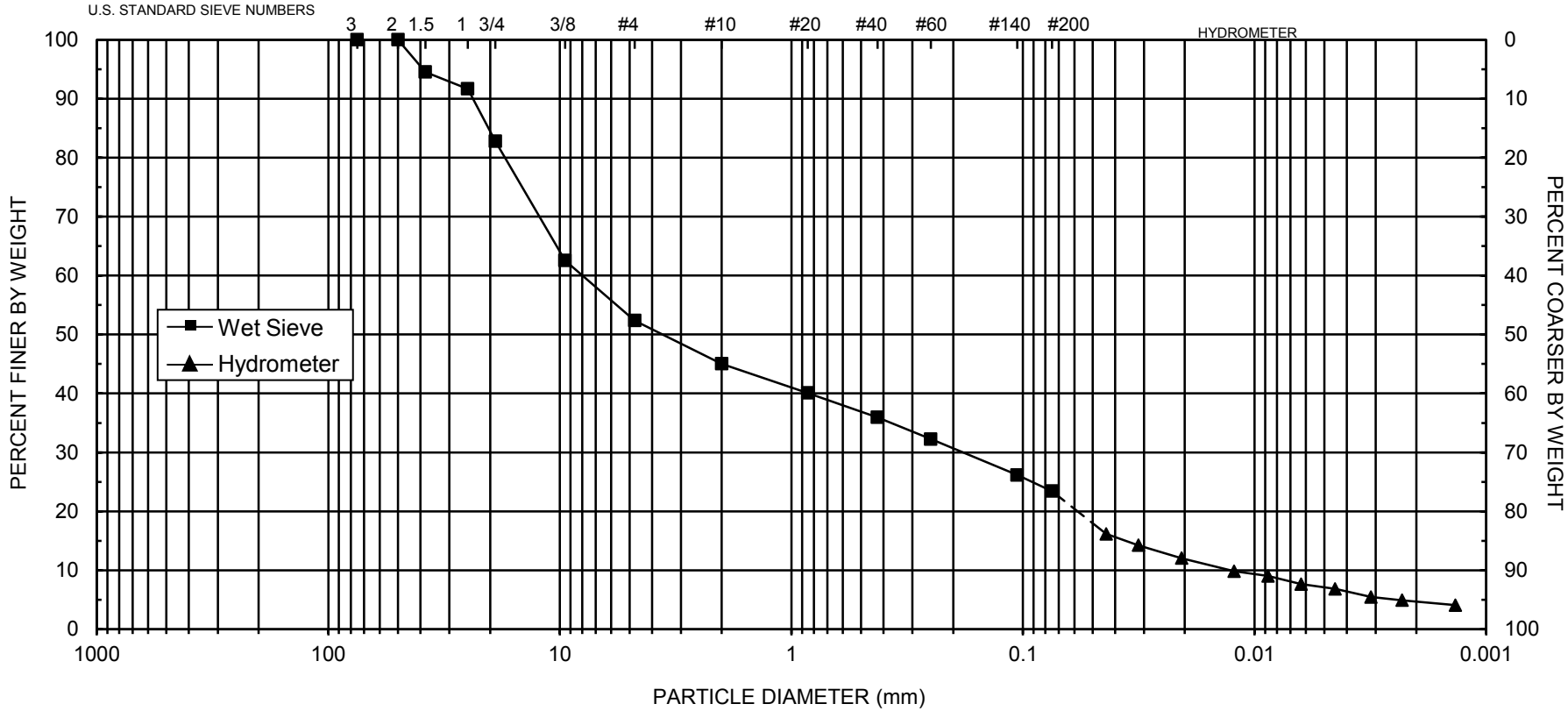
*Initial Wt.* (g)*:* 82.02
*Total Sample Wt.* (g)*:* 2077.83
*Wt. Passing #10 (g):* 935.90

| Date | Time (min) | Temp (°C) | R (g/L) | $R_L$ (g/L) | $R_{corr}$ (g/L) | L (cm) | D (mm) | P (%) | % Finer |
|---|---|---|---|---|---|---|---|---|---|
| 9-Oct-14 | 1 | 20.8 | 35.5 | 6.1 | 29.4 | 10.5 | 0.04367 | 35.9 | 16.2 |
| | 2 | 20.8 | 32.0 | 6.1 | 25.9 | 11.1 | 0.03171 | 31.6 | 14.2 |
| | 5 | 20.8 | 28.0 | 6.1 | 21.9 | 11.7 | 0.02064 | 26.7 | 12.0 |
| | 15 | 20.8 | 24.0 | 6.1 | 17.9 | 12.4 | 0.01225 | 21.8 | 9.8 |
| | 30 | 20.8 | 22.5 | 6.1 | 16.4 | 12.6 | 0.00875 | 20.0 | 9.0 |
| | 60 | 20.7 | 20.0 | 6.1 | 13.9 | 13.0 | 0.00629 | 16.9 | 7.6 |
| | 120 | 20.8 | 18.5 | 6.1 | 12.4 | 13.3 | 0.00449 | 15.1 | 6.8 |
| | 253 | 20.8 | 16.0 | 6.1 | 9.9 | 13.7 | 0.00314 | 12.1 | 5.4 |
| | 476 | 20.8 | 15.0 | 6.1 | 8.9 | 13.8 | 0.00230 | 10.9 | 4.9 |
| 10-Oct-14 | 1398 | 20.8 | 13.5 | 6.1 | 7.4 | 14.1 | 0.00135 | 9.0 | 4.1 |

*Comments:*

* Dispersion device: mechanically operated stirring device

*Laboratory analysis by:* N. Candelaria
*Data entered by:* N. Candelaria
*Checked by:* J. Hines




| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UNIFIED | COBBLES | GRAVEL | | SAND | | | SILT OR CLAY | | | | |
| | | Coarse | Fine | Coarse | Medium | Fine | | | | | |
| USDA | COBBLES | GRAVEL | | SAND | | | | | SILT | | CLAY |
| | | | | Very coarse | Coarse | Medium | Fine | Very fine | | | |

| $d_{10}$ = **0.013** | $d_{30}$ = **0.18** | $d_{50}$ = **3.6** | $d_{60}$ = **8.0** | $C_u$ = **615** | $C_c$ = **0.31** |
|---|---|---|---|---|---|

| SAMPLE NUMBER | PO NUMBER | ASTM CLASSIFICATION | USDA CLASSIFICATION |
|---|---|---|---|
| **200-SB-19 (8-10') Bag** | **14EC016B** | **Silty gravel with sand (GM)s** | **Sandy Loam †** |

† Greater than 10% of sample is coarse material

*Daniel B. Stephens & Associates, Inc.*

# Atterberg Limits/ Identification of Fines

## Summary of Atterberg Tests

| Sample Number | Liquid Limit | Plastic Limit | Plasticity Index | Classification |
|---|---|---|---|---|
| 200-SB-09 (8-10) Bag | --- | --- | --- | ML |
| 200-SB-10 (16-18) Bag | 19 | 13 | 6 | CL-ML |
| 200-SB-11 (28-30) Core | --- | --- | --- | ML |
| 200-SB-12 (8-10') Bag | --- | --- | --- | ML |
| 200-SB-15 (8-10) Bag | --- | --- | --- | ML |
| 200-SB-15 (66-68') Bag | --- | --- | --- | ML |
| 200-SB-15 (98-100') Bag | --- | --- | --- | ML |
| 200-SB-16 (18-20) Core | --- | --- | --- | ML |
| 200-SB-16 (58-60) Bag | --- | --- | --- | ML |
| 200-SB-17 (8-12) Bag | --- | --- | --- | ML |
| 200-SB-18 (48-50') Bag | 31 | 21 | 10 | CL |
| 200-SB-18 (58-60') Bag | --- | --- | --- | ML |
| 200-SB-18 (88-90) Bag | 33 | 16 | 17 | CL |
| 200-SB-19 (8-10') Bag | --- | --- | --- | ML |

--- = Soil requires visual-manual classification due to non-plasticity

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-09 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Low
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-10 (16-18) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | 32 | 21 | 15 |
| *Pan number:* | LL1 | LL2 | LL3 |
| *Weight of pan plus moist soil (g):* | 126.44 | 128.17 | 124.43 |
| *Weight of pan plus dry soil (g)* | 124.29 | 126.08 | 122.51 |
| *Weight of pan (g):* | 112.61 | 115.32 | 113.26 |
| *Gravimetric moisture content (% g/g):* | 18.41 | 19.42 | 20.76 |
| *Liquid Limit:* | 19 | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | PL1 | PL2 |
| *Weight of pan plus moist soil (g):* | 125.74 | 120.38 |
| *Weight of pan plus dry soil (g)* | 124.63 | 119.40 |
| *Weight of pan (g):* | 116.40 | 112.05 |
| *Gravimetric moisture content (% g/g):* | 13.49 | 13.33 |
| *Plastic Limit:* | 13 | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* 19
*Plastic Limit:* 13
*Plasticity Index:* 6

*Classification:* CL-ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-11 (28-30) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Dark Yellowish Brown (10YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: None
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-12 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-12 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Yellow Brown (10YR 5/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Low
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (8-10) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Dark Yellowish Brown (10YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Medium
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (66-68') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (66-68') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (10YR 5/3)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Medium
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (98-100') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-15 (98-100') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 7-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Yellowish Brown (10YR 5/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Medium
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (18-20) Core
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5 YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Medium
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-16 (58-60) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5YR 5/3)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Low
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-17 (8-12) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Brown (7.5 YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: None
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (48-50') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | 36 | 24 | 15 |
| *Pan number:* | LL1 | LL2 | LL3 |
| *Weight of pan plus moist soil (g):* | 125.56 | 128.56 | 124.75 |
| *Weight of pan plus dry soil (g)* | 123.48 | 125.73 | 122.68 |
| *Weight of pan (g):* | 116.47 | 116.51 | 116.31 |
| *Gravimetric moisture content (% g/g):* | 29.67 | 30.69 | 32.50 |
| *Liquid Limit:* | 31 | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | PL1 | PL2 |
| *Weight of pan plus moist soil (g):* | 127.22 | 125.72 |
| *Weight of pan plus dry soil (g)* | 125.49 | 123.97 |
| *Weight of pan (g):* | 117.15 | 115.37 |
| *Gravimetric moisture content (% g/g):* | 20.74 | 20.35 |
| *Plastic Limit:* | 21 | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* 31
*Plastic Limit:* 21
*Plasticity Index:* 10

*Classification:* CL

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (58-60') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (58-60') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Dark Yellowish Brown (10YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Low
Dilatency: Slow
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-18 (88-90) Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 10-Nov-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | 36 | 26 | 17 |
| *Pan number:* | LL1 | LL2 | LL3 |
| *Weight of pan plus moist soil (g):* | 125.60 | 119.46 | 121.77 |
| *Weight of pan plus dry soil (g)* | 123.80 | 117.32 | 118.94 |
| *Weight of pan (g):* | 117.97 | 110.83 | 110.84 |
| *Gravimetric moisture content (% g/g):* | 30.87 | 32.97 | 34.94 |
| *Liquid Limit:* | 33 | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | PL1 | PL2 |
| *Weight of pan plus moist soil (g):* | 121.06 | 121.90 |
| *Weight of pan plus dry soil (g)* | 120.13 | 120.99 |
| *Weight of pan (g):* | 114.41 | 115.32 |
| *Gravimetric moisture content (% g/g):* | 16.26 | 16.05 |
| *Plastic Limit:* | 16 | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* 33
*Plastic Limit:* 16
*Plasticity Index:* 17

*Classification:* CL

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* C. Krous
*Checked by:* J. Hines

# Atterberg Limits

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

## Liquid Limit

| | Trial 1 | Trial 2 | Trial 3 |
|---|---|---|---|
| *Number of drops:* | | | |
| *Pan number:* | | | |
| *Weight of pan plus moist soil (g):* | | | |
| *Weight of pan plus dry soil (g)* | | | |
| *Weight of pan (g):* | | | |
| *Gravimetric moisture content (% g/g):* | --- | --- | --- |
| *Liquid Limit:* | --- | | |

## Plastic Limit

| | Trial 1 | Trial 2 |
|---|---|---|
| *Pan number:* | | |
| *Weight of pan plus moist soil (g):* | | |
| *Weight of pan plus dry soil (g)* | | |
| *Weight of pan (g):* | | |
| *Gravimetric moisture content (% g/g):* | --- | --- |
| *Plastic Limit:* | --- | |

## Results

*Percent of Sample Retained on #40 Sieve:* See Sieve

*Liquid Limit:* ---
*Plastic Limit:* ---
*Plasticity Index:* ---

*Classification (Visual Method):* ML

Comments:

--- = Soil requires visual-manual classification due to non-plasticity
* = 1-point method requested by client

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Data for Description and Identification of Fines
# (Visual-Manual Procedure)

*Job Name:* Navarro Research and Engineering, Inc.
*Job Number:* LB14.0130.00
*Sample Number:* 200-SB-19 (8-10') Bag
*Project Number:* 8752-028 47
*PO Number:* 14EC016B

*Test Date:* 13-Oct-14

Visual-manual classification of material passing the #40 sieve in lieu of Atterberg analysis due to non-plasticity:

## Descriptive Information:

Color of Moist Sample: Dark Yellowish Brown (10YR 4/4)
Odor: None
Moisture Condition: Moist
HCl Reaction: Strong

## Preliminary Identification:

Dry Strength: Low
Dilatency: Rapid
Toughness: Low
Plasticity: Non-plastic

## Identification of Inorganic Fine Grained Soils:

Silt (ML)

*Laboratory analysis by:* D. O'Dowd
*Data entered by:* N. Candelaria
*Checked by:* J. Hines

# Laboratory Tests and Methods

# Tests and Methods

| | |
|---|---|
| Dry Bulk Density: | ASTM D7263 |
| Moisture Content: | ASTM D7263 |
| Calculated Porosity: | ASTM D7263 |
| Saturated Hydraulic Conductivity: | |
| Constant Head: (Rigid Wall) | ASTM D 2434 (modified apparatus) |
| Falling Head: (Rigid Wall) | Klute, A. and C. Dirkson. 1986. Hydraulic Conductivity and Diffusivity: Laboratory Methods.Chp. 28, pp. 700-703, in A. Klute (ed.), Methods of Soil Analysis, Part 1, American Society of Agronomy, Madison, WI |
| Hanging Column Method: | ASTM D6836 (modified apparatus) |
| Pressure Plate Method: | ASTM D6836 (modified apparatus) |
| Water Potential (Dewpoint Potentiometer) Method: | ASTM D6836 |
| Relative Humidity (Box) Method: | Campbell, G. and G. Gee. 1986. Water Potential: Miscellaneous Methods. Chp. 25, pp. 631-632, in A. Klute (ed.), Methods of Soil Analysis. Part 1. American Society of Agronomy, Madison, WI; Karathanasis & Hajek. 1982. Quantitative Evaluation of Water Adsorption on Soil Clays. SSA Journal 46:1321-1325 |
| Moisture Retention Characteristics & Calculated Unsaturated Hydraulic Conductivity: | ASTM D6836; van Genuchten, M.T. 1980. A closed-form equation for predicting the hydraulic conductivity of unsaturated soils. SSSAJ 44:892-898; van Genuchten, M.T., F.J. Leij, and S.R. Yates. 1991. The RETC code for quantifying the hydraulic functions of unsaturated soils. Robert S. Kerr Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Ada, Oklahoma. EPA/600/2091/065. December 1991 |
| Particle Size Analysis: | ASTM D422 |
| USCS (ASTM) Classification: | ASTM D422, ASTM D2487 |
| USDA Classification: | ASTM D422, USDA Soil Textural Triangle |
| Atterberg Limits: | ASTM D4318 |
| Visual-Manual Description: | ASTM D2488 |
| Coarse Fraction (Gravel) Correction (calc): | ASTM D4718; Bouwer, H. and Rice, R.C. 1984. Hydraulic Properties of Stony Vadose Zones. Groundwater Vol. 22, No. 6 |

# Appendix G
# Soil Vapor Results

# Appendix G - Soil Vapor Results

| Borehole | 100-HG-139 | Depth (ft) | 6.5 | Depth (m) | 1.98 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081410 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 451 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 34.75 | 17 | 7.6 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 34.75 | 17 | 4.9 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 34.75 | 170 | 7.3 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 34.75 | 35 | 15 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 67-64-1 | Acetone | ND | ug/m3 | 34.75 | 170 | 27 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 34.75 | 17 | 3.8 | |
| 71-43-2 | Benzene | 9.8 | ug/m3 | 34.75 | 17 | 5.6 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 460-00-4 | Bromofluorobenzene | 481 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 34.75 | 17 | 6.6 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 34.75 | 170 | 5.2 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 34.75 | 17 | 4.9 | |
| 98-82-8 | Cumene | ND | ug/m3 | 34.75 | 17 | 5.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 110-82-7 | Cyclohexane | ND | ug/m3 | 34.75 | 35 | 10 | |
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 34.75 | 170 | 28 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 75-69-4 | Freon 11 | 10 | ug/m3 | 34.75 | 17 | 5.9 | J |
| 76-13-1 | Freon 113 | 2200 | ug/m3 | 34.75 | 17 | 5.9 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 34.75 | 17 | 6.6 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 34.75 | 17 | 8.3 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 34.75 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 34.75 | 17 | 8.3 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 34.75 | 17 | 4.9 | |
| 110-54-3 | Hexane | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 34.75 | 35 | 10 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 100-42-5 | Styrene | ND | ug/m3 | 34.75 | 17 | 5.2 | |
| 127-18-4 | Tetrachloroethene | 12 | ug/m3 | 34.75 | 17 | 4.9 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 34.75 | 17 | 7 | |
| 108-88-3 | Toluene | ND | ug/m3 | 34.75 | 17 | 5.9 | |
| 2037-26-5 | Toluene-d8 | 494 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 34.75 | 17 | 6.6 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 34.75 | 17 | 5.6 | |
| 79-01-6 | Trichloroethene | 52 | ug/m3 | 34.75 | 17 | 4.9 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 34.75 | 17 | 5.9 | |

| Borehole | 100-HG-139 | Depth (ft) | 40 | Depth (m) | 12.19 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081420 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 456 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 40.75 | 20 | 9 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 40.75 | 20 | 5.7 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 40.75 | 200 | 8.6 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 40.75 | 41 | 17 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 67-64-1 | Acetone | ND | ug/m3 | 40.75 | 200 | 31 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 40.75 | 20 | 4.5 | |
| 71-43-2 | Benzene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 460-00-4 | Bromofluorobenzene | 483 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 40.75 | 20 | 7.7 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 40.75 | 200 | 6.1 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 40.75 | 20 | 5.7 | |
| 98-82-8 | Cumene | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 40.75 | 41 | 12 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 40.75 | 200 | 33 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 75-69-4 | Freon 11 | 18 | ug/m3 | 40.75 | 20 | 6.9 | J |
| 76-13-1 | Freon 113 | 2700 | ug/m3 | 40.75 | 20 | 6.9 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 40.75 | 20 | 7.7 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 40.75 | 20 | 9.8 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 40.75 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 40.75 | 20 | 9.8 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 40.75 | 20 | 5.7 | |
| 110-54-3 | Hexane | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 40.75 | 41 | 12 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 100-42-5 | Styrene | ND | ug/m3 | 40.75 | 20 | 6.1 | |
| 127-18-4 | Tetrachloroethene | 9.2 | ug/m3 | 40.75 | 20 | 5.7 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 40.75 | 20 | 8.2 | |
| 108-88-3 | Toluene | ND | ug/m3 | 40.75 | 20 | 6.9 | |
| 2037-26-5 | Toluene-d8 | 493 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 40.75 | 20 | 7.7 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 40.75 | 20 | 6.5 | |
| 79-01-6 | Trichloroethene | 38 | ug/m3 | 40.75 | 20 | 5.7 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 40.75 | 20 | 6.9 | |

| Borehole | 100-HG-139 | Depth (ft) | 72 | Depth (m) | 21.94 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081434 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 64 | 32 | 11 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 64 | 32 | 9.6 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 64 | 32 | 10 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 64 | 32 | 10 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 64 | 32 | 11 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 64 | 32 | 10 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 64 | 32 | 9.6 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 64 | 32 | 10 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 64 | 32 | 9.6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 64 | 32 | 10 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 453 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 64 | 32 | 10 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 64 | 32 | 10 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 64 | 32 | 14 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 64 | 32 | 9.6 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 64 | 32 | 9 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 64 | 32 | 10 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 64 | 32 | 9.6 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 64 | 320 | 13 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 64 | 32 | 10 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 64 | 64 | 27 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 64 | 32 | 10 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 64 | 32 | 10 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 64 | 32 | 10 | |
| 67-64-1 | Acetone | ND | ug/m3 | 64 | 320 | 49 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 64 | 32 | 7 | |
| 71-43-2 | Benzene | 21 | ug/m3 | 64 | 32 | 10 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 64 | 32 | 9.6 | |
| 460-00-4 | Bromofluorobenzene | 478 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 64 | 32 | 9.6 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 64 | 32 | 12 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 64 | 320 | 9.6 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 64 | 32 | 9.6 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 64 | 32 | 10 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 64 | 32 | 11 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 64 | 32 | 11 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 64 | 32 | 9.6 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 64 | 32 | 10 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 64 | 32 | 9 | |
| 98-82-8 | Cumene | ND | ug/m3 | 64 | 32 | 9.6 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 64 | 64 | 19 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 64 | 32 | 10 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 64 | 320 | 51 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 64 | 32 | 10 | |
| 75-69-4 | Freon 11 | 220 | ug/m3 | 64 | 32 | 11 | |
| 76-13-1 | Freon 113 | 22000 | ug/m3 | 640 | 320 | 110 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 64 | 32 | 12 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 64 | 32 | 11 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 64 | 32 | 15 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 64 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 64 | 32 | 15 | U,X |
| 142-82-5 | Heptane | 13 | ug/m3 | 64 | 32 | 11 | J |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 64 | 32 | 9 | |
| 110-54-3 | Hexane | ND | ug/m3 | 64 | 32 | 9.6 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 64 | 64 | 19 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 64 | 32 | 11 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 64 | 32 | 11 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 64 | 32 | 9.6 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 64 | 32 | 10 | |
| 100-42-5 | Styrene | ND | ug/m3 | 64 | 32 | 9.6 | |
| 127-18-4 | Tetrachloroethene | 14 | ug/m3 | 64 | 32 | 9 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 64 | 32 | 13 | |
| 108-88-3 | Toluene | ND | ug/m3 | 64 | 32 | 11 | |
| 2037-26-5 | Toluene-d8 | 493 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 64 | 32 | 12 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 64 | 32 | 10 | |
| 79-01-6 | Trichloroethene | 48 | ug/m3 | 64 | 32 | 9 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 64 | 32 | 11 | |

| Borehole | 200-JG-110 | Depth (ft) | 10 | Depth (m) | 3.05 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081348 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 41.25 | 21 | 7 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 41.25 | 21 | 7 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 454 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 41.25 | 21 | 9.1 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 41.25 | 21 | 5.8 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 41.25 | 210 | 8.7 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 41.25 | 41 | 17 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 67-64-1 | Acetone | 42 | ug/m3 | 41.25 | 210 | 32 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 41.25 | 21 | 4.5 | |
| 71-43-2 | Benzene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 460-00-4 | Bromofluorobenzene | 480 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 41.25 | 21 | 7.8 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 41.25 | 210 | 6.2 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 41.25 | 21 | 7 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 41.25 | 21 | 7 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 41.25 | 21 | 5.8 | |
| 98-82-8 | Cumene | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 41.25 | 41 | 12 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 41.25 | 210 | 33 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 75-69-4 | Freon 11 | 19 | ug/m3 | 41.25 | 21 | 7 | J |
| 76-13-1 | Freon 113 | 4300 | ug/m3 | 41.25 | 21 | 7 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 41.25 | 21 | 7.8 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 41.25 | 21 | 7 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 41.25 | 21 | 9.9 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 41.25 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 41.25 | 21 | 9.9 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 41.25 | 21 | 7 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 41.25 | 21 | 5.8 | |
| 110-54-3 | Hexane | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 41.25 | 41 | 12 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 41.25 | 21 | 7 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 41.25 | 21 | 7 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 100-42-5 | Styrene | ND | ug/m3 | 41.25 | 21 | 6.2 | |
| 127-18-4 | Tetrachloroethene | 85 | ug/m3 | 41.25 | 21 | 5.8 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 41.25 | 21 | 8.3 | |
| 108-88-3 | Toluene | ND | ug/m3 | 41.25 | 21 | 7 | |
| 2037-26-5 | Toluene-d8 | 496 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 41.25 | 21 | 7.8 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 41.25 | 21 | 6.6 | |
| 79-01-6 | Trichloroethene | 500 | ug/m3 | 41.25 | 21 | 5.8 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 41.25 | 21 | 7 | |

| Borehole | 200-JG-110 | Depth (ft) | 40 | Depth (m) | 12.19 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081353 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 656 | 330 | 110 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 656 | 330 | 98 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 656 | 330 | 100 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 656 | 330 | 100 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 656 | 330 | 110 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 656 | 330 | 100 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 656 | 330 | 98 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 656 | 330 | 100 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 656 | 330 | 98 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 656 | 330 | 100 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 452 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 656 | 330 | 100 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 656 | 330 | 100 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 656 | 330 | 140 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 656 | 330 | 98 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 656 | 330 | 92 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 656 | 330 | 100 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 656 | 330 | 98 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 656 | 3300 | 140 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 656 | 330 | 100 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 656 | 660 | 280 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 656 | 330 | 100 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 656 | 330 | 100 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 656 | 330 | 100 | |
| 67-64-1 | Acetone | ND | ug/m3 | 656 | 3300 | 510 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 656 | 330 | 72 | |
| 71-43-2 | Benzene | ND | ug/m3 | 656 | 330 | 100 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 656 | 330 | 98 | |
| 460-00-4 | Bromofluorobenzene | 482 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 656 | 330 | 98 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 656 | 330 | 120 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 656 | 3300 | 98 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 656 | 330 | 98 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 656 | 330 | 100 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 656 | 330 | 110 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 656 | 330 | 110 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 656 | 330 | 98 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 656 | 330 | 100 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 656 | 330 | 92 | |
| 98-82-8 | Cumene | ND | ug/m3 | 656 | 330 | 98 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 656 | 660 | 190 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 656 | 330 | 100 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 656 | 3300 | 520 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 656 | 330 | 100 | |
| 75-69-4 | Freon 11 | 160 | ug/m3 | 656 | 330 | 110 | J |
| 76-13-1 | Freon 113 | 45000 | ug/m3 | 656 | 330 | 110 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 656 | 330 | 120 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 656 | 330 | 110 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 656 | 330 | 160 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 656 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 656 | 330 | 160 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 656 | 330 | 110 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 656 | 330 | 92 | |
| 110-54-3 | Hexane | ND | ug/m3 | 656 | 330 | 98 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 656 | 660 | 200 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 656 | 330 | 110 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 656 | 330 | 110 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 656 | 330 | 98 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 656 | 330 | 100 | |
| 100-42-5 | Styrene | ND | ug/m3 | 656 | 330 | 98 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 656 | 330 | 92 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 656 | 330 | 130 | |
| 108-88-3 | Toluene | ND | ug/m3 | 656 | 330 | 110 | |
| 2037-26-5 | Toluene-d8 | 496 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 656 | 330 | 120 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 656 | 330 | 100 | |
| 79-01-6 | Trichloroethene | 130 | ug/m3 | 656 | 330 | 92 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 656 | 330 | 110 | |

| Borehole | 200-JG-110 | Depth (ft) | 80 | Depth (m) | 24.38 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081357 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 530 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 3140 | 1600 | 500 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 453 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 3140 | 1600 | 690 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 3140 | 16000 | 660 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 3140 | 1600 | 500 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 3140 | 3100 | 1300 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 3140 | 1600 | 500 | |
| 67-64-1 | Acetone | ND | ug/m3 | 3140 | 16000 | 2400 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 3140 | 1600 | 350 | |
| 71-43-2 | Benzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 460-00-4 | Bromofluorobenzene | 479 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 3140 | 1600 | 470 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 3140 | 1600 | 600 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 3140 | 16000 | 470 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 3140 | 1600 | 470 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 3140 | 1600 | 530 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 98-82-8 | Cumene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 3140 | 3100 | 910 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 3140 | 16000 | 2500 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-69-4 | Freon 11 | 770 | ug/m3 | 3140 | 1600 | 530 | J |
| 76-13-1 | Freon 113 | 200000 | ug/m3 | 3140 | 1600 | 530 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 3140 | 1600 | 600 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 3140 | 1600 | 530 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 3140 | 1600 | 750 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 3140 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 3140 | 1600 | 750 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 110-54-3 | Hexane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 3140 | 3100 | 940 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 3140 | 1600 | 530 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 3140 | 1600 | 530 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 100-42-5 | Styrene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 3140 | 1600 | 630 | |
| 108-88-3 | Toluene | ND | ug/m3 | 3140 | 1600 | 530 | |
| 2037-26-5 | Toluene-d8 | 500 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 600 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 79-01-6 | Trichloroethene | 1100 | ug/m3 | 3140 | 1600 | 440 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 3140 | 1600 | 530 | |

| Borehole | 200-KV-150 | Depth (ft) | 59 | Depth (m) | 17.98 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071525 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 335 | 170 | 57 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 335 | 170 | 50 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 335 | 170 | 54 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 335 | 170 | 54 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 335 | 170 | 57 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 335 | 170 | 54 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 335 | 170 | 50 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 335 | 170 | 54 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 335 | 170 | 50 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 335 | 170 | 54 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 523 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 335 | 170 | 54 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 335 | 170 | 54 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 335 | 170 | 74 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 335 | 170 | 50 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 335 | 170 | 47 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 335 | 170 | 54 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 335 | 170 | 50 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 335 | 1700 | 70 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 335 | 170 | 54 | |
| 67-63-0 | 2-Propanol | 5400 | ug/m3 | 335 | 340 | 140 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 335 | 170 | 54 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 335 | 170 | 54 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 335 | 170 | 54 | |
| 67-64-1 | Acetone | 470 | ug/m3 | 335 | 1700 | 260 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 335 | 170 | 37 | |
| 71-43-2 | Benzene | 140 | ug/m3 | 335 | 170 | 54 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 335 | 170 | 50 | |
| 460-00-4 | Bromofluorobenzene | 519 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 335 | 170 | 50 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 335 | 170 | 64 | |
| 75-15-0 | Carbon Disulfide | 160 | ug/m3 | 335 | 1700 | 50 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 335 | 170 | 50 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 335 | 170 | 54 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 335 | 170 | 57 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 335 | 170 | 57 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 335 | 170 | 50 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 335 | 170 | 54 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 335 | 170 | 47 | |
| 98-82-8 | Cumene | ND | ug/m3 | 335 | 170 | 50 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 335 | 340 | 97 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 335 | 170 | 54 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 335 | 1700 | 270 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 335 | 170 | 54 | |
| 75-69-4 | Freon 11 | 12000 | ug/m3 | 335 | 170 | 57 | |
| 76-13-1 | Freon 113 | 25000 | ug/m3 | 335 | 170 | 57 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 335 | 170 | 64 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 335 | 170 | 57 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 335 | 170 | 80 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 335 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 335 | 170 | 80 | U,X |
| 142-82-5 | Heptane | 74 | ug/m3 | 335 | 170 | 57 | J |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 335 | 170 | 47 | |
| 110-54-3 | Hexane | 100 | ug/m3 | 335 | 170 | 50 | J |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 335 | 340 | 100 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 335 | 170 | 57 | |
| 75-09-2 | Methylene Chloride | 58 | ug/m3 | 335 | 170 | 57 | J |
| 95-47-6 | o-Xylene | ND | ug/m3 | 335 | 170 | 50 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 335 | 170 | 54 | |
| 100-42-5 | Styrene | ND | ug/m3 | 335 | 170 | 50 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 335 | 170 | 47 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 335 | 170 | 67 | |
| 108-88-3 | Toluene | 1900 | ug/m3 | 335 | 170 | 57 | |
| 2037-26-5 | Toluene-d8 | 492 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 335 | 170 | 64 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 335 | 170 | 54 | |
| 79-01-6 | Trichloroethene | 240 | ug/m3 | 335 | 170 | 47 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 335 | 170 | 57 | |

| Borehole | 200-LV-150 | Depth (ft) | 64 | Depth (m) | 19.51 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080800 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 500 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 104000 | 52000 | 23000 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 104000 | 52000 | 15000 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 104000 | 520000 | 22000 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 104000 | 100000 | 44000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 67-64-1 | Acetone | ND | ug/m3 | 104000 | 520000 | 80000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 104000 | 52000 | 11000 | |
| 71-43-2 | Benzene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 460-00-4 | Bromofluorobenzene | 522 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 104000 | 52000 | 20000 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 104000 | 520000 | 16000 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 104000 | 52000 | 15000 | |
| 98-82-8 | Cumene | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 104000 | 100000 | 30000 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 104000 | 520000 | 83000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 76-13-1 | Freon 113 | 6600000 | ug/m3 | 104000 | 52000 | 18000 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 104000 | 52000 | 20000 | |
| 75-71-8 | Freon 12 | 110000 | ug/m3 | 104000 | 52000 | 18000 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 104000 | 52000 | 25000 | U,X |
| 354-23-4 | Freon 123a | 480000 | ug/m3 | 104000 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 104000 | 52000 | 25000 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 104000 | 52000 | 15000 | |
| 110-54-3 | Hexane | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 104000 | 100000 | 31000 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 100-42-5 | Styrene | ND | ug/m3 | 104000 | 52000 | 16000 | |
| 127-18-4 | Tetrachloroethene | 19000 | ug/m3 | 104000 | 52000 | 15000 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 104000 | 52000 | 21000 | |
| 108-88-3 | Toluene | ND | ug/m3 | 104000 | 52000 | 18000 | |
| 2037-26-5 | Toluene-d8 | 495 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 104000 | 52000 | 20000 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 104000 | 52000 | 17000 | |
| 79-01-6 | Trichloroethene | 380000 | ug/m3 | 104000 | 52000 | 15000 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 104000 | 52000 | 18000 | |

| Borehole | 200-LV-150 | Depth (ft) | 84 | Depth (m) | 25.60 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080805 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 505 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 10466.67 | 5200 | 2300 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 10466.67 | 5200 | 1500 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 10466.67 | 52000 | 2200 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 10466.67 | 10000 | 4400 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 67-64-1 | Acetone | ND | ug/m3 | 10466.67 | 52000 | 8100 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 10466.67 | 5200 | 1200 | |
| 71-43-2 | Benzene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 460-00-4 | Bromofluorobenzene | 503 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 10466.67 | 5200 | 2000 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 10466.67 | 52000 | 1600 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 10466.67 | 5200 | 1500 | |
| 98-82-8 | Cumene | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 10466.67 | 10000 | 3000 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 10466.67 | 52000 | 8400 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 76-13-1 | Freon 113 | 680000 | ug/m3 | 10466.67 | 5200 | 1800 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 10466.67 | 5200 | 2000 | |
| 75-71-8 | Freon 12 | 3200 | ug/m3 | 10466.67 | 5200 | 1800 | J |
| 306-83-2 | Freon 123 | ND | ug/m3 | 10466.67 | 5200 | 2500 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 10466.67 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 10466.67 | 5200 | 2500 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 10466.67 | 5200 | 1500 | |
| 110-54-3 | Hexane | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 10466.67 | 10000 | 3100 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 100-42-5 | Styrene | ND | ug/m3 | 10466.67 | 5200 | 1600 | |
| 127-18-4 | Tetrachloroethene | 42000 | ug/m3 | 10466.67 | 5200 | 1500 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 10466.67 | 5200 | 2100 | |
| 108-88-3 | Toluene | ND | ug/m3 | 10466.67 | 5200 | 1800 | |
| 2037-26-5 | Toluene-d8 | 514 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 10466.67 | 5200 | 2000 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 10466.67 | 5200 | 1700 | |
| 79-01-6 | Trichloroethene | 250000 | ug/m3 | 10466.67 | 5200 | 1500 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 10466.67 | 5200 | 1800 | |

| Borehole | 200-SG-1 | Depth (ft) | 30 | Depth (m) | 9.14 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081300 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 556.67 | 280 | 95 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 556.67 | 280 | 84 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 556.67 | 280 | 89 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 556.67 | 280 | 89 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 556.67 | 280 | 95 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 556.67 | 280 | 84 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 556.67 | 280 | 89 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 556.67 | 280 | 84 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 556.67 | 280 | 89 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 515 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 556.67 | 280 | 89 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 556.67 | 280 | 120 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 556.67 | 280 | 84 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 556.67 | 280 | 78 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 556.67 | 280 | 89 | |
| 540-84-1 | 2,2,4-Trimethylpentane | 200 | ug/m3 | 556.67 | 280 | 84 | J |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 556.67 | 2800 | 120 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 556.67 | 280 | 89 | |
| 67-63-0 | 2-Propanol | 460 | ug/m3 | 556.67 | 560 | 230 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 556.67 | 280 | 89 | |
| 67-64-1 | Acetone | ND | ug/m3 | 556.67 | 2800 | 430 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 556.67 | 280 | 61 | |
| 71-43-2 | Benzene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 556.67 | 280 | 84 | |
| 460-00-4 | Bromofluorobenzene | 490 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 556.67 | 280 | 84 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 556.67 | 280 | 110 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 556.67 | 2800 | 84 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 556.67 | 280 | 84 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 556.67 | 280 | 95 | |
| 67-66-3 | Chloroform | 350 | ug/m3 | 556.67 | 280 | 95 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 556.67 | 280 | 84 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 556.67 | 280 | 78 | |
| 98-82-8 | Cumene | ND | ug/m3 | 556.67 | 280 | 84 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 556.67 | 560 | 160 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 556.67 | 280 | 89 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 556.67 | 2800 | 450 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 75-69-4 | Freon 11 | 110 | ug/m3 | 556.67 | 280 | 95 | J |
| 76-13-1 | Freon 113 | 51000 | ug/m3 | 556.67 | 280 | 95 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 556.67 | 280 | 110 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 556.67 | 280 | 95 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 556.67 | 280 | 130 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 556.67 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 556.67 | 280 | 130 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 556.67 | 280 | 95 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 556.67 | 280 | 78 | |
| 110-54-3 | Hexane | ND | ug/m3 | 556.67 | 280 | 84 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 556.67 | 560 | 170 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 556.67 | 280 | 95 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 556.67 | 280 | 95 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 556.67 | 280 | 84 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 100-42-5 | Styrene | ND | ug/m3 | 556.67 | 280 | 84 | |
| 127-18-4 | Tetrachloroethene | 1600 | ug/m3 | 556.67 | 280 | 78 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 556.67 | 280 | 110 | |
| 108-88-3 | Toluene | ND | ug/m3 | 556.67 | 280 | 95 | |
| 2037-26-5 | Toluene-d8 | 514 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 556.67 | 280 | 110 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 556.67 | 280 | 89 | |
| 79-01-6 | Trichloroethene | 6800 | ug/m3 | 556.67 | 280 | 78 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 556.67 | 280 | 95 | |

| Borehole | 200-SG-1 | Depth (ft) | 90 | Depth (m) | 27.43 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081305 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 532 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 25000 | 13000 | 5500 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 25000 | 13000 | 3500 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 25000 | 130000 | 5300 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 25000 | 25000 | 11000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 67-64-1 | Acetone | ND | ug/m3 | 25000 | 130000 | 19000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 25000 | 13000 | 2800 | |
| 71-43-2 | Benzene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 460-00-4 | Bromofluorobenzene | 494 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 25000 | 13000 | 4800 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 25000 | 130000 | 3800 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 25000 | 13000 | 3500 | |
| 98-82-8 | Cumene | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 25000 | 25000 | 7300 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 25000 | 130000 | 20000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 76-13-1 | Freon 113 | 2000000 | ug/m3 | 25000 | 13000 | 4300 | QD |
| 76-14-2 | Freon 114 | ND | ug/m3 | 25000 | 13000 | 4800 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 25000 | 13000 | 6000 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 25000 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 25000 | 13000 | 6000 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 25000 | 13000 | 3500 | |
| 110-54-3 | Hexane | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 25000 | 25000 | 7500 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 100-42-5 | Styrene | ND | ug/m3 | 25000 | 13000 | 3800 | |
| 127-18-4 | Tetrachloroethene | 12000 | ug/m3 | 25000 | 13000 | 3500 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 25000 | 13000 | 5000 | |
| 108-88-3 | Toluene | ND | ug/m3 | 25000 | 13000 | 4300 | |
| 2037-26-5 | Toluene-d8 | 512 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 25000 | 13000 | 4800 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 25000 | 13000 | 4000 | |
| 79-01-6 | Trichloroethene | 140000 | ug/m3 | 25000 | 13000 | 3500 | QD |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 25000 | 13000 | 4300 | |

**Sample 1410081306 Sample Type TO-15-D Analysis Method TO-15**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 521 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 9450 | 4700 | 2100 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 9450 | 4700 | 1300 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 540-84-1 | 2,2,4-Trimethylpentane | 3100 | ug/m3 | 9450 | 4700 | 1400 | J |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 9450 | 47000 | 2000 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 67-63-0 | 2-Propanol | 6900 | ug/m3 | 9450 | 9500 | 4000 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 67-64-1 | Acetone | ND | ug/m3 | 9450 | 47000 | 7300 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 9450 | 4700 | 1000 | |
| 71-43-2 | Benzene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 460-00-4 | Bromofluorobenzene | 487 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 9450 | 4700 | 1800 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 9450 | 47000 | 1400 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 9450 | 4700 | 1300 | |
| 98-82-8 | Cumene | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 9450 | 9500 | 2700 | |
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 9450 | 47000 | 7600 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 76-13-1 | Freon 113 | 710000 | ug/m3 | 9450 | 4700 | 1600 | QD |
| 76-14-2 | Freon 114 | ND | ug/m3 | 9450 | 4700 | 1800 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 9450 | 4700 | 2300 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 9450 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 9450 | 4700 | 2300 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 9450 | 4700 | 1300 | |
| 110-54-3 | Hexane | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 9450 | 9500 | 2800 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 100-42-5 | Styrene | ND | ug/m3 | 9450 | 4700 | 1400 | |
| 127-18-4 | Tetrachloroethene | 4400 | ug/m3 | 9450 | 4700 | 1300 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 9450 | 4700 | 1900 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 108-88-3 | Toluene | ND | ug/m3 | 9450 | 4700 | 1600 | |
| 2037-26-5 | Toluene-d8 | 511 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 9450 | 4700 | 1800 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 9450 | 4700 | 1500 | |
| 79-01-6 | Trichloroethene | 51000 | ug/m3 | 9450 | 4700 | 1300 | QD |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 9450 | 4700 | 1600 | |

| Borehole | 200-SG-1 | Depth (ft) | 122 | Depth (m) | 37.18 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081314 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 520 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 7200 | 3600 | 1600 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 7200 | 3600 | 1000 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 540-84-1 | 2,2,4-Trimethylpentane | 2100 | ug/m3 | 7200 | 3600 | 1100 | J |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 7200 | 36000 | 1500 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 67-63-0 | 2-Propanol | 4900 | ug/m3 | 7200 | 7200 | 3000 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 67-64-1 | Acetone | ND | ug/m3 | 7200 | 36000 | 5500 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 7200 | 3600 | 790 | |
| 71-43-2 | Benzene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 460-00-4 | Bromofluorobenzene | 488 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 7200 | 3600 | 1400 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 7200 | 36000 | 1100 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 7200 | 3600 | 1000 | |
| 98-82-8 | Cumene | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 7200 | 7200 | 2100 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 7200 | 36000 | 5800 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 75-69-4 | Freon 11 | 9200 | ug/m3 | 7200 | 3600 | 1200 | |
| 76-13-1 | Freon 113 | 550000 | ug/m3 | 7200 | 3600 | 1200 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 7200 | 3600 | 1400 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 7200 | 3600 | 1700 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 7200 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 7200 | 3600 | 1700 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 7200 | 3600 | 1000 | |
| 110-54-3 | Hexane | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 7200 | 7200 | 2200 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 100-42-5 | Styrene | ND | ug/m3 | 7200 | 3600 | 1100 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 7200 | 3600 | 1000 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 7200 | 3600 | 1400 | |
| 108-88-3 | Toluene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 2037-26-5 | Toluene-d8 | 508 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 7200 | 3600 | 1400 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 7200 | 3600 | 1200 | |
| 79-01-6 | Trichloroethene | 19000 | ug/m3 | 7200 | 3600 | 1000 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 7200 | 3600 | 1200 | |

| Borehole | 200-SG-2 | Depth (ft) | 30 | Depth (m) | 9.14 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081019 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 147.33 | 74 | 25 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 147.33 | 74 | 22 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 147.33 | 74 | 24 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 147.33 | 74 | 24 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 147.33 | 74 | 25 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 147.33 | 74 | 22 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 147.33 | 74 | 24 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 147.33 | 74 | 22 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 147.33 | 74 | 24 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 525 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 147.33 | 74 | 24 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 147.33 | 74 | 32 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 147.33 | 74 | 22 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 147.33 | 74 | 21 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 147.33 | 74 | 24 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 147.33 | 74 | 22 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 147.33 | 740 | 31 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 147.33 | 74 | 24 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 147.33 | 150 | 62 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 147.33 | 74 | 24 | |
| 67-64-1 | Acetone | ND | ug/m3 | 147.33 | 740 | 110 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 147.33 | 74 | 16 | |
| 71-43-2 | Benzene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 147.33 | 74 | 22 | |
| 460-00-4 | Bromofluorobenzene | 494 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 147.33 | 74 | 22 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 147.33 | 74 | 28 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 147.33 | 740 | 22 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 147.33 | 74 | 22 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 147.33 | 74 | 25 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 147.33 | 74 | 25 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 147.33 | 74 | 22 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 147.33 | 74 | 21 | |
| 98-82-8 | Cumene | ND | ug/m3 | 147.33 | 74 | 22 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 147.33 | 150 | 43 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 147.33 | 74 | 24 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 147.33 | 740 | 120 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 75-69-4 | Freon 11 | 35 | ug/m3 | 147.33 | 74 | 25 | J |
| 76-13-1 | Freon 113 | 15000 | ug/m3 | 147.33 | 74 | 25 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 147.33 | 74 | 28 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 147.33 | 74 | 25 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 147.33 | 74 | 35 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 147.33 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 147.33 | 74 | 35 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 147.33 | 74 | 25 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 147.33 | 74 | 21 | |
| 110-54-3 | Hexane | ND | ug/m3 | 147.33 | 74 | 22 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 147.33 | 150 | 44 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 147.33 | 74 | 25 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 147.33 | 74 | 25 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 147.33 | 74 | 22 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 100-42-5 | Styrene | ND | ug/m3 | 147.33 | 74 | 22 | |
| 127-18-4 | Tetrachloroethene | 61 | ug/m3 | 147.33 | 74 | 21 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 147.33 | 74 | 29 | |
| 108-88-3 | Toluene | 36 | ug/m3 | 147.33 | 74 | 25 | J |
| 2037-26-5 | Toluene-d8 | 509 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 147.33 | 74 | 28 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 147.33 | 74 | 24 | |
| 79-01-6 | Trichloroethene | 300 | ug/m3 | 147.33 | 74 | 21 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 147.33 | 74 | 25 | |

| Borehole | 200-SG-2 | Depth (ft) | 60 | Depth (m) | 18.29 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081030 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1295 | 650 | 220 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1295 | 650 | 190 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1295 | 650 | 210 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1295 | 650 | 210 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1295 | 650 | 220 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1295 | 650 | 210 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1295 | 650 | 190 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1295 | 650 | 210 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1295 | 650 | 190 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1295 | 650 | 210 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 520 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1295 | 650 | 210 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1295 | 650 | 210 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1295 | 650 | 280 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1295 | 650 | 190 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1295 | 650 | 180 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1295 | 650 | 210 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1295 | 650 | 190 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1295 | 6500 | 270 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1295 | 650 | 210 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1295 | 1300 | 540 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1295 | 650 | 210 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1295 | 650 | 210 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1295 | 650 | 210 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1295 | 6500 | 1000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1295 | 650 | 140 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1295 | 650 | 210 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1295 | 650 | 190 | |
| 460-00-4 | Bromofluorobenzene | 495 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1295 | 650 | 190 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1295 | 650 | 250 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1295 | 6500 | 190 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1295 | 650 | 190 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1295 | 650 | 210 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1295 | 650 | 220 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1295 | 650 | 220 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1295 | 650 | 190 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1295 | 650 | 210 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1295 | 650 | 180 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1295 | 650 | 190 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1295 | 1300 | 380 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1295 | 650 | 210 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1295 | 6500 | 1000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1295 | 650 | 210 | |
| 75-69-4 | Freon 11 | 410 | ug/m3 | 1295 | 650 | 220 | J |
| 76-13-1 | Freon 113 | 110000 | ug/m3 | 1295 | 650 | 220 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1295 | 650 | 250 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1295 | 650 | 220 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1295 | 650 | 310 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1295 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1295 | 650 | 310 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1295 | 650 | 220 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1295 | 650 | 180 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1295 | 650 | 190 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1295 | 1300 | 390 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1295 | 650 | 220 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1295 | 650 | 220 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1295 | 650 | 190 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1295 | 650 | 210 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1295 | 650 | 190 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1295 | 650 | 180 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1295 | 650 | 260 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1295 | 650 | 220 | |
| 2037-26-5 | Toluene-d8 | 514 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1295 | 650 | 250 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1295 | 650 | 210 | |
| 79-01-6 | Trichloroethene | 800 | ug/m3 | 1295 | 650 | 180 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1295 | 650 | 220 | |

| Borehole | 200-SG-3 | Depth (ft) | 30 | Depth (m) | 9.14 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081040 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 506 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1073.33 | 540 | 240 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1073.33 | 540 | 150 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1073.33 | 5400 | 230 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1073.33 | 1100 | 450 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1073.33 | 5400 | 830 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1073.33 | 540 | 120 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 460-00-4 | Bromofluorobenzene | 490 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1073.33 | 540 | 200 | |
| 75-15-0 | Carbon Disulfide | 290 | ug/m3 | 1073.33 | 5400 | 160 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1073.33 | 540 | 150 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1073.33 | 1100 | 310 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1073.33 | 5400 | 860 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 76-13-1 | Freon 113 | 90000 | ug/m3 | 1073.33 | 540 | 180 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1073.33 | 540 | 200 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1073.33 | 540 | 260 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1073.33 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1073.33 | 540 | 260 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1073.33 | 540 | 150 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1073.33 | 1100 | 320 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1073.33 | 540 | 160 | |
| 127-18-4 | Tetrachloroethene | 350 | ug/m3 | 1073.33 | 540 | 150 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1073.33 | 540 | 210 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1073.33 | 540 | 180 | |
| 2037-26-5 | Toluene-d8 | 520 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1073.33 | 540 | 200 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1073.33 | 540 | 170 | |
| 79-01-6 | Trichloroethene | 1600 | ug/m3 | 1073.33 | 540 | 150 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1073.33 | 540 | 180 | |

| Borehole | 200-SG-3 | Depth (ft) | 60 | Depth (m) | 18.29 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081046 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1520 | 760 | 260 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1520 | 760 | 230 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1520 | 760 | 240 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1520 | 760 | 240 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1520 | 760 | 260 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1520 | 760 | 240 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1520 | 760 | 230 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1520 | 760 | 240 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1520 | 760 | 230 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1520 | 760 | 240 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 511 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1520 | 760 | 240 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1520 | 760 | 240 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1520 | 760 | 330 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1520 | 760 | 230 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1520 | 760 | 210 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1520 | 760 | 240 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1520 | 760 | 230 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1520 | 7600 | 320 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1520 | 760 | 240 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1520 | 1500 | 640 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1520 | 760 | 240 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1520 | 760 | 240 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1520 | 760 | 240 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1520 | 7600 | 1200 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1520 | 760 | 170 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1520 | 760 | 240 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1520 | 760 | 230 | |
| 460-00-4 | Bromofluorobenzene | 490 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1520 | 760 | 230 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1520 | 760 | 290 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1520 | 7600 | 230 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1520 | 760 | 230 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1520 | 760 | 240 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1520 | 760 | 260 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1520 | 760 | 260 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1520 | 760 | 230 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1520 | 760 | 240 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1520 | 760 | 210 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1520 | 760 | 230 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1520 | 1500 | 440 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1520 | 760 | 240 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1520 | 7600 | 1200 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1520 | 760 | 240 | |
| 75-69-4 | Freon 11 | 280 | ug/m3 | 1520 | 760 | 260 | J |
| 76-13-1 | Freon 113 | 140000 | ug/m3 | 1520 | 760 | 260 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1520 | 760 | 290 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1520 | 760 | 260 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1520 | 760 | 360 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1520 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1520 | 760 | 360 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1520 | 760 | 260 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1520 | 760 | 210 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1520 | 760 | 230 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1520 | 1500 | 460 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1520 | 760 | 260 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1520 | 760 | 260 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1520 | 760 | 230 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1520 | 760 | 240 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1520 | 760 | 230 | |
| 127-18-4 | Tetrachloroethene | 580 | ug/m3 | 1520 | 760 | 210 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1520 | 760 | 300 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1520 | 760 | 260 | |
| 2037-26-5 | Toluene-d8 | 516 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1520 | 760 | 290 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1520 | 760 | 240 | |
| 79-01-6 | Trichloroethene | 2600 | ug/m3 | 1520 | 760 | 210 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1520 | 760 | 260 | |

| Borehole | 200-SG-3 | Depth (ft) | 90 | Depth (m) | 27.43 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081052 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 541 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 33000 | 17000 | 7300 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 33000 | 17000 | 4600 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 33000 | 170000 | 6900 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 33000 | 33000 | 14000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 67-64-1 | Acetone | ND | ug/m3 | 33000 | 170000 | 25000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 33000 | 17000 | 3600 | |
| 71-43-2 | Benzene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 460-00-4 | Bromofluorobenzene | 486 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 33000 | 17000 | 6300 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 33000 | 170000 | 5000 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 33000 | 17000 | 4600 | |
| 98-82-8 | Cumene | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 33000 | 33000 | 9600 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 33000 | 170000 | 26000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 76-13-1 | Freon 113 | 4400000 | ug/m3 | 82500 | 41000 | 14000 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 33000 | 17000 | 6300 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 33000 | 17000 | 7900 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 33000 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 33000 | 17000 | 7900 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 33000 | 17000 | 4600 | |
| 110-54-3 | Hexane | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 33000 | 33000 | 9900 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 100-42-5 | Styrene | ND | ug/m3 | 33000 | 17000 | 5000 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 33000 | 17000 | 4600 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 33000 | 17000 | 6600 | |
| 108-88-3 | Toluene | ND | ug/m3 | 33000 | 17000 | 5600 | |
| 2037-26-5 | Toluene-d8 | 509 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 33000 | 17000 | 6300 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 33000 | 17000 | 5300 | |
| 79-01-6 | Trichloroethene | 78000 | ug/m3 | 33000 | 17000 | 4600 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 33000 | 17000 | 5600 | |

| Borehole | 200-SG-3 | Depth (ft) | 154 | Depth (m) | 46.94 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081102 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1320 | 660 | 220 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1320 | 660 | 200 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1320 | 660 | 210 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1320 | 660 | 210 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1320 | 660 | 220 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1320 | 660 | 210 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1320 | 660 | 200 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1320 | 660 | 210 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1320 | 660 | 200 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1320 | 660 | 210 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 512 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1320 | 660 | 210 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1320 | 660 | 210 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1320 | 660 | 290 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1320 | 660 | 200 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1320 | 660 | 180 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1320 | 660 | 210 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1320 | 660 | 200 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1320 | 6600 | 280 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1320 | 660 | 210 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1320 | 1300 | 550 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1320 | 660 | 210 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1320 | 660 | 210 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1320 | 660 | 210 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1320 | 6600 | 1000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1320 | 660 | 150 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1320 | 660 | 210 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1320 | 660 | 200 | |
| 460-00-4 | Bromofluorobenzene | 491 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1320 | 660 | 200 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1320 | 660 | 250 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1320 | 6600 | 200 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1320 | 660 | 200 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1320 | 660 | 210 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1320 | 660 | 220 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1320 | 660 | 220 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1320 | 660 | 200 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1320 | 660 | 210 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1320 | 660 | 180 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1320 | 660 | 200 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1320 | 1300 | 380 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1320 | 660 | 210 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1320 | 6600 | 1100 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1320 | 660 | 210 | |
| 75-69-4 | Freon 11 | 860 | ug/m3 | 1320 | 660 | 220 | |
| 76-13-1 | Freon 113 | 100000 | ug/m3 | 1320 | 660 | 220 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1320 | 660 | 250 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1320 | 660 | 220 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1320 | 660 | 320 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1320 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1320 | 660 | 320 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1320 | 660 | 220 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1320 | 660 | 180 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1320 | 660 | 200 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1320 | 1300 | 400 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1320 | 660 | 220 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1320 | 660 | 220 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1320 | 660 | 200 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1320 | 660 | 210 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1320 | 660 | 200 | |
| 127-18-4 | Tetrachloroethene | 200 | ug/m3 | 1320 | 660 | 180 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1320 | 660 | 260 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1320 | 660 | 220 | |
| 2037-26-5 | Toluene-d8 | 519 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1320 | 660 | 250 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1320 | 660 | 210 | |
| 79-01-6 | Trichloroethene | 4200 | ug/m3 | 1320 | 660 | 180 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1320 | 660 | 220 | |

| Borehole | 200-SG-4 | Depth (ft) | 60 | Depth (m) | 18.29 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081500 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1690 | 850 | 290 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1690 | 850 | 250 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1690 | 850 | 270 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1690 | 850 | 270 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1690 | 850 | 290 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1690 | 850 | 270 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1690 | 850 | 250 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1690 | 850 | 270 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1690 | 850 | 250 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1690 | 850 | 270 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 457 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1690 | 850 | 270 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1690 | 850 | 270 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1690 | 850 | 370 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1690 | 850 | 250 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1690 | 850 | 240 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1690 | 850 | 270 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1690 | 850 | 250 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1690 | 8500 | 350 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1690 | 850 | 270 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1690 | 1700 | 710 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1690 | 850 | 270 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1690 | 850 | 270 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1690 | 850 | 270 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1690 | 8500 | 1300 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1690 | 850 | 190 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1690 | 850 | 270 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1690 | 850 | 250 | |
| 460-00-4 | Bromofluorobenzene | 478 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1690 | 850 | 250 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1690 | 850 | 320 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1690 | 8500 | 250 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1690 | 850 | 250 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1690 | 850 | 270 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1690 | 850 | 290 | |
| 67-66-3 | Chloroform | 960 | ug/m3 | 1690 | 850 | 290 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1690 | 850 | 250 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1690 | 850 | 270 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1690 | 850 | 240 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1690 | 850 | 250 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1690 | 1700 | 490 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1690 | 850 | 270 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1690 | 8500 | 1400 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1690 | 850 | 270 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 1690 | 850 | 290 | |
| 76-13-1 | Freon 113 | 110000 | ug/m3 | 1690 | 850 | 290 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1690 | 850 | 320 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1690 | 850 | 290 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1690 | 850 | 410 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1690 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1690 | 850 | 410 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1690 | 850 | 290 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1690 | 850 | 240 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1690 | 850 | 250 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1690 | 1700 | 510 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1690 | 850 | 290 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1690 | 850 | 290 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1690 | 850 | 250 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1690 | 850 | 270 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1690 | 850 | 250 | |
| 127-18-4 | Tetrachloroethene | 8000 | ug/m3 | 1690 | 850 | 240 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1690 | 850 | 340 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1690 | 850 | 290 | |
| 2037-26-5 | Toluene-d8 | 494 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1690 | 850 | 320 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1690 | 850 | 270 | |
| 79-01-6 | Trichloroethene | 75000 | ug/m3 | 1690 | 850 | 240 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1690 | 850 | 290 | |

| Borehole | 200-SV-05 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081330 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 668 | 330 | 110 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 668 | 330 | 100 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 668 | 330 | 110 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 668 | 330 | 110 | |
| 75-35-4 | 1,1-Dichloroethene | 530 | ug/m3 | 668 | 330 | 110 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 668 | 330 | 110 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 668 | 330 | 100 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 668 | 330 | 110 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 668 | 330 | 100 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 668 | 330 | 110 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 456 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 668 | 330 | 110 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 668 | 330 | 110 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 668 | 330 | 150 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 668 | 330 | 100 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 668 | 330 | 94 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 668 | 330 | 110 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 668 | 330 | 100 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 668 | 3300 | 140 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 668 | 330 | 110 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 668 | 670 | 280 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 668 | 330 | 110 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 668 | 330 | 110 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 668 | 330 | 110 | |
| 67-64-1 | Acetone | ND | ug/m3 | 668 | 3300 | 510 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 668 | 330 | 73 | |
| 71-43-2 | Benzene | ND | ug/m3 | 668 | 330 | 110 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 668 | 330 | 100 | |
| 460-00-4 | Bromofluorobenzene | 477 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 668 | 330 | 100 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 668 | 330 | 130 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 668 | 3300 | 100 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 668 | 330 | 100 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 668 | 330 | 110 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 668 | 330 | 110 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 668 | 330 | 110 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 668 | 330 | 100 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 668 | 330 | 110 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 668 | 330 | 94 | |
| 98-82-8 | Cumene | ND | ug/m3 | 668 | 330 | 100 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 668 | 670 | 190 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 668 | 330 | 110 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 668 | 3300 | 530 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 668 | 330 | 110 | |
| 75-69-4 | Freon 11 | 160 | ug/m3 | 668 | 330 | 110 | J |
| 76-13-1 | Freon 113 | 54000 | ug/m3 | 668 | 330 | 110 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 668 | 330 | 130 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 668 | 330 | 110 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 668 | 330 | 160 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 668 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 668 | 330 | 160 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 668 | 330 | 110 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 668 | 330 | 94 | |
| 110-54-3 | Hexane | ND | ug/m3 | 668 | 330 | 100 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 668 | 670 | 200 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 668 | 330 | 110 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 668 | 330 | 110 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 668 | 330 | 100 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 668 | 330 | 110 | |
| 100-42-5 | Styrene | ND | ug/m3 | 668 | 330 | 100 | |
| 127-18-4 | Tetrachloroethene | 8300 | ug/m3 | 668 | 330 | 94 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 668 | 330 | 130 | |
| 108-88-3 | Toluene | ND | ug/m3 | 668 | 330 | 110 | |
| 2037-26-5 | Toluene-d8 | 499 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 668 | 330 | 130 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 668 | 330 | 110 | |
| 79-01-6 | Trichloroethene | 47000 | ug/m3 | 668 | 330 | 94 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 668 | 330 | 110 | |

| Borehole | 200-SV-08 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071509 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 501 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 4.7 | 2.4 | 1 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 4.7 | 2.4 | 0.66 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 4.7 | 24 | 0.99 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 67-63-0 | 2-Propanol | 33 | ug/m3 | 4.7 | 4.7 | 2 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 67-64-1 | Acetone | 20 | ug/m3 | 4.7 | 24 | 3.6 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 4.7 | 2.4 | 0.52 | |
| 71-43-2 | Benzene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 460-00-4 | Bromofluorobenzene | 513 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 4.7 | 2.4 | 0.89 | |
| 75-15-0 | Carbon Disulfide | 3.8 | ug/m3 | 4.7 | 24 | 0.71 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 67-66-3 | Chloroform | 0.96 | ug/m3 | 4.7 | 2.4 | 0.8 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 4.7 | 2.4 | 0.66 | |
| 98-82-8 | Cumene | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 4.7 | 4.7 | 1.4 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 4.7 | 24 | 3.8 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 75-69-4 | Freon 11 | 660 | ug/m3 | 47 | 24 | 8 | D |
| 76-13-1 | Freon 113 | 2800 | ug/m3 | 47 | 24 | 8 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 4.7 | 2.4 | 0.89 | |
| 75-71-8 | Freon 12 | 1.7 | ug/m3 | 4.7 | 2.4 | 0.8 | J |
| 306-83-2 | Freon 123 | ND | ug/m3 | 4.7 | 2.4 | 1.1 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 4.7 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 4.7 | 2.4 | 1.1 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 4.7 | 2.4 | 0.66 | |
| 110-54-3 | Hexane | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 4.7 | 4.7 | 1.4 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 100-42-5 | Styrene | ND | ug/m3 | 4.7 | 2.4 | 0.71 | |
| 127-18-4 | Tetrachloroethene | 3.1 | ug/m3 | 4.7 | 2.4 | 0.66 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 4.7 | 2.4 | 0.94 | |
| 108-88-3 | Toluene | 5.8 | ug/m3 | 4.7 | 2.4 | 0.8 | |
| 2037-26-5 | Toluene-d8 | 487 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 4.7 | 2.4 | 0.89 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 4.7 | 2.4 | 0.75 | |
| 79-01-6 | Trichloroethene | 54 | ug/m3 | 4.7 | 2.4 | 0.66 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 4.7 | 2.4 | 0.8 | |

| Borehole | 200-SV-08 | Depth (ft) | 29 | Depth (m) | 8.84 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071514 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 108 | 54 | 18 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 108 | 54 | 16 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 108 | 54 | 17 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 108 | 54 | 17 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 108 | 54 | 18 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 108 | 54 | 17 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 108 | 54 | 16 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 108 | 54 | 17 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 108 | 54 | 16 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 108 | 54 | 17 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 512 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 108 | 54 | 17 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 108 | 54 | 17 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 108 | 54 | 24 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 108 | 54 | 16 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 108 | 54 | 15 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 108 | 54 | 17 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 108 | 54 | 16 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 108 | 540 | 23 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 108 | 54 | 17 | |
| 67-63-0 | 2-Propanol | 73 | ug/m3 | 108 | 110 | 45 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 108 | 54 | 17 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 108 | 54 | 17 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 108 | 54 | 17 | |
| 67-64-1 | Acetone | ND | ug/m3 | 108 | 540 | 83 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 108 | 54 | 12 | |
| 71-43-2 | Benzene | ND | ug/m3 | 108 | 54 | 17 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 108 | 54 | 16 | |
| 460-00-4 | Bromofluorobenzene | 491 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 108 | 54 | 16 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 108 | 54 | 21 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 108 | 540 | 16 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 108 | 54 | 16 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 108 | 54 | 17 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 108 | 54 | 18 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 108 | 54 | 18 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 108 | 54 | 16 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 108 | 54 | 17 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 108 | 54 | 15 | |
| 98-82-8 | Cumene | ND | ug/m3 | 108 | 54 | 16 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 108 | 110 | 31 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 108 | 54 | 17 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 108 | 540 | 86 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 108 | 54 | 17 | |
| 75-69-4 | Freon 11 | 2800 | ug/m3 | 108 | 54 | 18 | |
| 76-13-1 | Freon 113 | 12000 | ug/m3 | 108 | 54 | 18 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 108 | 54 | 21 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 108 | 54 | 18 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 108 | 54 | 26 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 108 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 108 | 54 | 26 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 108 | 54 | 18 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 108 | 54 | 15 | |
| 110-54-3 | Hexane | ND | ug/m3 | 108 | 54 | 16 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 108 | 110 | 32 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 108 | 54 | 18 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 108 | 54 | 18 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 108 | 54 | 16 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 108 | 54 | 17 | |
| 100-42-5 | Styrene | ND | ug/m3 | 108 | 54 | 16 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 108 | 54 | 15 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 108 | 54 | 22 | |
| 108-88-3 | Toluene | ND | ug/m3 | 108 | 54 | 18 | |
| 2037-26-5 | Toluene-d8 | 478 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 108 | 54 | 21 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 108 | 54 | 17 | |
| 79-01-6 | Trichloroethene | 270 | ug/m3 | 108 | 54 | 15 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 108 | 54 | 18 | |

| Borehole | 200-SV-08 | Depth (ft) | 49 | Depth (m) | 14.93 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071521 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 88.67 | 44 | 15 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 88.67 | 44 | 13 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 88.67 | 44 | 14 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 88.67 | 44 | 14 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 88.67 | 44 | 15 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 88.67 | 44 | 13 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 88.67 | 44 | 14 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 88.67 | 44 | 13 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 88.67 | 44 | 14 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 513 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 88.67 | 44 | 14 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 88.67 | 44 | 20 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 88.67 | 44 | 13 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 88.67 | 44 | 12 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 88.67 | 44 | 14 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 88.67 | 44 | 13 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 88.67 | 440 | 19 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 88.67 | 44 | 14 | |
| 67-63-0 | 2-Propanol | 130 | ug/m3 | 88.67 | 89 | 37 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 88.67 | 44 | 14 | |
| 67-64-1 | Acetone | ND | ug/m3 | 88.67 | 440 | 68 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 88.67 | 44 | 9.8 | |
| 71-43-2 | Benzene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 88.67 | 44 | 13 | |
| 460-00-4 | Bromofluorobenzene | 496 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 88.67 | 44 | 13 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 88.67 | 44 | 17 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 88.67 | 440 | 13 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 88.67 | 44 | 13 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 88.67 | 44 | 15 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 88.67 | 44 | 15 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 88.67 | 44 | 13 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 88.67 | 44 | 12 | |
| 98-82-8 | Cumene | ND | ug/m3 | 88.67 | 44 | 13 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 88.67 | 89 | 26 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 88.67 | 44 | 14 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 88.67 | 440 | 71 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 75-69-4 | Freon 11 | 3000 | ug/m3 | 88.67 | 44 | 15 | |
| 76-13-1 | Freon 113 | 7900 | ug/m3 | 266 | 130 | 45 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 88.67 | 44 | 17 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 88.67 | 44 | 15 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 88.67 | 44 | 21 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 88.67 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 88.67 | 44 | 21 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 88.67 | 44 | 15 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 88.67 | 44 | 12 | |
| 110-54-3 | Hexane | ND | ug/m3 | 88.67 | 44 | 13 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 88.67 | 89 | 27 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 88.67 | 44 | 15 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 88.67 | 44 | 15 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 88.67 | 44 | 13 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 100-42-5 | Styrene | ND | ug/m3 | 88.67 | 44 | 13 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 88.67 | 44 | 12 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 88.67 | 44 | 18 | |
| 108-88-3 | Toluene | 540 | ug/m3 | 88.67 | 44 | 15 | |
| 2037-26-5 | Toluene-d8 | 489 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 88.67 | 44 | 17 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 88.67 | 44 | 14 | |
| 79-01-6 | Trichloroethene | 320 | ug/m3 | 88.67 | 44 | 12 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 88.67 | 44 | 15 | |

| Borehole | 200-SV-09 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080825 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 234 | 120 | 40 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 234 | 120 | 35 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 234 | 120 | 37 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 234 | 120 | 37 | |
| 75-35-4 | 1,1-Dichloroethene | 140 | ug/m3 | 234 | 120 | 40 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 234 | 120 | 37 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 234 | 120 | 35 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 234 | 120 | 37 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 234 | 120 | 35 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 234 | 120 | 37 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 515 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 234 | 120 | 37 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 234 | 120 | 37 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 234 | 120 | 51 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 234 | 120 | 35 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 234 | 120 | 33 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 234 | 120 | 37 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 234 | 120 | 35 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 234 | 1200 | 49 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 234 | 120 | 37 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 234 | 230 | 98 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 234 | 120 | 37 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 234 | 120 | 37 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 234 | 120 | 37 | |
| 67-64-1 | Acetone | ND | ug/m3 | 234 | 1200 | 180 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 234 | 120 | 26 | |
| 71-43-2 | Benzene | ND | ug/m3 | 234 | 120 | 37 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 234 | 120 | 35 | |
| 460-00-4 | Bromofluorobenzene | 496 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 234 | 120 | 35 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 234 | 120 | 44 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 234 | 1200 | 35 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 234 | 120 | 35 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 234 | 120 | 37 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 234 | 120 | 40 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 234 | 120 | 40 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 234 | 120 | 35 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 234 | 120 | 37 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 234 | 120 | 33 | |
| 98-82-8 | Cumene | ND | ug/m3 | 234 | 120 | 35 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 234 | 230 | 68 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 234 | 120 | 37 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 234 | 1200 | 190 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 234 | 120 | 37 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 234 | 120 | 40 | |
| 76-13-1 | Freon 113 | 14000 | ug/m3 | 234 | 120 | 40 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 234 | 120 | 44 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 234 | 120 | 40 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 234 | 120 | 56 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 234 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 234 | 120 | 56 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 234 | 120 | 40 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 234 | 120 | 33 | |
| 110-54-3 | Hexane | ND | ug/m3 | 234 | 120 | 35 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 234 | 230 | 70 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 234 | 120 | 40 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 234 | 120 | 40 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 234 | 120 | 35 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 234 | 120 | 37 | |
| 100-42-5 | Styrene | ND | ug/m3 | 234 | 120 | 35 | |
| 127-18-4 | Tetrachloroethene | 3700 | ug/m3 | 234 | 120 | 33 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 234 | 120 | 47 | |
| 108-88-3 | Toluene | ND | ug/m3 | 234 | 120 | 40 | |
| 2037-26-5 | Toluene-d8 | 510 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 234 | 120 | 44 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 234 | 120 | 37 | |
| 79-01-6 | Trichloroethene | 23000 | ug/m3 | 234 | 120 | 33 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 234 | 120 | 40 | |

| Borehole | 200-SV-10 | Depth (ft) | 19 | Depth (m) | 5.79 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080737 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 154 | 77 | 26 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 154 | 77 | 23 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 154 | 77 | 25 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 154 | 77 | 25 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 154 | 77 | 26 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 154 | 77 | 25 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 154 | 77 | 23 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 154 | 77 | 25 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 154 | 77 | 23 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 154 | 77 | 25 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 495 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 154 | 77 | 25 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 154 | 77 | 25 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 154 | 77 | 34 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 154 | 77 | 23 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 154 | 77 | 22 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 154 | 77 | 25 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 154 | 77 | 23 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 154 | 770 | 32 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 154 | 77 | 25 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 154 | 150 | 65 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 154 | 77 | 25 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 154 | 77 | 25 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 154 | 77 | 25 | |
| 67-64-1 | Acetone | ND | ug/m3 | 154 | 770 | 120 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 154 | 77 | 17 | |
| 71-43-2 | Benzene | ND | ug/m3 | 154 | 77 | 25 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 154 | 77 | 23 | |
| 460-00-4 | Bromofluorobenzene | 489 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 154 | 77 | 23 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 154 | 77 | 29 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 154 | 770 | 23 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 154 | 77 | 23 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 154 | 77 | 25 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 154 | 77 | 26 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 154 | 77 | 26 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 154 | 77 | 23 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 154 | 77 | 25 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 154 | 77 | 22 | |
| 98-82-8 | Cumene | ND | ug/m3 | 154 | 77 | 23 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 154 | 150 | 45 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 154 | 77 | 25 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 154 | 770 | 120 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 154 | 77 | 25 | |
| 75-69-4 | Freon 11 | 4700 | ug/m3 | 154 | 77 | 26 | |
| 76-13-1 | Freon 113 | 15000 | ug/m3 | 154 | 77 | 26 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 154 | 77 | 29 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 154 | 77 | 26 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 154 | 77 | 37 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 154 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 154 | 77 | 37 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 154 | 77 | 26 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 154 | 77 | 22 | |
| 110-54-3 | Hexane | ND | ug/m3 | 154 | 77 | 23 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 154 | 150 | 46 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 154 | 77 | 26 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 154 | 77 | 26 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 154 | 77 | 23 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 154 | 77 | 25 | |
| 100-42-5 | Styrene | ND | ug/m3 | 154 | 77 | 23 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 154 | 77 | 22 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 154 | 77 | 31 | |
| 108-88-3 | Toluene | ND | ug/m3 | 154 | 77 | 26 | |
| 2037-26-5 | Toluene-d8 | 491 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 154 | 77 | 29 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 154 | 77 | 25 | |
| 79-01-6 | Trichloroethene | 410 | ug/m3 | 154 | 77 | 22 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 154 | 77 | 26 | |

| Borehole | 200-SV-10 | Depth (ft) | 39 | Depth (m) | 11.89 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080745 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 62.4 | 31 | 11 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 62.4 | 31 | 10 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 62.4 | 31 | 10 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 62.4 | 31 | 11 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 62.4 | 31 | 10 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 62.4 | 31 | 10 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 500 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 62.4 | 31 | 10 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 62.4 | 31 | 14 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 62.4 | 31 | 8.7 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 62.4 | 31 | 10 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 62.4 | 310 | 13 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 62.4 | 31 | 10 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 62.4 | 62 | 26 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 62.4 | 31 | 10 | |
| 67-64-1 | Acetone | ND | ug/m3 | 62.4 | 310 | 48 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 62.4 | 31 | 6.9 | |
| 71-43-2 | Benzene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 460-00-4 | Bromofluorobenzene | 468 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 62.4 | 31 | 12 | |
| 75-15-0 | Carbon Disulfide | 14 | ug/m3 | 62.4 | 310 | 9.4 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 62.4 | 31 | 11 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 62.4 | 31 | 11 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 62.4 | 31 | 8.7 | |
| 98-82-8 | Cumene | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 62.4 | 62 | 18 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 62.4 | 31 | 10 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 62.4 | 310 | 50 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 75-69-4 | Freon 11 | 1300 | ug/m3 | 62.4 | 31 | 11 | |
| 76-13-1 | Freon 113 | 4400 | ug/m3 | 62.4 | 31 | 11 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 62.4 | 31 | 12 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 62.4 | 31 | 11 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 62.4 | 31 | 15 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 62.4 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 62.4 | 31 | 15 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 62.4 | 31 | 11 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 62.4 | 31 | 8.7 | |
| 110-54-3 | Hexane | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 62.4 | 62 | 19 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 62.4 | 31 | 11 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 62.4 | 31 | 11 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 100-42-5 | Styrene | ND | ug/m3 | 62.4 | 31 | 9.4 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 62.4 | 31 | 8.7 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 62.4 | 31 | 12 | |
| 108-88-3 | Toluene | ND | ug/m3 | 62.4 | 31 | 11 | |
| 2037-26-5 | Toluene-d8 | 453 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 62.4 | 31 | 12 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 62.4 | 31 | 10 | |
| 79-01-6 | Trichloroethene | 170 | ug/m3 | 62.4 | 31 | 8.7 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 62.4 | 31 | 11 | |

| Borehole | 200-SV-11 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071447 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 4 | 2 | 0.68 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 4 | 2 | 0.68 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 4 | 2 | 0.64 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 519 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 4 | 2 | 0.88 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 4 | 2 | 0.56 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 1.1 | ug/m3 | 4 | 20 | 0.84 | J |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 4 | 2 | 0.64 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 4 | 4 | 1.7 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 4 | 2 | 0.64 | |
| 67-64-1 | Acetone | 10 | ug/m3 | 4 | 20 | 3.1 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 4 | 2 | 0.44 | |
| 71-43-2 | Benzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 460-00-4 | Bromofluorobenzene | 509 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 4 | 2 | 0.6 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 4 | 2 | 0.76 | |
| 75-15-0 | Carbon Disulfide | 3.3 | ug/m3 | 4 | 20 | 0.6 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 4 | 2 | 0.6 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 4 | 2 | 0.68 | |
| 67-66-3 | Chloroform | 2.1 | ug/m3 | 4 | 2 | 0.68 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 4 | 2 | 0.56 | |
| 98-82-8 | Cumene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 4 | 4 | 1.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 4 | 20 | 3.2 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-69-4 | Freon 11 | 46 | ug/m3 | 4 | 2 | 0.68 | |
| 76-13-1 | Freon 113 | 750 | ug/m3 | 40 | 20 | 6.8 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 4 | 2 | 0.76 | |
| 75-71-8 | Freon 12 | 2.2 | ug/m3 | 4 | 2 | 0.68 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 4 | 2 | 0.96 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 4 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 4 | 2 | 0.96 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 4 | 2 | 0.68 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 4 | 2 | 0.56 | |
| 110-54-3 | Hexane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 4 | 4 | 1.2 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 4 | 2 | 0.68 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 4 | 2 | 0.68 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 100-42-5 | Styrene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 127-18-4 | Tetrachloroethene | 6 | ug/m3 | 4 | 2 | 0.56 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 4 | 2 | 0.8 | |
| 108-88-3 | Toluene | ND | ug/m3 | 4 | 2 | 0.68 | |
| 2037-26-5 | Toluene-d8 | 497 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 4 | 2 | 0.76 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 79-01-6 | Trichloroethene | 20 | ug/m3 | 4 | 2 | 0.56 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 4 | 2 | 0.68 | |

| Borehole | 200-SV-11 | Depth (ft) | 29 | Depth (m) | 8.84 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071500 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 498 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 4.13 | 2.1 | 0.91 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 4.13 | 21 | 0.87 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 67-63-0 | 2-Propanol | 26 | ug/m3 | 4.13 | 4.1 | 1.7 | QD |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 67-64-1 | Acetone | 18 | ug/m3 | 4.13 | 21 | 3.2 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 4.13 | 2.1 | 0.45 | |
| 71-43-2 | Benzene | 0.66 | ug/m3 | 4.13 | 2.1 | 0.66 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 460-00-4 | Bromofluorobenzene | 466 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 4.13 | 2.1 | 0.78 | |
| 75-15-0 | Carbon Disulfide | 11 | ug/m3 | 4.13 | 21 | 0.62 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 67-66-3 | Chloroform | 1.6 | ug/m3 | 4.13 | 2.1 | 0.7 | J |
| 74-87-3 | Chloromethane | 0.64 | ug/m3 | 4.13 | 2.1 | 0.62 | J |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 98-82-8 | Cumene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 4.13 | 4.1 | 1.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 4.13 | 21 | 3.3 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-69-4 | Freon 11 | 220 | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 76-13-1 | Freon 113 | 2100 | ug/m3 | 41.25 | 21 | 7 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 4.13 | 2.1 | 0.78 | |
| 75-71-8 | Freon 12 | 2.2 | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 4.13 | 2.1 | 0.99 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 4.13 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 4.13 | 2.1 | 0.99 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 110-54-3 | Hexane | 0.72 | ug/m3 | 4.13 | 2.1 | 0.62 | J |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 4.13 | 4.1 | 1.2 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 100-42-5 | Styrene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 127-18-4 | Tetrachloroethene | 8.1 | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 4.13 | 2.1 | 0.83 | |
| 108-88-3 | Toluene | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 2037-26-5 | Toluene-d8 | 459 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 4.13 | 2.1 | 0.78 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 79-01-6 | Trichloroethene | 110 | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |

**Sample 1410071501 Sample Type TO-15-D Analysis Method TO-15**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 511 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 4.13 | 2.1 | 0.91 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.58 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 0.88 | ug/m3 | 4.13 | 21 | 0.87 | J |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 67-63-0 | 2-Propanol | 13 | ug/m3 | 4.13 | 4.1 | 1.7 | QD |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 67-64-1 | Acetone | 12 | ug/m3 | 4.13 | 21 | 3.2 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 4.13 | 2.1 | 0.45 | |
| 71-43-2 | Benzene | 0.81 | ug/m3 | 4.13 | 2.1 | 0.66 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 460-00-4 | Bromofluorobenzene | 504 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 4.13 | 2.1 | 0.78 | |
| 75-15-0 | Carbon Disulfide | 11 | ug/m3 | 4.13 | 21 | 0.62 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 67-66-3 | Chloroform | 1.6 | ug/m3 | 4.13 | 2.1 | 0.7 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 98-82-8 | Cumene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 4.13 | 4.1 | 1.2 | |
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 4.13 | 21 | 3.3 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 75-69-4 | Freon 11 | 220 | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 76-13-1 | Freon 113 | 1900 | ug/m3 | 41.25 | 21 | 7 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 4.13 | 2.1 | 0.78 | |
| 75-71-8 | Freon 12 | 2.2 | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 4.13 | 2.1 | 0.99 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 4.13 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 4.13 | 2.1 | 0.99 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 110-54-3 | Hexane | 0.65 | ug/m3 | 4.13 | 2.1 | 0.62 | J |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 4.13 | 4.1 | 1.2 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 100-42-5 | Styrene | ND | ug/m3 | 4.13 | 2.1 | 0.62 | |
| 127-18-4 | Tetrachloroethene | 8.4 | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 4.13 | 2.1 | 0.83 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 108-88-3 | Toluene | 0.8 | ug/m3 | 4.13 | 2.1 | 0.7 | J |
| 2037-26-5 | Toulene-d8 | 504 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 4.13 | 2.1 | 0.78 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 4.13 | 2.1 | 0.66 | |
| 79-01-6 | Trichloroethene | 120 | ug/m3 | 4.13 | 2.1 | 0.58 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 4.13 | 2.1 | 0.7 | |

| Borehole | 200-SV-12 | Depth (ft) | 14 | Depth (m) | 4.27 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071440 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 517 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 55.33 | 28 | 12 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 55.33 | 28 | 7.7 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 55.33 | 280 | 12 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 55.33 | 55 | 23 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 67-64-1 | Acetone | ND | ug/m3 | 55.33 | 280 | 43 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 55.33 | 28 | 6.1 | |
| 71-43-2 | Benzene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 460-00-4 | Bromofluorobenzene | 504 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 55.33 | 28 | 11 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 55.33 | 280 | 8.3 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 55.33 | 28 | 7.7 | |
| 98-82-8 | Cumene | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 55.33 | 55 | 16 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 55.33 | 280 | 44 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 75-69-4 | Freon 11 | 22 | ug/m3 | 55.33 | 28 | 9.4 | J |
| 76-13-1 | Freon 113 | 5100 | ug/m3 | 110.67 | 55 | 19 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 55.33 | 28 | 11 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 55.33 | 28 | 13 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 55.33 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 55.33 | 28 | 13 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 55.33 | 28 | 7.7 | |
| 110-54-3 | Hexane | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 55.33 | 55 | 17 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 100-42-5 | Styrene | ND | ug/m3 | 55.33 | 28 | 8.3 | |
| 127-18-4 | Tetrachloroethene | 9 | ug/m3 | 55.33 | 28 | 7.7 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 55.33 | 28 | 11 | |
| 108-88-3 | Toluene | ND | ug/m3 | 55.33 | 28 | 9.4 | |
| 2037-26-5 | Toluene-d8 | 473 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 55.33 | 28 | 11 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 55.33 | 28 | 8.9 | |
| 79-01-6 | Trichloroethene | 47 | ug/m3 | 55.33 | 28 | 7.7 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 55.33 | 28 | 9.4 | |

| Borehole | 200-SV-13 | Depth (ft) | 14 | Depth (m) | 4.27 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071410 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 521 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1164.29 | 580 | 260 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1164.29 | 580 | 160 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1164.29 | 5800 | 240 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1164.29 | 1200 | 490 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1164.29 | 5800 | 900 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1164.29 | 580 | 130 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 460-00-4 | Bromofluorobenzene | 510 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1164.29 | 580 | 220 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1164.29 | 5800 | 170 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1164.29 | 580 | 160 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1164.29 | 1200 | 340 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1164.29 | 5800 | 930 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 75-69-4 | Freon 11 | 240 | ug/m3 | 1164.29 | 580 | 200 | J |
| 76-13-1 | Freon 113 | 110000 | ug/m3 | 1164.29 | 580 | 200 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1164.29 | 580 | 220 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1164.29 | 580 | 280 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1164.29 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1164.29 | 580 | 280 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1164.29 | 580 | 160 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1164.29 | 1200 | 350 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1164.29 | 580 | 170 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1164.29 | 580 | 160 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1164.29 | 580 | 230 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1164.29 | 580 | 200 | |
| 2037-26-5 | Toluene-d8 | 493 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1164.29 | 580 | 220 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1164.29 | 580 | 190 | |
| 79-01-6 | Trichloroethene | 590 | ug/m3 | 1164.29 | 580 | 160 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1164.29 | 580 | 200 | |

| Borehole | 200-SV-13 | Depth (ft) | 34 | Depth (m) | 10.36 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071419 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1650 | 830 | 280 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1650 | 830 | 250 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1650 | 830 | 260 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1650 | 830 | 260 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1650 | 830 | 280 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1650 | 830 | 260 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1650 | 830 | 250 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1650 | 830 | 260 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1650 | 830 | 250 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1650 | 830 | 260 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 516 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1650 | 830 | 260 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1650 | 830 | 260 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1650 | 830 | 360 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1650 | 830 | 250 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1650 | 830 | 230 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1650 | 830 | 260 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1650 | 830 | 250 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1650 | 8300 | 350 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1650 | 830 | 260 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1650 | 1700 | 690 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1650 | 830 | 260 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1650 | 830 | 260 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1650 | 830 | 260 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1650 | 8300 | 1300 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1650 | 830 | 180 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1650 | 830 | 260 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1650 | 830 | 250 | |
| 460-00-4 | Bromofluorobenzene | 495 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1650 | 830 | 250 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1650 | 830 | 310 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1650 | 8300 | 250 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1650 | 830 | 250 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1650 | 830 | 260 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1650 | 830 | 280 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1650 | 830 | 280 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1650 | 830 | 250 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1650 | 830 | 260 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1650 | 830 | 230 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1650 | 830 | 250 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1650 | 1700 | 480 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1650 | 830 | 260 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1650 | 8300 | 1300 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1650 | 830 | 260 | |
| 75-69-4 | Freon 11 | 330 | ug/m3 | 1650 | 830 | 280 | J |
| 76-13-1 | Freon 113 | 140000 | ug/m3 | 1650 | 830 | 280 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1650 | 830 | 310 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1650 | 830 | 280 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1650 | 830 | 400 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1650 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1650 | 830 | 400 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1650 | 830 | 280 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1650 | 830 | 230 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1650 | 830 | 250 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1650 | 1700 | 500 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1650 | 830 | 280 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1650 | 830 | 280 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1650 | 830 | 250 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1650 | 830 | 260 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1650 | 830 | 250 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1650 | 830 | 230 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1650 | 830 | 330 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1650 | 830 | 280 | |
| 2037-26-5 | Toluene-d8 | 493 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1650 | 830 | 310 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1650 | 830 | 260 | |
| 79-01-6 | Trichloroethene | 1100 | ug/m3 | 1650 | 830 | 230 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1650 | 830 | 280 | |

| Borehole | 200-SV-14 | Depth (ft) | 4.75 | Depth (m) | 1.45 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081005 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 135.33 | 68 | 23 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 135.33 | 68 | 20 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 135.33 | 68 | 22 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 135.33 | 68 | 22 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 135.33 | 68 | 23 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 135.33 | 68 | 20 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 135.33 | 68 | 22 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 135.33 | 68 | 20 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 135.33 | 68 | 22 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 525 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 135.33 | 68 | 22 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 135.33 | 68 | 30 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 135.33 | 68 | 20 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 135.33 | 68 | 19 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 135.33 | 68 | 22 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 135.33 | 68 | 20 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 135.33 | 680 | 28 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 135.33 | 68 | 22 | |
| 67-63-0 | 2-Propanol | 89 | ug/m3 | 135.33 | 140 | 57 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 135.33 | 68 | 22 | |
| 67-64-1 | Acetone | ND | ug/m3 | 135.33 | 680 | 100 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 135.33 | 68 | 15 | |
| 71-43-2 | Benzene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 135.33 | 68 | 20 | |
| 460-00-4 | Bromofluorobenzene | 499 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 135.33 | 68 | 20 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 135.33 | 68 | 26 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 135.33 | 680 | 20 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 135.33 | 68 | 20 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 135.33 | 68 | 23 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 135.33 | 68 | 23 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 135.33 | 68 | 20 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 135.33 | 68 | 19 | |
| 98-82-8 | Cumene | ND | ug/m3 | 135.33 | 68 | 20 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 135.33 | 140 | 39 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 135.33 | 68 | 22 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 135.33 | 680 | 110 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 75-69-4 | Freon 11 | 51 | ug/m3 | 135.33 | 68 | 23 | J |
| 76-13-1 | Freon 113 | 15000 | ug/m3 | 406 | 200 | 69 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 135.33 | 68 | 26 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 135.33 | 68 | 23 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 135.33 | 68 | 32 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 135.33 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 135.33 | 68 | 32 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 135.33 | 68 | 23 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 135.33 | 68 | 19 | |
| 110-54-3 | Hexane | ND | ug/m3 | 135.33 | 68 | 20 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 135.33 | 140 | 41 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 135.33 | 68 | 23 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 135.33 | 68 | 23 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 135.33 | 68 | 20 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 100-42-5 | Styrene | ND | ug/m3 | 135.33 | 68 | 20 | |
| 127-18-4 | Tetrachloroethene | 160 | ug/m3 | 135.33 | 68 | 19 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 135.33 | 68 | 27 | |
| 108-88-3 | Toluene | ND | ug/m3 | 135.33 | 68 | 23 | |
| 2037-26-5 | Toluene-d8 | 511 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 135.33 | 68 | 26 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 135.33 | 68 | 22 | |
| 79-01-6 | Trichloroethene | 1000 | ug/m3 | 135.33 | 68 | 19 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 135.33 | 68 | 23 | |

| Borehole | 200-SV-15 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071035 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 410 | 210 | 70 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 410 | 210 | 62 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 410 | 210 | 66 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 410 | 210 | 66 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 410 | 210 | 70 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 410 | 210 | 66 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 410 | 210 | 62 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 410 | 210 | 66 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 410 | 210 | 62 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 410 | 210 | 66 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 493 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 410 | 210 | 66 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 410 | 210 | 66 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 410 | 210 | 90 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 410 | 210 | 62 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 410 | 210 | 57 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 410 | 210 | 66 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 410 | 210 | 62 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 410 | 2100 | 86 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 410 | 210 | 66 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 410 | 410 | 170 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 410 | 210 | 66 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 410 | 210 | 66 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 410 | 210 | 66 | |
| 67-64-1 | Acetone | ND | ug/m3 | 410 | 2100 | 320 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 410 | 210 | 45 | |
| 71-43-2 | Benzene | ND | ug/m3 | 410 | 210 | 66 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 410 | 210 | 62 | |
| 460-00-4 | Bromofluorobenzene | 507 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 410 | 210 | 62 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 410 | 210 | 78 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 410 | 2100 | 62 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 410 | 210 | 62 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 410 | 210 | 66 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 410 | 210 | 70 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 410 | 210 | 70 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 410 | 210 | 62 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 410 | 210 | 66 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 410 | 210 | 57 | |
| 98-82-8 | Cumene | ND | ug/m3 | 410 | 210 | 62 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 410 | 410 | 120 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 410 | 210 | 66 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 410 | 2100 | 330 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 410 | 210 | 66 | |
| 75-69-4 | Freon 11 | 130 | ug/m3 | 410 | 210 | 70 | J |
| 76-13-1 | Freon 113 | 37000 | ug/m3 | 410 | 210 | 70 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 410 | 210 | 78 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 410 | 210 | 70 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 410 | 210 | 98 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 410 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 410 | 210 | 98 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 410 | 210 | 70 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 410 | 210 | 57 | |
| 110-54-3 | Hexane | ND | ug/m3 | 410 | 210 | 62 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 410 | 410 | 120 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 410 | 210 | 70 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 410 | 210 | 70 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 410 | 210 | 62 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 410 | 210 | 66 | |
| 100-42-5 | Styrene | ND | ug/m3 | 410 | 210 | 62 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 410 | 210 | 57 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 410 | 210 | 82 | |
| 108-88-3 | Toluene | ND | ug/m3 | 410 | 210 | 70 | |
| 2037-26-5 | Toluene-d8 | 490 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 410 | 210 | 78 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 410 | 210 | 66 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 410 | 210 | 57 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 410 | 210 | 70 | |

| Borehole | 200-SV-15 | Depth (ft) | 59 | Depth (m) | 17.98 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071052 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 512 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 19949.81 | 10000 | 4400 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 19949.81 | 10000 | 2800 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 19949.81 | 100000 | 4200 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 19949.81 | 20000 | 8400 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 67-64-1 | Acetone | ND | ug/m3 | 19949.81 | 100000 | 15000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 19949.81 | 10000 | 2200 | |
| 71-43-2 | Benzene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 460-00-4 | Bromofluorobenzene | 476 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 19949.81 | 10000 | 3800 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 19949.81 | 100000 | 3000 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 19949.81 | 10000 | 2800 | |
| 98-82-8 | Cumene | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 19949.81 | 20000 | 5800 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 19949.81 | 100000 | 16000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 75-69-4 | Freon 11 | 6200 | ug/m3 | 19949.81 | 10000 | 3400 | J |
| 76-13-1 | Freon 113 | 2100000 | ug/m3 | 19949.81 | 10000 | 3400 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 19949.81 | 10000 | 3800 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 19949.81 | 10000 | 4800 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 19949.81 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 19949.81 | 10000 | 4800 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 19949.81 | 10000 | 2800 | |
| 110-54-3 | Hexane | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 19949.81 | 20000 | 6000 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 100-42-5 | Styrene | ND | ug/m3 | 19949.81 | 10000 | 3000 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 19949.81 | 10000 | 2800 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 19949.81 | 10000 | 4000 | |
| 108-88-3 | Toluene | ND | ug/m3 | 19949.81 | 10000 | 3400 | |
| 2037-26-5 | Toluene-d8 | 451 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 19949.81 | 10000 | 3800 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 19949.81 | 10000 | 3200 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 19949.81 | 10000 | 2800 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 19949.81 | 10000 | 3400 | |

| Borehole | 200-SV-15 | Depth (ft) | 119 | Depth (m) | 36.27 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071124 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 509 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 53511.71 | 27000 | 12000 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 53511.71 | 27000 | 7500 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 53511.71 | 270000 | 11000 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 53511.71 | 54000 | 22000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 67-64-1 | Acetone | ND | ug/m3 | 53511.71 | 270000 | 41000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 53511.71 | 27000 | 5900 | |
| 71-43-2 | Benzene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 460-00-4 | Bromofluorobenzene | 507 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 53511.71 | 27000 | 10000 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 53511.71 | 270000 | 8000 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 53511.71 | 27000 | 7500 | |
| 98-82-8 | Cumene | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 53511.71 | 54000 | 16000 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 53511.71 | 270000 | 43000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 75-69-4 | Freon 11 | 18000 | ug/m3 | 53511.71 | 27000 | 9100 | J |
| 76-13-1 | Freon 113 | 5500000 | ug/m3 | 106666.7 | 53000 | 18000 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 53511.71 | 27000 | 10000 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 53511.71 | 27000 | 13000 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 53511.71 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 53511.71 | 27000 | 13000 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 53511.71 | 27000 | 7500 | |
| 110-54-3 | Hexane | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 53511.71 | 54000 | 16000 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 100-42-5 | Styrene | ND | ug/m3 | 53511.71 | 27000 | 8000 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 53511.71 | 27000 | 7500 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 53511.71 | 27000 | 11000 | |
| 108-88-3 | Toluene | ND | ug/m3 | 53511.71 | 27000 | 9100 | |
| 2037-26-5 | Toluene-d8 | 486 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 53511.71 | 27000 | 10000 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 53511.71 | 27000 | 8600 | |
| 79-01-6 | Trichloroethene | 13000 | ug/m3 | 53511.71 | 27000 | 7500 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 53511.71 | 27000 | 9100 | |

| Borehole | 200-SV-16 | Depth (ft) | 19 | Depth (m) | 5.79 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071300 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1100 | 550 | 190 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1100 | 550 | 170 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1100 | 550 | 180 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1100 | 550 | 180 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1100 | 550 | 190 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1100 | 550 | 180 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1100 | 550 | 170 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1100 | 550 | 180 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1100 | 550 | 170 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1100 | 550 | 180 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 508 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1100 | 550 | 180 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1100 | 550 | 180 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1100 | 550 | 240 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1100 | 550 | 170 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1100 | 550 | 150 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1100 | 550 | 180 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1100 | 550 | 170 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1100 | 5500 | 230 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1100 | 550 | 180 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1100 | 1100 | 460 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1100 | 550 | 180 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1100 | 550 | 180 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1100 | 550 | 180 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1100 | 5500 | 850 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1100 | 550 | 120 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1100 | 550 | 180 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1100 | 550 | 170 | |
| 460-00-4 | Bromofluorobenzene | 495 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1100 | 550 | 170 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1100 | 550 | 210 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1100 | 5500 | 170 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1100 | 550 | 170 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1100 | 550 | 180 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1100 | 550 | 190 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1100 | 550 | 190 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1100 | 550 | 170 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1100 | 550 | 180 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1100 | 550 | 150 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1100 | 550 | 170 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1100 | 1100 | 320 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1100 | 550 | 180 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1100 | 5500 | 880 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1100 | 550 | 180 | |
| 75-69-4 | Freon 11 | 890 | ug/m3 | 1100 | 550 | 190 | |
| 76-13-1 | Freon 113 | 84000 | ug/m3 | 1100 | 550 | 190 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1100 | 550 | 210 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1100 | 550 | 190 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1100 | 550 | 260 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1100 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1100 | 550 | 260 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1100 | 550 | 190 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1100 | 550 | 150 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1100 | 550 | 170 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1100 | 1100 | 330 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1100 | 550 | 190 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1100 | 550 | 190 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1100 | 550 | 170 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1100 | 550 | 180 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1100 | 550 | 170 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1100 | 550 | 150 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1100 | 550 | 220 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1100 | 550 | 190 | |
| 2037-26-5 | Toluene-d8 | 491 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1100 | 550 | 210 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1100 | 550 | 180 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 1100 | 550 | 150 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1100 | 550 | 190 | |

| Borehole | 200-SV-16 | Depth (ft) | 59 | Depth (m) | 17.98 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071312 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 494 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2357.14 | 1200 | 520 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2357.14 | 1200 | 330 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2357.14 | 12000 | 500 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 2357.14 | 2400 | 990 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 67-64-1 | Acetone | ND | ug/m3 | 2357.14 | 12000 | 1800 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2357.14 | 1200 | 260 | |
| 71-43-2 | Benzene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 460-00-4 | Bromofluorobenzene | 513 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2357.14 | 1200 | 450 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 2357.14 | 12000 | 350 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2357.14 | 1200 | 330 | |
| 98-82-8 | Cumene | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2357.14 | 2400 | 680 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 2357.14 | 12000 | 1900 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 75-69-4 | Freon 11 | 2500 | ug/m3 | 2357.14 | 1200 | 400 | |
| 76-13-1 | Freon 113 | 220000 | ug/m3 | 2357.14 | 1200 | 400 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2357.14 | 1200 | 450 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2357.14 | 1200 | 570 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 2357.14 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2357.14 | 1200 | 570 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2357.14 | 1200 | 330 | |
| 110-54-3 | Hexane | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2357.14 | 2400 | 710 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 100-42-5 | Styrene | ND | ug/m3 | 2357.14 | 1200 | 350 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2357.14 | 1200 | 330 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2357.14 | 1200 | 470 | |
| 108-88-3 | Toluene | ND | ug/m3 | 2357.14 | 1200 | 400 | |
| 2037-26-5 | Toluene-d8 | 502 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2357.14 | 1200 | 450 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2357.14 | 1200 | 380 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 2357.14 | 1200 | 330 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2357.14 | 1200 | 400 | |

| Borehole | 200-SV-16 | Depth (ft) | 99 | Depth (m) | 30.17 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071320 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 491 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 28429.75 | 14000 | 6300 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 28429.75 | 14000 | 4000 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 28429.75 | 140000 | 6000 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 28429.75 | 28000 | 12000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 67-64-1 | Acetone | ND | ug/m3 | 28429.75 | 140000 | 22000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 28429.75 | 14000 | 3100 | |
| 71-43-2 | Benzene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 460-00-4 | Bromofluorobenzene | 519 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 28429.75 | 14000 | 5400 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 28429.75 | 140000 | 4300 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 28429.75 | 14000 | 4000 | |
| 98-82-8 | Cumene | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 28429.75 | 28000 | 8200 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 28429.75 | 140000 | 23000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 75-69-4 | Freon 11 | 30000 | ug/m3 | 28429.75 | 14000 | 4800 | |
| 76-13-1 | Freon 113 | 2800000 | ug/m3 | 56953.64 | 28000 | 9700 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 28429.75 | 14000 | 5400 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 28429.75 | 14000 | 6800 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 28429.75 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 28429.75 | 14000 | 6800 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 28429.75 | 14000 | 4000 | |
| 110-54-3 | Hexane | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 28429.75 | 28000 | 8500 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 100-42-5 | Styrene | ND | ug/m3 | 28429.75 | 14000 | 4300 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 28429.75 | 14000 | 4000 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 28429.75 | 14000 | 5700 | |
| 108-88-3 | Toluene | ND | ug/m3 | 28429.75 | 14000 | 4800 | |
| 2037-26-5 | Toluene-d8 | 509 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 28429.75 | 14000 | 5400 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 28429.75 | 14000 | 4500 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 28429.75 | 14000 | 4000 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 28429.75 | 14000 | 4800 | |

| Borehole | 200-SV-17 | Depth (ft) | 29 | Depth (m) | 8.84 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080905 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 156.67 | 78 | 27 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 156.67 | 78 | 24 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 156.67 | 78 | 25 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 156.67 | 78 | 25 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 156.67 | 78 | 27 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 156.67 | 78 | 24 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 156.67 | 78 | 25 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 156.67 | 78 | 24 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 156.67 | 78 | 25 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 530 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 156.67 | 78 | 25 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 156.67 | 78 | 34 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 156.67 | 78 | 24 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 156.67 | 78 | 22 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 156.67 | 78 | 25 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 156.67 | 78 | 24 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 156.67 | 780 | 33 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 156.67 | 78 | 25 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 156.67 | 160 | 66 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 156.67 | 78 | 25 | |
| 67-64-1 | Acetone | ND | ug/m3 | 156.67 | 780 | 120 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 156.67 | 78 | 17 | |
| 71-43-2 | Benzene | 43 | ug/m3 | 156.67 | 78 | 25 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 156.67 | 78 | 24 | |
| 460-00-4 | Bromofluorobenzene | 496 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 156.67 | 78 | 24 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 156.67 | 78 | 30 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 156.67 | 780 | 24 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 156.67 | 78 | 24 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 156.67 | 78 | 27 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 156.67 | 78 | 27 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 156.67 | 78 | 24 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 156.67 | 78 | 22 | |
| 98-82-8 | Cumene | ND | ug/m3 | 156.67 | 78 | 24 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 156.67 | 160 | 45 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 156.67 | 78 | 25 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 156.67 | 780 | 130 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 75-69-4 | Freon 11 | 1000 | ug/m3 | 156.67 | 78 | 27 | |
| 76-13-1 | Freon 113 | 13000 | ug/m3 | 783.33 | 390 | 130 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 156.67 | 78 | 30 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 156.67 | 78 | 27 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 156.67 | 78 | 38 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 156.67 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 156.67 | 78 | 38 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 156.67 | 78 | 27 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 156.67 | 78 | 22 | |
| 110-54-3 | Hexane | ND | ug/m3 | 156.67 | 78 | 24 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 156.67 | 160 | 47 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 156.67 | 78 | 27 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 156.67 | 78 | 27 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 156.67 | 78 | 24 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 100-42-5 | Styrene | ND | ug/m3 | 156.67 | 78 | 24 | |
| 127-18-4 | Tetrachloroethene | 120 | ug/m3 | 156.67 | 78 | 22 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 156.67 | 78 | 31 | |
| 108-88-3 | Toluene | ND | ug/m3 | 156.67 | 78 | 27 | |
| 2037-26-5 | Toluene-d8 | 511 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 156.67 | 78 | 30 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 156.67 | 78 | 25 | |
| 79-01-6 | Trichloroethene | 640 | ug/m3 | 156.67 | 78 | 22 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 156.67 | 78 | 27 | |

| Borehole | 200-SV-17 | Depth (ft) | 79 | Depth (m) | 24.08 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080910 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 526.67 | 260 | 90 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 526.67 | 260 | 79 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 526.67 | 260 | 84 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 526.67 | 260 | 84 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 526.67 | 260 | 90 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 526.67 | 260 | 79 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 526.67 | 260 | 84 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 526.67 | 260 | 79 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 526.67 | 260 | 84 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 520 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 526.67 | 260 | 84 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 526.67 | 260 | 120 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 526.67 | 260 | 79 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 526.67 | 260 | 74 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 526.67 | 260 | 84 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 526.67 | 260 | 79 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 526.67 | 2600 | 110 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 526.67 | 260 | 84 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 526.67 | 530 | 220 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 526.67 | 260 | 84 | |
| 67-64-1 | Acetone | ND | ug/m3 | 526.67 | 2600 | 410 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 526.67 | 260 | 58 | |
| 71-43-2 | Benzene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 526.67 | 260 | 79 | |
| 460-00-4 | Bromofluorobenzene | 502 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 526.67 | 260 | 79 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 526.67 | 260 | 100 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 526.67 | 2600 | 79 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 526.67 | 260 | 79 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 526.67 | 260 | 90 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 526.67 | 260 | 90 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 526.67 | 260 | 79 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 526.67 | 260 | 74 | |
| 98-82-8 | Cumene | ND | ug/m3 | 526.67 | 260 | 79 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 526.67 | 530 | 150 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 526.67 | 260 | 84 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 526.67 | 2600 | 420 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 75-69-4 | Freon 11 | 2700 | ug/m3 | 526.67 | 260 | 90 | |
| 76-13-1 | Freon 113 | 47000 | ug/m3 | 526.67 | 260 | 90 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 526.67 | 260 | 100 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 526.67 | 260 | 90 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 526.67 | 260 | 130 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 526.67 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 526.67 | 260 | 130 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 526.67 | 260 | 90 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 526.67 | 260 | 74 | |
| 110-54-3 | Hexane | ND | ug/m3 | 526.67 | 260 | 79 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 526.67 | 530 | 160 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 526.67 | 260 | 90 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 526.67 | 260 | 90 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 526.67 | 260 | 79 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 100-42-5 | Styrene | ND | ug/m3 | 526.67 | 260 | 79 | |
| 127-18-4 | Tetrachloroethene | 110 | ug/m3 | 526.67 | 260 | 74 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 526.67 | 260 | 110 | |
| 108-88-3 | Toluene | ND | ug/m3 | 526.67 | 260 | 90 | |
| 2037-26-5 | Toluene-d8 | 512 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 526.67 | 260 | 100 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 526.67 | 260 | 84 | |
| 79-01-6 | Trichloroethene | 710 | ug/m3 | 526.67 | 260 | 74 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 526.67 | 260 | 90 | |

| Borehole | 200-SV-17 | Depth (ft) | 139 | Depth (m) | 42.37 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080915 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 518 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 4685.71 | 2300 | 1000 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 4685.71 | 2300 | 660 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 4685.71 | 23000 | 980 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 4685.71 | 4700 | 2000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 67-64-1 | Acetone | ND | ug/m3 | 4685.71 | 23000 | 3600 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 4685.71 | 2300 | 520 | |
| 71-43-2 | Benzene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 460-00-4 | Bromofluorobenzene | 497 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 4685.71 | 2300 | 890 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 4685.71 | 23000 | 700 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 4685.71 | 2300 | 660 | |
| 98-82-8 | Cumene | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 4685.71 | 4700 | 1400 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 4685.71 | 23000 | 3700 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 75-69-4 | Freon 11 | 23000 | ug/m3 | 4685.71 | 2300 | 800 | |
| 76-13-1 | Freon 113 | 350000 | ug/m3 | 4685.71 | 2300 | 800 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 4685.71 | 2300 | 890 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 4685.71 | 2300 | 1100 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 4685.71 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 4685.71 | 2300 | 1100 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 4685.71 | 2300 | 660 | |
| 110-54-3 | Hexane | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 4685.71 | 4700 | 1400 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 100-42-5 | Styrene | ND | ug/m3 | 4685.71 | 2300 | 700 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 4685.71 | 2300 | 660 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 4685.71 | 2300 | 940 | |
| 108-88-3 | Toluene | ND | ug/m3 | 4685.71 | 2300 | 800 | |
| 2037-26-5 | Toluene-d8 | 509 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 4685.71 | 2300 | 890 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 4685.71 | 2300 | 750 | |
| 79-01-6 | Trichloroethene | 4100 | ug/m3 | 4685.71 | 2300 | 660 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 4685.71 | 2300 | 800 | |

| Borehole | 200-SV-18 | Depth (ft) | 29 | Depth (m) | 8.84 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071331 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1200 | 600 | 200 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1200 | 600 | 180 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1200 | 600 | 190 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1200 | 600 | 190 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1200 | 600 | 200 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1200 | 600 | 190 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1200 | 600 | 180 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1200 | 600 | 190 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1200 | 600 | 180 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1200 | 600 | 190 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 525 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1200 | 600 | 190 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1200 | 600 | 190 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1200 | 600 | 260 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1200 | 600 | 180 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1200 | 600 | 170 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1200 | 600 | 190 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1200 | 600 | 180 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1200 | 6000 | 250 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1200 | 600 | 190 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1200 | 1200 | 500 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1200 | 600 | 190 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1200 | 600 | 190 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1200 | 600 | 190 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1200 | 6000 | 920 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1200 | 600 | 130 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1200 | 600 | 190 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1200 | 600 | 180 | |
| 460-00-4 | Bromofluorobenzene | 490 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1200 | 600 | 180 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1200 | 600 | 230 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1200 | 6000 | 180 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1200 | 600 | 180 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1200 | 600 | 190 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1200 | 600 | 200 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1200 | 600 | 200 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1200 | 600 | 180 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1200 | 600 | 190 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1200 | 600 | 170 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1200 | 600 | 180 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1200 | 1200 | 350 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1200 | 600 | 190 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1200 | 6000 | 960 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1200 | 600 | 190 | |
| 75-69-4 | Freon 11 | 450 | ug/m3 | 1200 | 600 | 200 | J |
| 76-13-1 | Freon 113 | 110000 | ug/m3 | 1200 | 600 | 200 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1200 | 600 | 230 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1200 | 600 | 200 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1200 | 600 | 290 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1200 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1200 | 600 | 290 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1200 | 600 | 200 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1200 | 600 | 170 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1200 | 600 | 180 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1200 | 1200 | 360 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1200 | 600 | 200 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1200 | 600 | 200 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1200 | 600 | 180 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1200 | 600 | 190 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1200 | 600 | 180 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1200 | 600 | 170 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1200 | 600 | 240 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1200 | 600 | 200 | |
| 2037-26-5 | Toluene-d8 | 475 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1200 | 600 | 230 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1200 | 600 | 190 | |
| 79-01-6 | Trichloroethene | 260 | ug/m3 | 1200 | 600 | 170 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1200 | 600 | 200 | |

| Borehole | 200-SV-18 | Depth (ft) | 59 | Depth (m) | 17.98 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071347 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 503 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2062.5 | 1000 | 450 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2062.5 | 1000 | 290 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2062.5 | 10000 | 430 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 2062.5 | 2100 | 870 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 67-64-1 | Acetone | ND | ug/m3 | 2062.5 | 10000 | 1600 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2062.5 | 1000 | 230 | |
| 71-43-2 | Benzene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 460-00-4 | Bromofluorobenzene | 512 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2062.5 | 1000 | 390 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 2062.5 | 10000 | 310 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2062.5 | 1000 | 290 | |
| 98-82-8 | Cumene | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2062.5 | 2100 | 600 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 2062.5 | 10000 | 1700 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 76-13-1 | Freon 113 | 160000 | ug/m3 | 2062.5 | 1000 | 350 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2062.5 | 1000 | 390 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2062.5 | 1000 | 500 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 2062.5 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2062.5 | 1000 | 500 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2062.5 | 1000 | 290 | |
| 110-54-3 | Hexane | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2062.5 | 2100 | 620 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 100-42-5 | Styrene | ND | ug/m3 | 2062.5 | 1000 | 310 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2062.5 | 1000 | 290 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2062.5 | 1000 | 410 | |
| 108-88-3 | Toluene | ND | ug/m3 | 2062.5 | 1000 | 350 | |
| 2037-26-5 | Toluene-d8 | 497 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2062.5 | 1000 | 390 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2062.5 | 1000 | 330 | |
| 79-01-6 | Trichloroethene | 460 | ug/m3 | 2062.5 | 1000 | 290 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2062.5 | 1000 | 350 | |

| Borehole | 200-SV-18 | Depth (ft) | 89 | Depth (m) | 27.13 | Event Date | 10/7/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410071400 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 499 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 64285.71 | 32000 | 14000 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 64285.71 | 32000 | 9000 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 64285.71 | 320000 | 14000 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 64285.71 | 64000 | 27000 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 67-64-1 | Acetone | ND | ug/m3 | 64285.71 | 320000 | 50000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 64285.71 | 32000 | 7100 | |
| 71-43-2 | Benzene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 460-00-4 | Bromofluorobenzene | 501 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 64285.71 | 32000 | 12000 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 64285.71 | 320000 | 9600 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 64285.71 | 32000 | 9000 | |
| 98-82-8 | Cumene | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 64285.71 | 64000 | 19000 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 64285.71 | 320000 | 51000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 76-13-1 | Freon 113 | 4900000 | ug/m3 | 64285.71 | 32000 | 11000 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 64285.71 | 32000 | 12000 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 64285.71 | 32000 | 15000 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 64285.71 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 64285.71 | 32000 | 15000 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 64285.71 | 32000 | 9000 | |
| 110-54-3 | Hexane | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 64285.71 | 64000 | 19000 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 100-42-5 | Styrene | ND | ug/m3 | 64285.71 | 32000 | 9600 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 64285.71 | 32000 | 9000 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 64285.71 | 32000 | 13000 | |
| 108-88-3 | Toluene | ND | ug/m3 | 64285.71 | 32000 | 11000 | |
| 2037-26-5 | Toluene-d8 | 509 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 64285.71 | 32000 | 12000 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 64285.71 | 32000 | 10000 | |
| 79-01-6 | Trichloroethene | 9600 | ug/m3 | 64285.71 | 32000 | 9000 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 64285.71 | 32000 | 11000 | |

| Borehole | 200-SV-19 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080943 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 523 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 10133.33 | 5100 | 2200 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 10133.33 | 5100 | 1400 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 10133.33 | 51000 | 2100 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 10133.33 | 10000 | 4300 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 67-64-1 | Acetone | ND | ug/m3 | 10133.33 | 51000 | 7800 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 10133.33 | 5100 | 1100 | |
| 71-43-2 | Benzene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 460-00-4 | Bromofluorobenzene | 498 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 10133.33 | 5100 | 1900 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 10133.33 | 51000 | 1500 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 10133.33 | 5100 | 1400 | |
| 98-82-8 | Cumene | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 10133.33 | 10000 | 2900 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 10133.33 | 51000 | 8100 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 75-69-4 | Freon 11 | 2000 | ug/m3 | 10133.33 | 5100 | 1700 | J |
| 76-13-1 | Freon 113 | 750000 | ug/m3 | 10133.33 | 5100 | 1700 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 10133.33 | 5100 | 1900 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 10133.33 | 5100 | 2400 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 10133.33 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 10133.33 | 5100 | 2400 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 10133.33 | 5100 | 1400 | |
| 110-54-3 | Hexane | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 10133.33 | 10000 | 3000 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 100-42-5 | Styrene | ND | ug/m3 | 10133.33 | 5100 | 1500 | |
| 127-18-4 | Tetrachloroethene | 9100 | ug/m3 | 10133.33 | 5100 | 1400 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 10133.33 | 5100 | 2000 | |
| 108-88-3 | Toluene | ND | ug/m3 | 10133.33 | 5100 | 1700 | |
| 2037-26-5 | Toluene-d8 | 512 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 10133.33 | 5100 | 1900 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 10133.33 | 5100 | 1600 | |
| 79-01-6 | Trichloroethene | 130000 | ug/m3 | 10133.33 | 5100 | 1400 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 10133.33 | 5100 | 1700 | |

| Borehole | 200-SV-19 | Depth (ft) | 39 | Depth (m) | 11.89 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080947 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 457.78 | 230 | 78 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 457.78 | 230 | 69 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 457.78 | 230 | 73 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 457.78 | 230 | 73 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 457.78 | 230 | 78 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 457.78 | 230 | 69 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 457.78 | 230 | 73 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 457.78 | 230 | 69 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 457.78 | 230 | 73 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 522 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 457.78 | 230 | 73 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 457.78 | 230 | 100 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 457.78 | 230 | 69 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 457.78 | 230 | 64 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 457.78 | 230 | 73 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 457.78 | 230 | 69 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 457.78 | 2300 | 96 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 457.78 | 230 | 73 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 457.78 | 460 | 190 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 457.78 | 230 | 73 | |
| 67-64-1 | Acetone | ND | ug/m3 | 457.78 | 2300 | 350 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 457.78 | 230 | 50 | |
| 71-43-2 | Benzene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 457.78 | 230 | 69 | |
| 460-00-4 | Bromofluorobenzene | 499 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 457.78 | 230 | 69 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 457.78 | 230 | 87 | |
| 75-15-0 | Carbon Disulfide | 120 | ug/m3 | 457.78 | 2300 | 69 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 457.78 | 230 | 69 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 457.78 | 230 | 78 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 457.78 | 230 | 78 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 457.78 | 230 | 69 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 457.78 | 230 | 64 | |
| 98-82-8 | Cumene | ND | ug/m3 | 457.78 | 230 | 69 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 457.78 | 460 | 130 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 457.78 | 230 | 73 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 457.78 | 2300 | 370 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 75-69-4 | Freon 11 | 150 | ug/m3 | 457.78 | 230 | 78 | J |
| 76-13-1 | Freon 113 | 44000 | ug/m3 | 457.78 | 230 | 78 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 457.78 | 230 | 87 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 457.78 | 230 | 78 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 457.78 | 230 | 110 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 457.78 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 457.78 | 230 | 110 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 457.78 | 230 | 78 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 457.78 | 230 | 64 | |
| 110-54-3 | Hexane | 70 | ug/m3 | 457.78 | 230 | 69 | J |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 457.78 | 460 | 140 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 457.78 | 230 | 78 | |
| 75-09-2 | Methylene Chloride | 140 | ug/m3 | 457.78 | 230 | 78 | J |
| 95-47-6 | o-Xylene | ND | ug/m3 | 457.78 | 230 | 69 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 100-42-5 | Styrene | ND | ug/m3 | 457.78 | 230 | 69 | |
| 127-18-4 | Tetrachloroethene | 820 | ug/m3 | 457.78 | 230 | 64 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 457.78 | 230 | 92 | |
| 108-88-3 | Toluene | 81 | ug/m3 | 457.78 | 230 | 78 | J |
| 2037-26-5 | Toluene-d8 | 513 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 457.78 | 230 | 87 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 457.78 | 230 | 73 | |
| 79-01-6 | Trichloroethene | 12000 | ug/m3 | 457.78 | 230 | 64 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 457.78 | 230 | 78 | |

| Borehole | 200-SV-20 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081113 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 114 | 57 | 19 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 114 | 57 | 17 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 114 | 57 | 18 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 114 | 57 | 18 | |
| 75-35-4 | 1,1-Dichloroethene | 40 | ug/m3 | 114 | 57 | 19 | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 114 | 57 | 18 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 114 | 57 | 17 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 114 | 57 | 18 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 114 | 57 | 17 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 114 | 57 | 18 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 532 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 114 | 57 | 18 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 114 | 57 | 18 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 114 | 57 | 25 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 114 | 57 | 17 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 114 | 57 | 16 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 114 | 57 | 18 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 114 | 57 | 17 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 114 | 570 | 24 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 114 | 57 | 18 | |
| 67-63-0 | 2-Propanol | 57 | ug/m3 | 114 | 110 | 48 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 114 | 57 | 18 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 114 | 57 | 18 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 114 | 57 | 18 | |
| 67-64-1 | Acetone | ND | ug/m3 | 114 | 570 | 88 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 114 | 57 | 13 | |
| 71-43-2 | Benzene | ND | ug/m3 | 114 | 57 | 18 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 114 | 57 | 17 | |
| 460-00-4 | Bromofluorobenzene | 489 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 114 | 57 | 17 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 114 | 57 | 22 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 114 | 570 | 17 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 114 | 57 | 17 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 114 | 57 | 18 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 114 | 57 | 19 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 114 | 57 | 19 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 114 | 57 | 17 | |
| 156-59-2 | cis-1,2-Dichloroethene | 44 | ug/m3 | 114 | 57 | 18 | J |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 114 | 57 | 16 | |
| 98-82-8 | Cumene | ND | ug/m3 | 114 | 57 | 17 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 114 | 110 | 33 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 114 | 57 | 18 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 114 | 570 | 91 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 114 | 57 | 18 | |
| 75-69-4 | Freon 11 | 360 | ug/m3 | 114 | 57 | 19 | |
| 76-13-1 | Freon 113 | 12000 | ug/m3 | 114 | 57 | 19 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 114 | 57 | 22 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 114 | 57 | 19 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 114 | 57 | 27 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 114 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 114 | 57 | 27 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 114 | 57 | 19 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 114 | 57 | 16 | |
| 110-54-3 | Hexane | ND | ug/m3 | 114 | 57 | 17 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 114 | 110 | 34 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 114 | 57 | 19 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 114 | 57 | 19 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 114 | 57 | 17 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 114 | 57 | 18 | |
| 100-42-5 | Styrene | ND | ug/m3 | 114 | 57 | 17 | |
| 127-18-4 | Tetrachloroethene | 470 | ug/m3 | 114 | 57 | 16 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 114 | 57 | 23 | |
| 108-88-3 | Toluene | ND | ug/m3 | 114 | 57 | 19 | |
| 2037-26-5 | Toluene-d8 | 511 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 114 | 57 | 22 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 114 | 57 | 18 | |
| 79-01-6 | Trichloroethene | 3600 | ug/m3 | 114 | 57 | 16 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 114 | 57 | 19 | |

| Borehole | 200-SV-20 | Depth (ft) | 29 | Depth (m) | 8.84 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081117 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 280 | 140 | 48 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 280 | 140 | 42 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 280 | 140 | 45 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 280 | 140 | 45 | |
| 75-35-4 | 1,1-Dichloroethene | 130 | ug/m3 | 280 | 140 | 48 | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 280 | 140 | 45 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 280 | 140 | 42 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 280 | 140 | 45 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 280 | 140 | 42 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 280 | 140 | 45 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 536 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 280 | 140 | 45 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 280 | 140 | 45 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 280 | 140 | 62 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 280 | 140 | 42 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 280 | 140 | 39 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 280 | 140 | 45 | |
| 540-84-1 | 2,2,4-Trimethylpentane | 200 | ug/m3 | 280 | 140 | 42 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 280 | 1400 | 59 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 280 | 140 | 45 | |
| 67-63-0 | 2-Propanol | 210 | ug/m3 | 280 | 280 | 120 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 280 | 140 | 45 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 280 | 140 | 45 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 280 | 140 | 45 | |
| 67-64-1 | Acetone | ND | ug/m3 | 280 | 1400 | 220 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 280 | 140 | 31 | |
| 71-43-2 | Benzene | ND | ug/m3 | 280 | 140 | 45 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 280 | 140 | 42 | |
| 460-00-4 | Bromofluorobenzene | 478 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 280 | 140 | 42 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 280 | 140 | 53 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 280 | 1400 | 42 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 280 | 140 | 42 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 280 | 140 | 45 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 280 | 140 | 48 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 280 | 140 | 48 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 280 | 140 | 42 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 280 | 140 | 45 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 280 | 140 | 39 | |
| 98-82-8 | Cumene | ND | ug/m3 | 280 | 140 | 42 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 280 | 280 | 81 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 280 | 140 | 45 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 280 | 1400 | 220 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 280 | 140 | 45 | |
| 75-69-4 | Freon 11 | 1100 | ug/m3 | 280 | 140 | 48 | |
| 76-13-1 | Freon 113 | 24000 | ug/m3 | 280 | 140 | 48 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 280 | 140 | 53 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 280 | 140 | 48 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 280 | 140 | 67 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 280 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 280 | 140 | 67 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 280 | 140 | 48 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 280 | 140 | 39 | |
| 110-54-3 | Hexane | ND | ug/m3 | 280 | 140 | 42 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 280 | 280 | 84 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 280 | 140 | 48 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 280 | 140 | 48 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 280 | 140 | 42 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 280 | 140 | 45 | |
| 100-42-5 | Styrene | ND | ug/m3 | 280 | 140 | 42 | |
| 127-18-4 | Tetrachloroethene | 860 | ug/m3 | 280 | 140 | 39 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 280 | 140 | 56 | |
| 108-88-3 | Toluene | ND | ug/m3 | 280 | 140 | 48 | |
| 2037-26-5 | Toluene-d8 | 504 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 280 | 140 | 53 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 280 | 140 | 45 | |
| 79-01-6 | Trichloroethene | 8300 | ug/m3 | 280 | 140 | 39 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 280 | 140 | 48 | |

| Borehole | 200-SV-20 | Depth (ft) | 49 | Depth (m) | 14.93 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410081125 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 583.33 | 290 | 99 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 583.33 | 290 | 88 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 583.33 | 290 | 93 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 583.33 | 290 | 93 | |
| 75-35-4 | 1,1-Dichloroethene | 250 | ug/m3 | 583.33 | 290 | 99 | J |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 583.33 | 290 | 88 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 583.33 | 290 | 93 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 583.33 | 290 | 88 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 583.33 | 290 | 93 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 510 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 583.33 | 290 | 93 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 583.33 | 290 | 130 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 583.33 | 290 | 88 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 583.33 | 290 | 82 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 583.33 | 290 | 93 | |
| 540-84-1 | 2,2,4-Trimethylpentane | 550 | ug/m3 | 583.33 | 290 | 88 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 583.33 | 2900 | 120 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 583.33 | 290 | 93 | |
| 67-63-0 | 2-Propanol | 760 | ug/m3 | 583.33 | 580 | 250 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 583.33 | 290 | 93 | |
| 67-64-1 | Acetone | ND | ug/m3 | 583.33 | 2900 | 450 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 583.33 | 290 | 64 | |
| 71-43-2 | Benzene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 583.33 | 290 | 88 | |
| 460-00-4 | Bromofluorobenzene | 492 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 583.33 | 290 | 88 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 583.33 | 290 | 110 | |
| 75-15-0 | Carbon Disulfide | 170 | ug/m3 | 583.33 | 2900 | 88 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 583.33 | 290 | 88 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 583.33 | 290 | 99 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 583.33 | 290 | 99 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 583.33 | 290 | 88 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 583.33 | 290 | 82 | |
| 98-82-8 | Cumene | ND | ug/m3 | 583.33 | 290 | 88 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 583.33 | 580 | 170 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 583.33 | 290 | 93 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 583.33 | 2900 | 470 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 75-69-4 | Freon 11 | 2500 | ug/m3 | 583.33 | 290 | 99 | |
| 76-13-1 | Freon 113 | 47000 | ug/m3 | 583.33 | 290 | 99 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 583.33 | 290 | 110 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 583.33 | 290 | 99 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 583.33 | 290 | 140 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 583.33 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 583.33 | 290 | 140 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 583.33 | 290 | 99 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 583.33 | 290 | 82 | |
| 110-54-3 | Hexane | ND | ug/m3 | 583.33 | 290 | 88 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 583.33 | 580 | 180 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 583.33 | 290 | 99 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 583.33 | 290 | 99 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 583.33 | 290 | 88 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 100-42-5 | Styrene | ND | ug/m3 | 583.33 | 290 | 88 | |
| 127-18-4 | Tetrachloroethene | 1600 | ug/m3 | 583.33 | 290 | 82 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 583.33 | 290 | 120 | |
| 108-88-3 | Toluene | ND | ug/m3 | 583.33 | 290 | 99 | |
| 2037-26-5 | Toluene-d8 | 511 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 583.33 | 290 | 110 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 583.33 | 290 | 93 | |
| 79-01-6 | Trichloroethene | 15000 | ug/m3 | 583.33 | 290 | 82 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 583.33 | 290 | 99 | |

| Borehole | 200-SV-21 | Depth (ft) | 9 | Depth (m) | 2.74 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080837 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 66 | ug/m3 | 81 | 41 | 14 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 81 | 41 | 12 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 81 | 41 | 13 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 81 | 41 | 13 | |
| 75-35-4 | 1,1-Dichloroethene | 300 | ug/m3 | 81 | 41 | 14 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 81 | 41 | 13 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 81 | 41 | 12 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 81 | 41 | 13 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 81 | 41 | 12 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 81 | 41 | 13 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 520 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | 30 | ug/m3 | 81 | 41 | 13 | J |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 81 | 41 | 13 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 81 | 41 | 18 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 81 | 41 | 12 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 81 | 41 | 11 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 81 | 41 | 13 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 81 | 41 | 12 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 81 | 410 | 17 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 81 | 41 | 13 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 81 | 81 | 34 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 81 | 41 | 13 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 81 | 41 | 13 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 81 | 41 | 13 | |
| 67-64-1 | Acetone | ND | ug/m3 | 81 | 410 | 62 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 81 | 41 | 8.9 | |
| 71-43-2 | Benzene | ND | ug/m3 | 81 | 41 | 13 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 81 | 41 | 12 | |
| 460-00-4 | Bromofluorobenzene | 493 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 81 | 41 | 12 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 81 | 41 | 15 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 81 | 410 | 12 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 81 | 41 | 12 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 81 | 41 | 13 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 81 | 41 | 14 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 81 | 41 | 14 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 81 | 41 | 12 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 81 | 41 | 13 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 81 | 41 | 11 | |
| 98-82-8 | Cumene | ND | ug/m3 | 81 | 41 | 12 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 81 | 81 | 23 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 81 | 41 | 13 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 81 | 410 | 65 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 81 | 41 | 13 | |
| 75-69-4 | Freon 11 | 840 | ug/m3 | 81 | 41 | 14 | |
| 76-13-1 | Freon 113 | 7400 | ug/m3 | 81 | 41 | 14 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 81 | 41 | 15 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 81 | 41 | 14 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 81 | 41 | 19 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 81 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 81 | 41 | 19 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 81 | 41 | 14 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 81 | 41 | 11 | |
| 110-54-3 | Hexane | ND | ug/m3 | 81 | 41 | 12 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 81 | 81 | 24 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 81 | 41 | 14 | |
| 75-09-2 | Methylene Chloride | 14 | ug/m3 | 81 | 41 | 14 | J |
| 95-47-6 | o-Xylene | ND | ug/m3 | 81 | 41 | 12 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 81 | 41 | 13 | |
| 100-42-5 | Styrene | ND | ug/m3 | 81 | 41 | 12 | |
| 127-18-4 | Tetrachloroethene | 250 | ug/m3 | 81 | 41 | 11 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 81 | 41 | 16 | |
| 108-88-3 | Toluene | 16 | ug/m3 | 81 | 41 | 14 | J |
| 2037-26-5 | Toluene-d8 | 514 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 81 | 41 | 15 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 81 | 41 | 13 | |
| 79-01-6 | Trichloroethene | 1100 | ug/m3 | 81 | 41 | 11 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 81 | 41 | 14 | |

| Borehole | 200-SV-21 | Depth (ft) | 29 | Depth (m) | 8.84 | Event Date | 10/8/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410080842 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 243 | 120 | 41 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 243 | 120 | 36 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 243 | 120 | 39 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 243 | 120 | 39 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 243 | 120 | 41 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 243 | 120 | 39 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 243 | 120 | 36 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 243 | 120 | 39 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 243 | 120 | 36 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 243 | 120 | 39 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 514 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 243 | 120 | 39 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 243 | 120 | 39 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 243 | 120 | 53 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 243 | 120 | 36 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 243 | 120 | 34 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 243 | 120 | 39 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 243 | 120 | 36 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 243 | 1200 | 51 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 243 | 120 | 39 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 243 | 240 | 100 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 243 | 120 | 39 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 243 | 120 | 39 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 243 | 120 | 39 | |
| 67-64-1 | Acetone | ND | ug/m3 | 243 | 1200 | 190 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 243 | 120 | 27 | |
| 71-43-2 | Benzene | ND | ug/m3 | 243 | 120 | 39 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 243 | 120 | 36 | |
| 460-00-4 | Bromofluorobenzene | 504 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 243 | 120 | 36 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 243 | 120 | 46 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 243 | 1200 | 36 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 243 | 120 | 36 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 243 | 120 | 39 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 243 | 120 | 41 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 243 | 120 | 41 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 243 | 120 | 36 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 243 | 120 | 39 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 243 | 120 | 34 | |
| 98-82-8 | Cumene | ND | ug/m3 | 243 | 120 | 36 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 243 | 240 | 70 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 243 | 120 | 39 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 243 | 1200 | 190 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 243 | 120 | 39 | |
| 75-69-4 | Freon 11 | 2200 | ug/m3 | 243 | 120 | 41 | |
| 76-13-1 | Freon 113 | 19000 | ug/m3 | 243 | 120 | 41 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 243 | 120 | 46 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 243 | 120 | 41 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 243 | 120 | 58 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 243 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 243 | 120 | 58 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 243 | 120 | 41 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 243 | 120 | 34 | |
| 110-54-3 | Hexane | ND | ug/m3 | 243 | 120 | 36 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 243 | 240 | 73 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 243 | 120 | 41 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 243 | 120 | 41 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 243 | 120 | 36 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 243 | 120 | 39 | |
| 100-42-5 | Styrene | ND | ug/m3 | 243 | 120 | 36 | |
| 127-18-4 | Tetrachloroethene | 190 | ug/m3 | 243 | 120 | 34 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 243 | 120 | 49 | |
| 108-88-3 | Toluene | ND | ug/m3 | 243 | 120 | 41 | |
| 2037-26-5 | Toluene-d8 | 512 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 243 | 120 | 46 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 243 | 120 | 39 | |
| 79-01-6 | Trichloroethene | 770 | ug/m3 | 243 | 120 | 34 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 243 | 120 | 41 | |

| Borehole | 600-SGW-1 | Depth (ft) | 12.5 | Depth (m) | 3.81 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090737 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 153 | 77 | 26 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 153 | 77 | 23 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 153 | 77 | 24 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 153 | 77 | 24 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 153 | 77 | 26 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 153 | 77 | 24 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 153 | 77 | 23 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 153 | 77 | 24 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 153 | 77 | 23 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 153 | 77 | 24 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 455 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 153 | 77 | 24 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 153 | 77 | 24 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 153 | 77 | 34 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 153 | 77 | 23 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 153 | 77 | 21 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 153 | 77 | 24 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 153 | 77 | 23 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 153 | 770 | 32 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 153 | 77 | 24 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 153 | 150 | 64 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 153 | 77 | 24 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 153 | 77 | 24 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 153 | 77 | 24 | |
| 67-64-1 | Acetone | ND | ug/m3 | 153 | 770 | 120 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 153 | 77 | 17 | |
| 71-43-2 | Benzene | ND | ug/m3 | 153 | 77 | 24 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 153 | 77 | 23 | |
| 460-00-4 | Bromofluorobenzene | 486 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 153 | 77 | 23 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 153 | 77 | 29 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 153 | 770 | 23 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 153 | 77 | 23 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 153 | 77 | 24 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 153 | 77 | 26 | |
| 67-66-3 | Chloroform | 63 | ug/m3 | 153 | 77 | 26 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 153 | 77 | 23 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 153 | 77 | 24 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 153 | 77 | 21 | |
| 98-82-8 | Cumene | ND | ug/m3 | 153 | 77 | 23 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 153 | 150 | 44 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 153 | 77 | 24 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 153 | 770 | 120 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 153 | 77 | 24 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 153 | 77 | 26 | |
| 76-13-1 | Freon 113 | 22000 | ug/m3 | 306 | 150 | 52 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 153 | 77 | 29 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 153 | 77 | 26 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 153 | 77 | 37 | U,X |
| 354-23-4 | Freon 123a | 8600 | ug/m3 | 153 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 153 | 77 | 37 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 153 | 77 | 26 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 153 | 77 | 21 | |
| 110-54-3 | Hexane | ND | ug/m3 | 153 | 77 | 23 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 153 | 150 | 46 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 153 | 77 | 26 | |
| 75-09-2 | Methylene Chloride | 39 | ug/m3 | 153 | 77 | 26 | J |
| 95-47-6 | o-Xylene | ND | ug/m3 | 153 | 77 | 23 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 153 | 77 | 24 | |
| 100-42-5 | Styrene | ND | ug/m3 | 153 | 77 | 23 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 153 | 77 | 21 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 153 | 77 | 31 | |
| 108-88-3 | Toluene | ND | ug/m3 | 153 | 77 | 26 | |
| 2037-26-5 | Toluene-d8 | 491 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 153 | 77 | 29 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 153 | 77 | 24 | |
| 79-01-6 | Trichloroethene | 1600 | ug/m3 | 153 | 77 | 21 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 153 | 77 | 26 | |

| Borehole | 600-SGW-1 | Depth (ft) | 57.5 | Depth (m) | 17.53 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090744 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 437.14 | 220 | 74 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 437.14 | 220 | 66 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 437.14 | 220 | 70 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 437.14 | 220 | 70 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 437.14 | 220 | 74 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 437.14 | 220 | 66 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 437.14 | 220 | 70 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 437.14 | 220 | 66 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 437.14 | 220 | 70 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 460 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 437.14 | 220 | 70 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 437.14 | 220 | 96 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 437.14 | 220 | 66 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 437.14 | 220 | 61 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 437.14 | 220 | 70 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 437.14 | 220 | 66 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 437.14 | 2200 | 92 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 437.14 | 220 | 70 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 437.14 | 440 | 180 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 437.14 | 220 | 70 | |
| 67-64-1 | Acetone | ND | ug/m3 | 437.14 | 2200 | 340 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 437.14 | 220 | 48 | |
| 71-43-2 | Benzene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 437.14 | 220 | 66 | |
| 460-00-4 | Bromofluorobenzene | 487 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 437.14 | 220 | 66 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 437.14 | 220 | 83 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 437.14 | 2200 | 66 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 437.14 | 220 | 66 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 437.14 | 220 | 74 | |
| 67-66-3 | Chloroform | 79 | ug/m3 | 437.14 | 220 | 74 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 437.14 | 220 | 66 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 437.14 | 220 | 61 | |
| 98-82-8 | Cumene | ND | ug/m3 | 437.14 | 220 | 66 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 437.14 | 440 | 130 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 437.14 | 220 | 70 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 437.14 | 2200 | 350 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 437.14 | 220 | 74 | |
| 76-13-1 | Freon 113 | 26000 | ug/m3 | 437.14 | 220 | 74 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 437.14 | 220 | 83 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 437.14 | 220 | 74 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 437.14 | 220 | 100 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 437.14 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 437.14 | 220 | 100 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 437.14 | 220 | 74 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 437.14 | 220 | 61 | |
| 110-54-3 | Hexane | ND | ug/m3 | 437.14 | 220 | 66 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 437.14 | 440 | 130 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 437.14 | 220 | 74 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 437.14 | 220 | 74 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 437.14 | 220 | 66 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 100-42-5 | Styrene | ND | ug/m3 | 437.14 | 220 | 66 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 437.14 | 220 | 61 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 437.14 | 220 | 87 | |
| 108-88-3 | Toluene | ND | ug/m3 | 437.14 | 220 | 74 | |
| 2037-26-5 | Toluene-d8 | 489 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 437.14 | 220 | 83 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 437.14 | 220 | 70 | |
| 79-01-6 | Trichloroethene | 2700 | ug/m3 | 437.14 | 220 | 61 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 437.14 | 220 | 74 | |

| Borehole | 600-SGW-1 | Depth (ft) | 117.5 | Depth (m) | 35.81 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090752 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 520 | 260 | 88 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 520 | 260 | 78 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 520 | 260 | 83 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 520 | 260 | 83 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 520 | 260 | 88 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 520 | 260 | 83 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 520 | 260 | 78 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 520 | 260 | 83 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 520 | 260 | 78 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 520 | 260 | 83 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 453 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 520 | 260 | 83 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 520 | 260 | 83 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 520 | 260 | 110 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 520 | 260 | 78 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 520 | 260 | 73 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 520 | 260 | 83 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 520 | 260 | 78 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 520 | 2600 | 110 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 520 | 260 | 83 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 520 | 520 | 220 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 520 | 260 | 83 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 520 | 260 | 83 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 520 | 260 | 83 | |
| 67-64-1 | Acetone | ND | ug/m3 | 520 | 2600 | 400 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 520 | 260 | 57 | |
| 71-43-2 | Benzene | ND | ug/m3 | 520 | 260 | 83 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 520 | 260 | 78 | |
| 460-00-4 | Bromofluorobenzene | 485 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 520 | 260 | 78 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 520 | 260 | 99 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 520 | 2600 | 78 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 520 | 260 | 78 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 520 | 260 | 83 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 520 | 260 | 88 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 520 | 260 | 88 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 520 | 260 | 78 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 520 | 260 | 83 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 520 | 260 | 73 | |
| 98-82-8 | Cumene | ND | ug/m3 | 520 | 260 | 78 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 520 | 520 | 150 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 520 | 260 | 83 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 520 | 2600 | 420 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 520 | 260 | 83 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 520 | 260 | 88 | |
| 76-13-1 | Freon 113 | 43000 | ug/m3 | 520 | 260 | 88 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 520 | 260 | 99 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 520 | 260 | 88 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 520 | 260 | 120 | U,X |
| 354-23-4 | Freon 123a | 7200 | ug/m3 | 520 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 520 | 260 | 120 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 520 | 260 | 88 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 520 | 260 | 73 | |
| 110-54-3 | Hexane | ND | ug/m3 | 520 | 260 | 78 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 520 | 520 | 160 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 520 | 260 | 88 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 520 | 260 | 88 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 520 | 260 | 78 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 520 | 260 | 83 | |
| 100-42-5 | Styrene | ND | ug/m3 | 520 | 260 | 78 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 520 | 260 | 73 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 520 | 260 | 100 | |
| 108-88-3 | Toluene | 95 | ug/m3 | 520 | 260 | 88 | J |
| 2037-26-5 | Toluene-d8 | 489 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 520 | 260 | 99 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 520 | 260 | 83 | |
| 79-01-6 | Trichloroethene | 3800 | ug/m3 | 520 | 260 | 73 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 520 | 260 | 88 | |

| Borehole | 600-SGW-2 | Depth (ft) | 12.5 | Depth (m) | 3.81 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091525 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 318 | 160 | 54 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 318 | 160 | 48 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 318 | 160 | 51 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 318 | 160 | 51 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 318 | 160 | 54 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 318 | 160 | 51 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 318 | 160 | 48 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 318 | 160 | 51 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 318 | 160 | 48 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 318 | 160 | 51 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 519 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 318 | 160 | 51 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 318 | 160 | 51 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 318 | 160 | 70 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 318 | 160 | 48 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 318 | 160 | 45 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 318 | 160 | 51 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 318 | 160 | 48 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 318 | 1600 | 67 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 318 | 160 | 51 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 318 | 320 | 130 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 318 | 160 | 51 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 318 | 160 | 51 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 318 | 160 | 51 | |
| 67-64-1 | Acetone | ND | ug/m3 | 318 | 1600 | 240 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 318 | 160 | 35 | |
| 71-43-2 | Benzene | ND | ug/m3 | 318 | 160 | 51 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 318 | 160 | 48 | |
| 460-00-4 | Bromofluorobenzene | 497 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 318 | 160 | 48 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 318 | 160 | 60 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 318 | 1600 | 48 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 318 | 160 | 48 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 318 | 160 | 51 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 318 | 160 | 54 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 318 | 160 | 54 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 318 | 160 | 48 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 318 | 160 | 51 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 318 | 160 | 45 | |
| 98-82-8 | Cumene | ND | ug/m3 | 318 | 160 | 48 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 318 | 320 | 92 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 318 | 160 | 51 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 318 | 1600 | 250 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 318 | 160 | 51 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 318 | 160 | 54 | |
| 76-13-1 | Freon 113 | 28000 | ug/m3 | 318 | 160 | 54 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 318 | 160 | 60 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 318 | 160 | 54 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 318 | 160 | 76 | U,X |
| 354-23-4 | Freon 123a | 18000 | ug/m3 | 318 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 318 | 160 | 76 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 318 | 160 | 54 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 318 | 160 | 45 | |
| 110-54-3 | Hexane | ND | ug/m3 | 318 | 160 | 48 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 318 | 320 | 95 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 318 | 160 | 54 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 318 | 160 | 54 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 318 | 160 | 48 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 318 | 160 | 51 | |
| 100-42-5 | Styrene | ND | ug/m3 | 318 | 160 | 48 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 318 | 160 | 45 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 318 | 160 | 64 | |
| 108-88-3 | Toluene | ND | ug/m3 | 318 | 160 | 54 | |
| 2037-26-5 | Toluene-d8 | 491 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 318 | 160 | 60 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 318 | 160 | 51 | |
| 79-01-6 | Trichloroethene | 1000 | ug/m3 | 318 | 160 | 45 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 318 | 160 | 54 | |

**Borehole** 600-SGW-2 **Depth (ft)** 47.5 **Depth (m)** 14.48 **Event Date** 10/9/2014

**Sample** 1410091532 **Sample Type** TO-15 **Analysis Method** TO-15

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 810 | 410 | 140 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 810 | 410 | 120 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 810 | 410 | 130 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 810 | 410 | 130 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 810 | 410 | 140 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 810 | 410 | 130 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 810 | 410 | 120 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 810 | 410 | 130 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 810 | 410 | 120 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 810 | 410 | 130 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 504 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 810 | 410 | 130 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 810 | 410 | 130 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 810 | 410 | 180 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 810 | 410 | 120 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 810 | 410 | 110 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 810 | 410 | 130 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 810 | 410 | 120 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 810 | 4100 | 170 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 810 | 410 | 130 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 810 | 810 | 340 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 810 | 410 | 130 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 810 | 410 | 130 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 810 | 410 | 130 | |
| 67-64-1 | Acetone | 660 | ug/m3 | 810 | 4100 | 620 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 810 | 410 | 89 | |
| 71-43-2 | Benzene | ND | ug/m3 | 810 | 410 | 130 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 810 | 410 | 120 | |
| 460-00-4 | Bromofluorobenzene | 501 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 810 | 410 | 120 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 810 | 410 | 150 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 810 | 4100 | 120 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 810 | 410 | 120 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 810 | 410 | 130 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 810 | 410 | 140 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 810 | 410 | 140 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 810 | 410 | 120 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 810 | 410 | 130 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 810 | 410 | 110 | |
| 98-82-8 | Cumene | ND | ug/m3 | 810 | 410 | 120 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 810 | 810 | 230 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 810 | 410 | 130 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 810 | 4100 | 650 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 810 | 410 | 130 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 810 | 410 | 140 | |
| 76-13-1 | Freon 113 | 86000 | ug/m3 | 810 | 410 | 140 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 810 | 410 | 150 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 810 | 410 | 140 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 810 | 410 | 190 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 810 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 810 | 410 | 190 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 810 | 410 | 140 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 810 | 410 | 110 | |
| 110-54-3 | Hexane | ND | ug/m3 | 810 | 410 | 120 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 810 | 810 | 240 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 810 | 410 | 140 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 810 | 410 | 140 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 810 | 410 | 120 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 810 | 410 | 130 | |
| 100-42-5 | Styrene | ND | ug/m3 | 810 | 410 | 120 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 810 | 410 | 110 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 810 | 410 | 160 | |
| 108-88-3 | Toluene | ND | ug/m3 | 810 | 410 | 140 | |
| 2037-26-5 | Toluene-d8 | 505 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 810 | 410 | 150 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 810 | 410 | 130 | |
| 79-01-6 | Trichloroethene | 4900 | ug/m3 | 810 | 410 | 110 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 810 | 410 | 140 | |

| Borehole | 600-SGW-2 | Depth (ft) | 107.5 | Depth (m) | 32.76 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091540 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 515 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2666.67 | 1300 | 590 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 370 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2666.67 | 13000 | 560 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 2666.67 | 2700 | 1100 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 67-64-1 | Acetone | ND | ug/m3 | 2666.67 | 13000 | 2100 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2666.67 | 1300 | 290 | |
| 71-43-2 | Benzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 460-00-4 | Bromofluorobenzene | 508 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2666.67 | 1300 | 510 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 2666.67 | 13000 | 400 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2666.67 | 1300 | 370 | |
| 98-82-8 | Cumene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2666.67 | 2700 | 770 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 2666.67 | 13000 | 2100 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 76-13-1 | Freon 113 | 200000 | ug/m3 | 2666.67 | 1300 | 450 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2666.67 | 1300 | 510 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2666.67 | 1300 | 640 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 2666.67 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2666.67 | 1300 | 640 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2666.67 | 1300 | 370 | |
| 110-54-3 | Hexane | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2666.67 | 2700 | 800 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 100-42-5 | Styrene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2666.67 | 1300 | 370 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2666.67 | 1300 | 530 | |
| 108-88-3 | Toluene | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 2037-26-5 | Toluene-d8 | 518 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2666.67 | 1300 | 510 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 79-01-6 | Trichloroethene | 10000 | ug/m3 | 2666.67 | 1300 | 370 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2666.67 | 1300 | 450 | |

**Sample 1410091541 Sample Type TO-15-D Analysis Method TO-15**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2666.67 | 1300 | 450 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 512 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2666.67 | 1300 | 430 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2666.67 | 1300 | 590 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 400 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 370 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2666.67 | 13000 | 560 |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 2666.67 | 2700 | 1100 |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 67-64-1 | Acetone | ND | ug/m3 | 2666.67 | 13000 | 2100 |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2666.67 | 1300 | 290 |
| 71-43-2 | Benzene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 460-00-4 | Bromofluorobenzene | 508 | ug/m3 | 40 | NA | NA |
| 75-25-2 | Bromoform | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2666.67 | 1300 | 510 |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 2666.67 | 13000 | 400 |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 67-66-3 | Chloroform | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2666.67 | 1300 | 370 |
| 98-82-8 | Cumene | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2666.67 | 2700 | 770 |
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 64-17-5 | Ethanol | ND | ug/m3 | 2666.67 | 13000 | 2100 |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 75-69-4 | Freon 11 | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 76-13-1 | Freon 113 | 198000 | ug/m3 | 2666.67 | 1300 | 450 |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2666.67 | 1300 | 510 |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2666.67 | 1300 | 640 |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2666.67 | 1300 | 640 |
| 142-82-5 | Heptane | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2666.67 | 1300 | 370 |
| 110-54-3 | Hexane | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2666.67 | 2700 | 800 |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 2666.67 | 1300 | 450 |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 100-42-5 | Styrene | ND | ug/m3 | 2666.67 | 1300 | 400 |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2666.67 | 1300 | 370 |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2666.67 | 1300 | 530 |
| 108-88-3 | Toluene | ND | ug/m3 | 2666.67 | 1300 | 450 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2037-26-5 | Toluene-d8 | 511 | ug/m3 | 40 | NA | NA |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2666.67 | 1300 | 510 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2666.67 | 1300 | 430 |
| 79-01-6 | Trichloroethene | 10300 | ug/m3 | 2666.67 | 1300 | 370 |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2666.67 | 1300 | 450 |

| Borehole | 600-SGW-2 | Depth (ft) | 150 | Depth (m) | 45.72 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091547 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 510 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2271.43 | 1100 | 500 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2271.43 | 1100 | 320 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2271.43 | 11000 | 480 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 2271.43 | 2300 | 950 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 67-64-1 | Acetone | ND | ug/m3 | 2271.43 | 11000 | 1700 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2271.43 | 1100 | 250 | |
| 71-43-2 | Benzene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 460-00-4 | Bromofluorobenzene | 524 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2271.43 | 1100 | 430 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 2271.43 | 11000 | 340 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2271.43 | 1100 | 320 | |
| 98-82-8 | Cumene | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2271.43 | 2300 | 660 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 2271.43 | 11000 | 1800 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 76-13-1 | Freon 113 | 200000 | ug/m3 | 2271.43 | 1100 | 390 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2271.43 | 1100 | 430 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2271.43 | 1100 | 550 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 2271.43 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2271.43 | 1100 | 550 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2271.43 | 1100 | 320 | |
| 110-54-3 | Hexane | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2271.43 | 2300 | 680 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 100-42-5 | Styrene | ND | ug/m3 | 2271.43 | 1100 | 340 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2271.43 | 1100 | 320 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2271.43 | 1100 | 450 | |
| 108-88-3 | Toluene | ND | ug/m3 | 2271.43 | 1100 | 390 | |
| 2037-26-5 | Toluene-d8 | 533 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2271.43 | 1100 | 430 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2271.43 | 1100 | 360 | |
| 79-01-6 | Trichloroethene | 8500 | ug/m3 | 2271.43 | 1100 | 320 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2271.43 | 1100 | 390 | |

| Borehole | 600-SGW-3 | Depth (ft) | 12.5 | Depth (m) | 3.81 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090957 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 274 | 140 | 47 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 274 | 140 | 41 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 274 | 140 | 44 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 274 | 140 | 44 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 274 | 140 | 47 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 274 | 140 | 44 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 274 | 140 | 41 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 274 | 140 | 44 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 274 | 140 | 41 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 274 | 140 | 44 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 457 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 274 | 140 | 44 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 274 | 140 | 44 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 274 | 140 | 60 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 274 | 140 | 41 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 274 | 140 | 38 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 274 | 140 | 44 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 274 | 140 | 41 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 274 | 1400 | 58 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 274 | 140 | 44 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 274 | 270 | 120 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 274 | 140 | 44 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 274 | 140 | 44 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 274 | 140 | 44 | |
| 67-64-1 | Acetone | ND | ug/m3 | 274 | 1400 | 210 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 274 | 140 | 30 | |
| 71-43-2 | Benzene | ND | ug/m3 | 274 | 140 | 44 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 274 | 140 | 41 | |
| 460-00-4 | Bromofluorobenzene | 485 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 274 | 140 | 41 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 274 | 140 | 52 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 274 | 1400 | 41 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 274 | 140 | 41 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 274 | 140 | 44 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 274 | 140 | 47 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 274 | 140 | 47 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 274 | 140 | 41 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 274 | 140 | 44 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 274 | 140 | 38 | |
| 98-82-8 | Cumene | ND | ug/m3 | 274 | 140 | 41 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 274 | 270 | 79 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 274 | 140 | 44 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 274 | 1400 | 220 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 274 | 140 | 44 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 274 | 140 | 47 | |
| 76-13-1 | Freon 113 | 18000 | ug/m3 | 274 | 140 | 47 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 274 | 140 | 52 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 274 | 140 | 47 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 274 | 140 | 66 | U,X |
| 354-23-4 | Freon 123a | 2400 | ug/m3 | 274 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 274 | 140 | 66 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 274 | 140 | 47 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 274 | 140 | 38 | |
| 110-54-3 | Hexane | ND | ug/m3 | 274 | 140 | 41 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 274 | 270 | 82 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 274 | 140 | 47 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 274 | 140 | 47 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 274 | 140 | 41 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 274 | 140 | 44 | |
| 100-42-5 | Styrene | ND | ug/m3 | 274 | 140 | 41 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 274 | 140 | 38 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 274 | 140 | 55 | |
| 108-88-3 | Toluene | ND | ug/m3 | 274 | 140 | 47 | |
| 2037-26-5 | Toluene-d8 | 487 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 274 | 140 | 52 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 274 | 140 | 44 | |
| 79-01-6 | Trichloroethene | 300 | ug/m3 | 274 | 140 | 38 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 274 | 140 | 47 | |

| Borehole | 600-SGW-3 | Depth (ft) | 57.5 | Depth (m) | 17.53 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091002 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 518 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 10.27 | 5.1 | 2.3 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 10.27 | 5.1 | 1.4 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 10.27 | 51 | 2.2 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 10.27 | 10 | 4.3 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 67-64-1 | Acetone | 8.5 | ug/m3 | 10.27 | 51 | 7.9 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 10.27 | 5.1 | 1.1 | |
| 71-43-2 | Benzene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 460-00-4 | Bromofluorobenzene | 504 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 10.27 | 5.1 | 2 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 10.27 | 51 | 1.5 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 67-66-3 | Chloroform | 2.9 | ug/m3 | 10.27 | 5.1 | 1.7 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 10.27 | 5.1 | 1.4 | |
| 98-82-8 | Cumene | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 10.27 | 10 | 3 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 10.27 | 51 | 8.2 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 75-69-4 | Freon 11 | 2 | ug/m3 | 10.27 | 5.1 | 1.7 | J |
| 76-13-1 | Freon 113 | 950 | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 10.27 | 5.1 | 2 | |
| 75-71-8 | Freon 12 | 2.2 | ug/m3 | 10.27 | 5.1 | 1.7 | J |
| 306-83-2 | Freon 123 | ND | ug/m3 | 10.27 | 5.1 | 2.5 | U,X |
| 354-23-4 | Freon 123a | 62 | ug/m3 | 10.27 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 10.27 | 5.1 | 2.5 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 10.27 | 5.1 | 1.4 | |
| 110-54-3 | Hexane | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 10.27 | 10 | 3.1 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 100-42-5 | Styrene | ND | ug/m3 | 10.27 | 5.1 | 1.5 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 10.27 | 5.1 | 1.4 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 10.27 | 5.1 | 2.1 | |
| 108-88-3 | Toluene | 2.4 | ug/m3 | 10.27 | 5.1 | 1.7 | J |
| 2037-26-5 | Toluene-d8 | 514 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 10.27 | 5.1 | 2 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 10.27 | 5.1 | 1.6 | |
| 79-01-6 | Trichloroethene | 46 | ug/m3 | 10.27 | 5.1 | 1.4 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 10.27 | 5.1 | 1.7 | |

| Borehole | 600-SGW-3 | Depth (ft) | 107.5 | Depth (m) | 32.76 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091009 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 40.25 | 20 | 6 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 40.25 | 20 | 6 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 40.25 | 20 | 6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 521 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 40.25 | 20 | 8.9 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 40.25 | 20 | 6 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 40.25 | 20 | 5.6 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 40.25 | 20 | 6 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 40.25 | 200 | 8.5 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 40.25 | 40 | 17 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 67-64-1 | Acetone | ND | ug/m3 | 40.25 | 200 | 31 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 40.25 | 20 | 4.4 | |
| 71-43-2 | Benzene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 40.25 | 20 | 6 | |
| 460-00-4 | Bromofluorobenzene | 497 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 40.25 | 20 | 6 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 40.25 | 20 | 7.6 | |
| 75-15-0 | Carbon Disulfide | 180 | ug/m3 | 40.25 | 200 | 6 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 40.25 | 20 | 6 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 67-66-3 | Chloroform | 41 | ug/m3 | 40.25 | 20 | 6.8 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 40.25 | 20 | 6 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 40.25 | 20 | 5.6 | |
| 98-82-8 | Cumene | ND | ug/m3 | 40.25 | 20 | 6 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 40.25 | 40 | 12 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 40.25 | 200 | 32 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 75-69-4 | Freon 11 | 12 | ug/m3 | 40.25 | 20 | 6.8 | J |
| 76-13-1 | Freon 113 | 5000 | ug/m3 | 107.33 | 54 | 18 | D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 40.25 | 20 | 7.6 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 40.25 | 20 | 9.7 | U,X |
| 354-23-4 | Freon 123a | 310 | ug/m3 | 40.25 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 40.25 | 20 | 9.7 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 40.25 | 20 | 5.6 | |
| 110-54-3 | Hexane | ND | ug/m3 | 40.25 | 20 | 6 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 40.25 | 40 | 12 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 40.25 | 20 | 6.8 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 40.25 | 20 | 6 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 100-42-5 | Styrene | ND | ug/m3 | 40.25 | 20 | 6 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 40.25 | 20 | 5.6 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 40.25 | 20 | 8.1 | |
| 108-88-3 | Toluene | 17 | ug/m3 | 40.25 | 20 | 6.8 | J |
| 2037-26-5 | Toluene-d8 | 507 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 40.25 | 20 | 7.6 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 40.25 | 20 | 6.4 | |
| 79-01-6 | Trichloroethene | 720 | ug/m3 | 40.25 | 20 | 5.6 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 40.25 | 20 | 6.8 | |

| Borehole | 600-SGW-3 | Depth (ft) | 137.5 | Depth (m) | 41.91 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091017 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2650 | 1300 | 450 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2650 | 1300 | 400 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2650 | 1300 | 420 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2650 | 1300 | 420 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2650 | 1300 | 450 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2650 | 1300 | 400 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2650 | 1300 | 420 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2650 | 1300 | 400 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2650 | 1300 | 420 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 508 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2650 | 1300 | 420 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2650 | 1300 | 580 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2650 | 1300 | 400 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2650 | 1300 | 370 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2650 | 1300 | 420 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2650 | 1300 | 400 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2650 | 13000 | 560 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2650 | 1300 | 420 | |
| 67-63-0 | 2-Propanol | 1300 | ug/m3 | 2650 | 2700 | 1100 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2650 | 1300 | 420 | |
| 67-64-1 | Acetone | ND | ug/m3 | 2650 | 13000 | 2000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2650 | 1300 | 290 | |
| 71-43-2 | Benzene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2650 | 1300 | 400 | |
| 460-00-4 | Bromofluorobenzene | 504 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 2650 | 1300 | 400 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2650 | 1300 | 500 | |
| 75-15-0 | Carbon Disulfide | 750 | ug/m3 | 2650 | 13000 | 400 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2650 | 1300 | 400 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2650 | 1300 | 450 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 2650 | 1300 | 450 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2650 | 1300 | 400 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2650 | 1300 | 370 | |
| 98-82-8 | Cumene | ND | ug/m3 | 2650 | 1300 | 400 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2650 | 2700 | 770 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2650 | 1300 | 420 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 2650 | 13000 | 2100 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 75-69-4 | Freon 11 | 1100 | ug/m3 | 2650 | 1300 | 450 | J |
| 76-13-1 | Freon 113 | 250000 | ug/m3 | 2650 | 1300 | 450 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2650 | 1300 | 500 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2650 | 1300 | 450 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2650 | 1300 | 640 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 2650 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2650 | 1300 | 640 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 2650 | 1300 | 450 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2650 | 1300 | 370 | |
| 110-54-3 | Hexane | ND | ug/m3 | 2650 | 1300 | 400 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2650 | 2700 | 800 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2650 | 1300 | 450 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 2650 | 1300 | 450 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2650 | 1300 | 400 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 100-42-5 | Styrene | ND | ug/m3 | 2650 | 1300 | 400 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2650 | 1300 | 370 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2650 | 1300 | 530 | |
| 108-88-3 | Toluene | ND | ug/m3 | 2650 | 1300 | 450 | |
| 2037-26-5 | Toluene-d8 | 507 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2650 | 1300 | 500 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2650 | 1300 | 420 | |
| 79-01-6 | Trichloroethene | 3700 | ug/m3 | 2650 | 1300 | 370 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2650 | 1300 | 450 | |

| Borehole | 600-SGW-4 | Depth (ft) | 12.5 | Depth (m) | 3.81 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090756 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 192.5 | 96 | 33 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 192.5 | 96 | 29 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 192.5 | 96 | 31 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 192.5 | 96 | 31 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 192.5 | 96 | 33 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 192.5 | 96 | 29 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 192.5 | 96 | 31 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 192.5 | 96 | 29 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 192.5 | 96 | 31 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 455 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 192.5 | 96 | 31 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 192.5 | 96 | 42 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 192.5 | 96 | 29 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 192.5 | 96 | 27 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 192.5 | 96 | 31 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 192.5 | 96 | 29 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 192.5 | 960 | 40 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 192.5 | 96 | 31 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 192.5 | 190 | 81 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 192.5 | 96 | 31 | |
| 67-64-1 | Acetone | ND | ug/m3 | 192.5 | 960 | 150 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 192.5 | 96 | 21 | |
| 71-43-2 | Benzene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 192.5 | 96 | 29 | |
| 460-00-4 | Bromofluorobenzene | 489 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 192.5 | 96 | 29 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 192.5 | 96 | 37 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 192.5 | 960 | 29 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 192.5 | 96 | 29 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 192.5 | 96 | 33 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 192.5 | 96 | 33 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 192.5 | 96 | 29 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 192.5 | 96 | 27 | |
| 98-82-8 | Cumene | ND | ug/m3 | 192.5 | 96 | 29 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 192.5 | 190 | 56 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 192.5 | 96 | 31 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 192.5 | 960 | 150 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 192.5 | 96 | 33 | |
| 76-13-1 | Freon 113 | 11000 | ug/m3 | 192.5 | 96 | 33 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 192.5 | 96 | 37 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 192.5 | 96 | 33 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 192.5 | 96 | 46 | U,X |
| 354-23-4 | Freon 123a | 2000 | ug/m3 | 192.5 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 192.5 | 96 | 46 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 192.5 | 96 | 33 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 192.5 | 96 | 27 | |
| 110-54-3 | Hexane | ND | ug/m3 | 192.5 | 96 | 29 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 192.5 | 190 | 58 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 192.5 | 96 | 33 | |
| 75-09-2 | Methylene Chloride | 53 | ug/m3 | 192.5 | 96 | 33 | J |
| 95-47-6 | o-Xylene | ND | ug/m3 | 192.5 | 96 | 29 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 100-42-5 | Styrene | ND | ug/m3 | 192.5 | 96 | 29 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 192.5 | 96 | 27 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 192.5 | 96 | 39 | |
| 108-88-3 | Toluene | ND | ug/m3 | 192.5 | 96 | 33 | |
| 2037-26-5 | Toluene-d8 | 490 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 192.5 | 96 | 37 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 192.5 | 96 | 31 | |
| 79-01-6 | Trichloroethene | 500 | ug/m3 | 192.5 | 96 | 27 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 192.5 | 96 | 33 | |

| Borehole | 600-SGW-4 | Depth (ft) | 47.5 | Depth (m) | 14.48 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090800 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 77 | 39 | 13 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 77 | 39 | 12 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 77 | 39 | 12 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 77 | 39 | 12 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 77 | 39 | 13 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 77 | 39 | 12 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 77 | 39 | 12 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 455 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 77 | 39 | 12 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 77 | 39 | 17 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 77 | 39 | 11 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 77 | 39 | 12 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 77 | 39 | 12 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 77 | 390 | 16 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 77 | 39 | 12 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 77 | 77 | 32 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 77 | 39 | 12 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 77 | 39 | 12 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 77 | 39 | 12 | |
| 67-64-1 | Acetone | ND | ug/m3 | 77 | 390 | 59 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 77 | 39 | 8.5 | |
| 71-43-2 | Benzene | 13 | ug/m3 | 77 | 39 | 12 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 77 | 39 | 12 | |
| 460-00-4 | Bromofluorobenzene | 486 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 77 | 39 | 12 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 77 | 39 | 15 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 77 | 390 | 12 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 77 | 39 | 12 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 77 | 39 | 13 | |
| 67-66-3 | Chloroform | 18 | ug/m3 | 77 | 39 | 13 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 77 | 39 | 12 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 77 | 39 | 12 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 77 | 39 | 11 | |
| 98-82-8 | Cumene | ND | ug/m3 | 77 | 39 | 12 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 77 | 77 | 22 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 77 | 39 | 12 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 77 | 390 | 62 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 77 | 39 | 12 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 77 | 39 | 13 | |
| 76-13-1 | Freon 113 | 7500 | ug/m3 | 77 | 39 | 13 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 77 | 39 | 15 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 77 | 39 | 13 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 77 | 39 | 18 | U,X |
| 354-23-4 | Freon 123a | 650 | ug/m3 | 77 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 77 | 39 | 18 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 77 | 39 | 13 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 77 | 39 | 11 | |
| 110-54-3 | Hexane | ND | ug/m3 | 77 | 39 | 12 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 77 | 77 | 23 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 77 | 39 | 13 | |
| 75-09-2 | Methylene Chloride | 14 | ug/m3 | 77 | 39 | 13 | J |
| 95-47-6 | o-Xylene | ND | ug/m3 | 77 | 39 | 12 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 77 | 39 | 12 | |
| 100-42-5 | Styrene | ND | ug/m3 | 77 | 39 | 12 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 77 | 39 | 11 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 77 | 39 | 15 | |
| 108-88-3 | Toluene | ND | ug/m3 | 77 | 39 | 13 | |
| 2037-26-5 | Toluene-d8 | 485 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 77 | 39 | 15 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 77 | 39 | 12 | |
| 79-01-6 | Trichloroethene | 530 | ug/m3 | 77 | 39 | 11 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 77 | 39 | 13 | |

| Borehole | 600-SGW-4 | Depth (ft) | 107.5 | Depth (m) | 32.76 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090805 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 79 | 40 | 13 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 79 | 40 | 12 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 79 | 40 | 13 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 79 | 40 | 13 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 79 | 40 | 13 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 79 | 40 | 13 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 79 | 40 | 12 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 79 | 40 | 13 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 79 | 40 | 12 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 79 | 40 | 13 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 454 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 79 | 40 | 13 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 79 | 40 | 13 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 79 | 40 | 17 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 79 | 40 | 12 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 79 | 40 | 11 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 79 | 40 | 13 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 79 | 40 | 12 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 79 | 400 | 17 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 79 | 40 | 13 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 79 | 79 | 33 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 79 | 40 | 13 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 79 | 40 | 13 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 79 | 40 | 13 | |
| 67-64-1 | Acetone | ND | ug/m3 | 79 | 400 | 61 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 79 | 40 | 8.7 | |
| 71-43-2 | Benzene | ND | ug/m3 | 79 | 40 | 13 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 79 | 40 | 12 | |
| 460-00-4 | Bromofluorobenzene | 489 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 79 | 40 | 12 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 79 | 40 | 15 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 79 | 400 | 12 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 79 | 40 | 12 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 79 | 40 | 13 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 79 | 40 | 13 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 79 | 40 | 13 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 79 | 40 | 12 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 79 | 40 | 13 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 79 | 40 | 11 | |
| 98-82-8 | Cumene | ND | ug/m3 | 79 | 40 | 12 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 79 | 79 | 23 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 79 | 40 | 13 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 79 | 400 | 63 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 79 | 40 | 13 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 79 | 40 | 13 | |
| 76-13-1 | Freon 113 | 8500 | ug/m3 | 79 | 40 | 13 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 79 | 40 | 15 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 79 | 40 | 13 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 79 | 40 | 19 | U,X |
| 354-23-4 | Freon 123a | 210 | ug/m3 | 79 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 79 | 40 | 19 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 79 | 40 | 13 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 79 | 40 | 11 | |
| 110-54-3 | Hexane | ND | ug/m3 | 79 | 40 | 12 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 79 | 79 | 24 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 79 | 40 | 13 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 79 | 40 | 13 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 79 | 40 | 12 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 79 | 40 | 13 | |
| 100-42-5 | Styrene | ND | ug/m3 | 79 | 40 | 12 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 79 | 40 | 11 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 79 | 40 | 16 | |
| 108-88-3 | Toluene | ND | ug/m3 | 79 | 40 | 13 | |
| 2037-26-5 | Toluene-d8 | 487 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 79 | 40 | 15 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 79 | 40 | 13 | |
| 79-01-6 | Trichloroethene | 680 | ug/m3 | 79 | 40 | 11 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 79 | 40 | 13 | |

| Borehole | 600-SGW-4 | Depth (ft) | 142.5 | Depth (m) | 43.43 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090815 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 530 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 3140 | 1600 | 500 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 462 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 3140 | 1600 | 690 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 3140 | 16000 | 660 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 3140 | 1600 | 500 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 3140 | 3100 | 1300 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 3140 | 1600 | 500 | |
| 67-64-1 | Acetone | ND | ug/m3 | 3140 | 16000 | 2400 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 3140 | 1600 | 350 | |
| 71-43-2 | Benzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 460-00-4 | Bromofluorobenzene | 486 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 3140 | 1600 | 470 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 3140 | 1600 | 600 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 3140 | 16000 | 470 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 3140 | 1600 | 470 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 3140 | 1600 | 530 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 98-82-8 | Cumene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 3140 | 3100 | 910 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 3140 | 16000 | 2500 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 3140 | 1600 | 530 | |
| 76-13-1 | Freon 113 | 200000 | ug/m3 | 3140 | 1600 | 530 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 3140 | 1600 | 600 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 3140 | 1600 | 530 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 3140 | 1600 | 750 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 3140 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 3140 | 1600 | 750 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 110-54-3 | Hexane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 3140 | 3100 | 940 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 3140 | 1600 | 530 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 3140 | 1600 | 530 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 100-42-5 | Styrene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 3140 | 1600 | 630 | |
| 108-88-3 | Toluene | ND | ug/m3 | 3140 | 1600 | 530 | |
| 2037-26-5 | Toluene-d8 | 486 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 600 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 79-01-6 | Trichloroethene | 1800 | ug/m3 | 3140 | 1600 | 440 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 3140 | 1600 | 530 | |

| Borehole | 600-SGW-5 | Depth (ft) | 7.5 | Depth (m) | 2.29 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091027 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 537 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 45.14 | 23 | 9.9 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 45.14 | 23 | 6.3 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 45.14 | 230 | 9.5 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 67-63-0 | 2-Propanol | 79 | ug/m3 | 45.14 | 45 | 19 | FB |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 67-64-1 | Acetone | 51 | ug/m3 | 45.14 | 230 | 35 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 45.14 | 23 | 5 | |
| 71-43-2 | Benzene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 460-00-4 | Bromofluorobenzene | 499 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 45.14 | 23 | 8.6 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 45.14 | 230 | 6.8 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 45.14 | 23 | 6.3 | |
| 98-82-8 | Cumene | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 45.14 | 45 | 13 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 45.14 | 230 | 36 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 75-69-4 | Freon 11 | 20 | ug/m3 | 45.14 | 23 | 7.7 | J |
| 76-13-1 | Freon 113 | 3800 | ug/m3 | 45.14 | 23 | 7.7 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 45.14 | 23 | 8.6 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 45.14 | 23 | 11 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 45.14 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 45.14 | 23 | 11 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 45.14 | 23 | 6.3 | |
| 110-54-3 | Hexane | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 45.14 | 45 | 14 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 100-42-5 | Styrene | ND | ug/m3 | 45.14 | 23 | 6.8 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 45.14 | 23 | 6.3 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 45.14 | 23 | 9 | |
| 108-88-3 | Toluene | ND | ug/m3 | 45.14 | 23 | 7.7 | |
| 2037-26-5 | Toluene-d8 | 506 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 45.14 | 23 | 8.6 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 45.14 | 23 | 7.2 | |
| 79-01-6 | Trichloroethene | 7.5 | ug/m3 | 45.14 | 23 | 6.3 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 45.14 | 23 | 7.7 | |

| Borehole | 600-SGW-5 | Depth (ft) | 52.5 | Depth (m) | 16.00 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091035 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 105.33 | 53 | 18 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 105.33 | 53 | 16 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 105.33 | 53 | 17 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 105.33 | 53 | 17 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 105.33 | 53 | 18 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 105.33 | 53 | 16 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 105.33 | 53 | 17 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 105.33 | 53 | 16 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 105.33 | 53 | 17 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 535 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 105.33 | 53 | 17 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 105.33 | 53 | 23 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 105.33 | 53 | 16 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 105.33 | 53 | 15 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 105.33 | 53 | 17 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 105.33 | 53 | 16 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 105.33 | 530 | 22 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 105.33 | 53 | 17 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 105.33 | 110 | 44 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 105.33 | 53 | 17 | |
| 67-64-1 | Acetone | ND | ug/m3 | 105.33 | 530 | 81 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 105.33 | 53 | 12 | |
| 71-43-2 | Benzene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 105.33 | 53 | 16 | |
| 460-00-4 | Bromofluorobenzene | 493 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 105.33 | 53 | 16 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 105.33 | 53 | 20 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 105.33 | 530 | 16 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 105.33 | 53 | 16 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 105.33 | 53 | 18 | |
| 67-66-3 | Chloroform | 95 | ug/m3 | 105.33 | 53 | 18 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 105.33 | 53 | 16 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 105.33 | 53 | 15 | |
| 98-82-8 | Cumene | ND | ug/m3 | 105.33 | 53 | 16 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 105.33 | 110 | 31 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 105.33 | 53 | 17 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 105.33 | 530 | 84 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 105.33 | 53 | 18 | |
| 76-13-1 | Freon 113 | 10000 | ug/m3 | 105.33 | 53 | 18 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 105.33 | 53 | 20 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 105.33 | 53 | 18 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 105.33 | 53 | 25 | U,X |
| 354-23-4 | Freon 123a | 690 | ug/m3 | 105.33 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 105.33 | 53 | 25 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 105.33 | 53 | 18 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 105.33 | 53 | 15 | |
| 110-54-3 | Hexane | ND | ug/m3 | 105.33 | 53 | 16 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 105.33 | 110 | 32 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 105.33 | 53 | 18 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 105.33 | 53 | 18 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 105.33 | 53 | 16 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 100-42-5 | Styrene | ND | ug/m3 | 105.33 | 53 | 16 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 105.33 | 53 | 15 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 105.33 | 53 | 21 | |
| 108-88-3 | Toluene | 22 | ug/m3 | 105.33 | 53 | 18 | J |
| 2037-26-5 | Toluene-d8 | 509 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 105.33 | 53 | 20 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 105.33 | 53 | 17 | |
| 79-01-6 | Trichloroethene | 2000 | ug/m3 | 105.33 | 53 | 15 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 105.33 | 53 | 18 | |

| Borehole | 600-SGW-5 | Depth (ft) | 102.5 | Depth (m) | 31.24 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091042 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 158 | 79 | 27 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 158 | 79 | 24 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 158 | 79 | 25 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 158 | 79 | 25 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 158 | 79 | 27 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 158 | 79 | 25 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 158 | 79 | 24 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 158 | 79 | 25 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 158 | 79 | 24 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 158 | 79 | 25 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 534 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 158 | 79 | 25 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 158 | 79 | 25 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 158 | 79 | 35 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 158 | 79 | 24 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 158 | 79 | 22 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 158 | 79 | 25 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 158 | 79 | 24 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 158 | 790 | 33 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 158 | 79 | 25 | |
| 67-63-0 | 2-Propanol | 89 | ug/m3 | 158 | 160 | 66 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 158 | 79 | 25 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 158 | 79 | 25 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 158 | 79 | 25 | |
| 67-64-1 | Acetone | ND | ug/m3 | 158 | 790 | 120 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 158 | 79 | 17 | |
| 71-43-2 | Benzene | ND | ug/m3 | 158 | 79 | 25 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 158 | 79 | 24 | |
| 460-00-4 | Bromofluorobenzene | 488 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 158 | 79 | 24 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 158 | 79 | 30 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 158 | 790 | 24 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 158 | 79 | 24 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 158 | 79 | 25 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 158 | 79 | 27 | |
| 67-66-3 | Chloroform | 70 | ug/m3 | 158 | 79 | 27 | J |
| 74-87-3 | Chloromethane | ND | ug/m3 | 158 | 79 | 24 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 158 | 79 | 25 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 158 | 79 | 22 | |
| 98-82-8 | Cumene | ND | ug/m3 | 158 | 79 | 24 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 158 | 160 | 46 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 158 | 79 | 25 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 158 | 790 | 130 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 158 | 79 | 25 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 158 | 79 | 27 | |
| 76-13-1 | Freon 113 | 9600 | ug/m3 | 158 | 79 | 27 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 158 | 79 | 30 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 158 | 79 | 27 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 158 | 79 | 38 | U,X |
| 354-23-4 | Freon 123a | 410 | ug/m3 | 158 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 158 | 79 | 38 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 158 | 79 | 27 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 158 | 79 | 22 | |
| 110-54-3 | Hexane | ND | ug/m3 | 158 | 79 | 24 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 158 | 160 | 47 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 158 | 79 | 27 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 158 | 79 | 27 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 158 | 79 | 24 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 158 | 79 | 25 | |
| 100-42-5 | Styrene | ND | ug/m3 | 158 | 79 | 24 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 158 | 79 | 22 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 158 | 79 | 32 | |
| 108-88-3 | Toluene | 28 | ug/m3 | 158 | 79 | 27 | J |
| 2037-26-5 | Toluene-d8 | 505 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 158 | 79 | 30 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 158 | 79 | 25 | |
| 79-01-6 | Trichloroethene | 1700 | ug/m3 | 158 | 79 | 22 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 158 | 79 | 27 | |

| Borehole | 600-SGW-5 | Depth (ft) | 137.5 | Depth (m) | 41.91 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091051 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 530 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 3140 | 1600 | 500 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 528 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 3140 | 1600 | 690 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 3140 | 16000 | 660 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 3140 | 1600 | 500 | |
| 67-63-0 | 2-Propanol | 2000 | ug/m3 | 3140 | 3100 | 1300 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 3140 | 1600 | 500 | |
| 67-64-1 | Acetone | ND | ug/m3 | 3140 | 16000 | 2400 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 3140 | 1600 | 350 | |
| 71-43-2 | Benzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 460-00-4 | Bromofluorobenzene | 483 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 3140 | 1600 | 470 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 3140 | 1600 | 600 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 3140 | 16000 | 470 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 3140 | 1600 | 470 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 3140 | 1600 | 530 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 98-82-8 | Cumene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 3140 | 3100 | 910 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 3140 | 1600 | 500 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 3140 | 16000 | 2500 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 75-69-4 | Freon 11 | 1200 | ug/m3 | 3140 | 1600 | 530 | J |
| 76-13-1 | Freon 113 | 280000 | ug/m3 | 3140 | 1600 | 530 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 3140 | 1600 | 600 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 3140 | 1600 | 530 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 3140 | 1600 | 750 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 3140 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 3140 | 1600 | 750 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 3140 | 1600 | 530 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 110-54-3 | Hexane | ND | ug/m3 | 3140 | 1600 | 470 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 3140 | 3100 | 940 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 3140 | 1600 | 530 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 3140 | 1600 | 530 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 100-42-5 | Styrene | ND | ug/m3 | 3140 | 1600 | 470 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 3140 | 1600 | 440 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 3140 | 1600 | 630 | |
| 108-88-3 | Toluene | ND | ug/m3 | 3140 | 1600 | 530 | |
| 2037-26-5 | Toluene-d8 | 508 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 3140 | 1600 | 600 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 3140 | 1600 | 500 | |
| 79-01-6 | Trichloroethene | 15000 | ug/m3 | 3140 | 1600 | 440 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 3140 | 1600 | 530 | |

| Borehole | 600-SGW-6 | Depth (ft) | 7.5 | Depth (m) | 2.29 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091447 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 266.67 | 130 | 45 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 266.67 | 130 | 40 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 266.67 | 130 | 43 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 266.67 | 130 | 43 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 266.67 | 130 | 45 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 266.67 | 130 | 40 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 266.67 | 130 | 43 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 266.67 | 130 | 40 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 266.67 | 130 | 43 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 507 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 266.67 | 130 | 43 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 266.67 | 130 | 59 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 266.67 | 130 | 40 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 266.67 | 130 | 37 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 266.67 | 130 | 43 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 266.67 | 130 | 40 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 266.67 | 1300 | 56 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 266.67 | 130 | 43 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 266.67 | 270 | 110 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 266.67 | 130 | 43 | |
| 67-64-1 | Acetone | ND | ug/m3 | 266.67 | 1300 | 210 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 266.67 | 130 | 29 | |
| 71-43-2 | Benzene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 266.67 | 130 | 40 | |
| 460-00-4 | Bromofluorobenzene | 517 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 266.67 | 130 | 40 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 266.67 | 130 | 51 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 266.67 | 1300 | 40 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 266.67 | 130 | 40 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 266.67 | 130 | 45 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 266.67 | 130 | 45 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 266.67 | 130 | 40 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 266.67 | 130 | 37 | |
| 98-82-8 | Cumene | ND | ug/m3 | 266.67 | 130 | 40 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 266.67 | 270 | 77 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 266.67 | 130 | 43 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 266.67 | 1300 | 210 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 266.67 | 130 | 45 | |
| 76-13-1 | Freon 113 | 23000 | ug/m3 | 266.67 | 130 | 45 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 266.67 | 130 | 51 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 266.67 | 130 | 45 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 266.67 | 130 | 64 | U,X |
| 354-23-4 | Freon 123a | 1700 | ug/m3 | 266.67 | NA | NA | TIC QD |
| 75-43-4 | Freon 21 | ND | ug/m3 | 266.67 | 130 | 64 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 266.67 | 130 | 45 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 266.67 | 130 | 37 | |
| 110-54-3 | Hexane | ND | ug/m3 | 266.67 | 130 | 40 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 266.67 | 270 | 80 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 266.67 | 130 | 45 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 266.67 | 130 | 45 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 266.67 | 130 | 40 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 100-42-5 | Styrene | ND | ug/m3 | 266.67 | 130 | 40 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 266.67 | 130 | 37 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 266.67 | 130 | 53 | |
| 108-88-3 | Toluene | ND | ug/m3 | 266.67 | 130 | 45 | |
| 2037-26-5 | Toluene-d8 | 502 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 266.67 | 130 | 51 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 266.67 | 130 | 43 | |
| 79-01-6 | Trichloroethene | 540 | ug/m3 | 266.67 | 130 | 37 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 266.67 | 130 | 45 | |

**Sample 1410091448 Sample Type TO-15-D Analysis Method TO-15**

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 268.33 | 130 | 46 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 268.33 | 130 | 40 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 268.33 | 130 | 43 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 268.33 | 130 | 43 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 268.33 | 130 | 46 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 268.33 | 130 | 40 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 268.33 | 130 | 43 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 268.33 | 130 | 40 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 268.33 | 130 | 43 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 519 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 268.33 | 130 | 43 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 268.33 | 130 | 59 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 268.33 | 130 | 40 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 268.33 | 130 | 38 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 268.33 | 130 | 43 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 268.33 | 130 | 40 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 268.33 | 1300 | 56 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 268.33 | 130 | 43 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 268.33 | 270 | 110 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 268.33 | 130 | 43 | |
| 67-64-1 | Acetone | ND | ug/m3 | 268.33 | 1300 | 210 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 268.33 | 130 | 30 | |
| 71-43-2 | Benzene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 268.33 | 130 | 40 | |
| 460-00-4 | Bromofluorobenzene | 490 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 268.33 | 130 | 40 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 268.33 | 130 | 51 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 268.33 | 1300 | 40 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 268.33 | 130 | 40 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 268.33 | 130 | 46 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 268.33 | 130 | 46 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 268.33 | 130 | 40 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 268.33 | 130 | 38 | |
| 98-82-8 | Cumene | ND | ug/m3 | 268.33 | 130 | 40 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 268.33 | 270 | 78 | |
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 268.33 | 130 | 43 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 268.33 | 1300 | 210 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 268.33 | 130 | 46 | |
| 76-13-1 | Freon 113 | 24000 | ug/m3 | 268.33 | 130 | 46 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 268.33 | 130 | 51 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 268.33 | 130 | 46 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 268.33 | 130 | 64 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 268.33 | NA | NA | NF QD |
| 75-43-4 | Freon 21 | ND | ug/m3 | 268.33 | 130 | 64 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 268.33 | 130 | 46 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 268.33 | 130 | 38 | |
| 110-54-3 | Hexane | ND | ug/m3 | 268.33 | 130 | 40 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 268.33 | 270 | 81 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 268.33 | 130 | 46 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 268.33 | 130 | 46 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 268.33 | 130 | 40 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 268.33 | 130 | 43 | |
| 100-42-5 | Styrene | ND | ug/m3 | 268.33 | 130 | 40 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 268.33 | 130 | 38 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 268.33 | 130 | 54 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 108-88-3 | Toluene | ND | ug/m3 | 268.33 | 130 | 46 |
| 2037-26-5 | Toluene-d8 | 505 | ug/m3 | 40 | NA | NA |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 268.33 | 130 | 51 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 268.33 | 130 | 43 |
| 79-01-6 | Trichloroethene | 550 | ug/m3 | 268.33 | 130 | 38 |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 268.33 | 130 | 46 |

| Borehole | 600-SGW-6 | Depth (ft) | 52.5 | Depth (m) | 16.00 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091455 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1620 | 810 | 280 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1620 | 810 | 240 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1620 | 810 | 260 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1620 | 810 | 260 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1620 | 810 | 280 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1620 | 810 | 260 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1620 | 810 | 240 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1620 | 810 | 260 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1620 | 810 | 240 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1620 | 810 | 260 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 524 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1620 | 810 | 260 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1620 | 810 | 260 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1620 | 810 | 360 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1620 | 810 | 240 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1620 | 810 | 230 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1620 | 810 | 260 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1620 | 810 | 240 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1620 | 8100 | 340 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1620 | 810 | 260 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1620 | 1600 | 680 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1620 | 810 | 260 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1620 | 810 | 260 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1620 | 810 | 260 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1620 | 8100 | 1200 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1620 | 810 | 180 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1620 | 810 | 260 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1620 | 810 | 240 | |
| 460-00-4 | Bromofluorobenzene | 501 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1620 | 810 | 240 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1620 | 810 | 310 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1620 | 8100 | 240 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1620 | 810 | 240 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1620 | 810 | 260 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1620 | 810 | 280 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1620 | 810 | 280 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1620 | 810 | 240 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1620 | 810 | 260 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1620 | 810 | 230 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1620 | 810 | 240 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1620 | 1600 | 470 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1620 | 810 | 260 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1620 | 8100 | 1300 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1620 | 810 | 260 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 1620 | 810 | 280 | |
| 76-13-1 | Freon 113 | 170000 | ug/m3 | 1620 | 810 | 280 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1620 | 810 | 310 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1620 | 810 | 280 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1620 | 810 | 390 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1620 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1620 | 810 | 390 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1620 | 810 | 280 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1620 | 810 | 230 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1620 | 810 | 240 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1620 | 1600 | 490 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1620 | 810 | 280 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1620 | 810 | 280 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1620 | 810 | 240 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1620 | 810 | 260 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1620 | 810 | 240 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1620 | 810 | 230 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1620 | 810 | 320 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1620 | 810 | 280 | |
| 2037-26-5 | Toluene-d8 | 514 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1620 | 810 | 310 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1620 | 810 | 260 | |
| 79-01-6 | Trichloroethene | 7500 | ug/m3 | 1620 | 810 | 230 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1620 | 810 | 280 | |

| Borehole | 600-SGW-6 | Depth (ft) | 102.5 | Depth (m) | 31.24 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091505 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 2300 | 1200 | 390 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 2300 | 1200 | 350 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 2300 | 1200 | 370 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 2300 | 1200 | 370 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 2300 | 1200 | 390 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 2300 | 1200 | 350 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 2300 | 1200 | 370 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 2300 | 1200 | 350 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 2300 | 1200 | 370 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 513 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 2300 | 1200 | 370 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 2300 | 1200 | 510 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 2300 | 1200 | 350 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 2300 | 1200 | 320 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 2300 | 1200 | 370 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 2300 | 1200 | 350 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 2300 | 12000 | 480 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 2300 | 1200 | 370 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 2300 | 2300 | 970 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 2300 | 1200 | 370 | |
| 67-64-1 | Acetone | 2400 | ug/m3 | 2300 | 12000 | 1800 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 2300 | 1200 | 250 | |
| 71-43-2 | Benzene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 2300 | 1200 | 350 | |
| 460-00-4 | Bromofluorobenzene | 501 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 2300 | 1200 | 350 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 2300 | 1200 | 440 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 2300 | 12000 | 350 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 2300 | 1200 | 350 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 2300 | 1200 | 390 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 2300 | 1200 | 390 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 2300 | 1200 | 350 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 2300 | 1200 | 320 | |
| 98-82-8 | Cumene | ND | ug/m3 | 2300 | 1200 | 350 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 2300 | 2300 | 670 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 2300 | 1200 | 370 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 2300 | 12000 | 1800 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 2300 | 1200 | 390 | |
| 76-13-1 | Freon 113 | 220000 | ug/m3 | 2300 | 1200 | 390 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 2300 | 1200 | 440 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 2300 | 1200 | 390 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 2300 | 1200 | 550 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 2300 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 2300 | 1200 | 550 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 2300 | 1200 | 390 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 2300 | 1200 | 320 | |
| 110-54-3 | Hexane | 780 | ug/m3 | 2300 | 1200 | 350 | J |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 2300 | 2300 | 690 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 2300 | 1200 | 390 | |
| 75-09-2 | Methylene Chloride | 1500 | ug/m3 | 2300 | 1200 | 390 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 2300 | 1200 | 350 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 100-42-5 | Styrene | ND | ug/m3 | 2300 | 1200 | 350 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 2300 | 1200 | 320 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 2300 | 1200 | 460 | |
| 108-88-3 | Toluene | 580 | ug/m3 | 2300 | 1200 | 390 | J |
| 2037-26-5 | Toluene-d8 | 513 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 2300 | 1200 | 440 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 2300 | 1200 | 370 | |
| 79-01-6 | Trichloroethene | 8600 | ug/m3 | 2300 | 1200 | 320 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 2300 | 1200 | 390 | |

| Borehole | 600-SGW-6 | Depth (ft) | 147.5 | Depth (m) | 44.96 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091515 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 1590 | 800 | 270 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 1590 | 800 | 240 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 1590 | 800 | 250 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 1590 | 800 | 250 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 1590 | 800 | 270 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 1590 | 800 | 250 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 1590 | 800 | 240 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 1590 | 800 | 250 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 1590 | 800 | 240 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 1590 | 800 | 250 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 521 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 1590 | 800 | 250 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 1590 | 800 | 250 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 1590 | 800 | 350 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 1590 | 800 | 240 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 1590 | 800 | 220 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 1590 | 800 | 250 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 1590 | 800 | 240 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 1590 | 8000 | 330 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 1590 | 800 | 250 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 1590 | 1600 | 670 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 1590 | 800 | 250 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 1590 | 800 | 250 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 1590 | 800 | 250 | |
| 67-64-1 | Acetone | ND | ug/m3 | 1590 | 8000 | 1200 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 1590 | 800 | 170 | |
| 71-43-2 | Benzene | ND | ug/m3 | 1590 | 800 | 250 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 1590 | 800 | 240 | |
| 460-00-4 | Bromofluorobenzene | 502 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 1590 | 800 | 240 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 1590 | 800 | 300 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 1590 | 8000 | 240 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 1590 | 800 | 240 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 1590 | 800 | 250 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 1590 | 800 | 270 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 1590 | 800 | 270 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 1590 | 800 | 240 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 1590 | 800 | 250 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 1590 | 800 | 220 | |
| 98-82-8 | Cumene | ND | ug/m3 | 1590 | 800 | 240 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 1590 | 1600 | 460 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 1590 | 800 | 250 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 1590 | 8000 | 1300 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 1590 | 800 | 250 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 1590 | 800 | 270 | |
| 76-13-1 | Freon 113 | 140000 | ug/m3 | 1590 | 800 | 270 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 1590 | 800 | 300 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 1590 | 800 | 270 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 1590 | 800 | 380 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 1590 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 1590 | 800 | 380 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 1590 | 800 | 270 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 1590 | 800 | 220 | |
| 110-54-3 | Hexane | ND | ug/m3 | 1590 | 800 | 240 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 1590 | 1600 | 480 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 1590 | 800 | 270 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 1590 | 800 | 270 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 1590 | 800 | 240 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 1590 | 800 | 250 | |
| 100-42-5 | Styrene | ND | ug/m3 | 1590 | 800 | 240 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 1590 | 800 | 220 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 1590 | 800 | 320 | |
| 108-88-3 | Toluene | ND | ug/m3 | 1590 | 800 | 270 | |
| 2037-26-5 | Toluene-d8 | 492 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 1590 | 800 | 300 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 1590 | 800 | 250 | |
| 79-01-6 | Trichloroethene | 5000 | ug/m3 | 1590 | 800 | 220 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 1590 | 800 | 270 | |

| Borehole | 600-SGW-7 | Depth (ft) | 7.5 | Depth (m) | 2.29 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090920 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 452 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 15.7 | 7.9 | 3.5 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 15.7 | 7.9 | 2.2 | |
| 123-91-1 | 1,4-Dioxane | 24 | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 4.9 | ug/m3 | 15.7 | 79 | 3.3 | J |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 15.7 | 16 | 6.6 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 67-64-1 | Acetone | 31 | ug/m3 | 15.7 | 79 | 12 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 15.7 | 7.9 | 1.7 | |
| 71-43-2 | Benzene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 460-00-4 | Bromofluorobenzene | 487 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 15.7 | 7.9 | 3 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 15.7 | 79 | 2.4 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 15.7 | 7.9 | 2.2 | |
| 98-82-8 | Cumene | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 15.7 | 16 | 4.6 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 15.7 | 79 | 13 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 75-69-4 | Freon 11 | 3.6 | ug/m3 | 15.7 | 7.9 | 2.7 | J |
| 76-13-1 | Freon 113 | 1500 | ug/m3 | 15.7 | 7.9 | 2.7 | J |
| 76-14-2 | Freon 114 | ND | ug/m3 | 15.7 | 7.9 | 3 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 15.7 | 7.9 | 3.8 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 15.7 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 15.7 | 7.9 | 3.8 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 15.7 | 7.9 | 2.2 | |
| 110-54-3 | Hexane | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 15.7 | 16 | 4.7 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 100-42-5 | Styrene | ND | ug/m3 | 15.7 | 7.9 | 2.4 | |
| 127-18-4 | Tetrachloroethene | 3 | ug/m3 | 15.7 | 7.9 | 2.2 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 15.7 | 7.9 | 3.1 | |
| 108-88-3 | Toluene | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |
| 2037-26-5 | Toluene-d8 | 491 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 15.7 | 7.9 | 3 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 15.7 | 7.9 | 2.5 | |
| 79-01-6 | Trichloroethene | 31 | ug/m3 | 15.7 | 7.9 | 2.2 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 15.7 | 7.9 | 2.7 | |

| Borehole | 600-SGW-7 | Depth (ft) | 62.5 | Depth (m) | 19.05 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090927 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 79.5 | 40 | 14 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 79.5 | 40 | 12 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 79.5 | 40 | 13 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 79.5 | 40 | 13 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 79.5 | 40 | 14 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 79.5 | 40 | 12 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 79.5 | 40 | 13 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 79.5 | 40 | 12 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 79.5 | 40 | 13 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 452 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 79.5 | 40 | 13 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 79.5 | 40 | 17 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 79.5 | 40 | 12 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 79.5 | 40 | 11 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 79.5 | 40 | 13 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 79.5 | 40 | 12 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 79.5 | 400 | 17 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 79.5 | 40 | 13 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 79.5 | 80 | 33 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 79.5 | 40 | 13 | |
| 67-64-1 | Acetone | 120 | ug/m3 | 79.5 | 400 | 61 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 79.5 | 40 | 8.7 | |
| 71-43-2 | Benzene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 79.5 | 40 | 12 | |
| 460-00-4 | Bromofluorobenzene | 481 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 79.5 | 40 | 12 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 79.5 | 40 | 15 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 79.5 | 400 | 12 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 79.5 | 40 | 12 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 79.5 | 40 | 14 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 79.5 | 40 | 14 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 79.5 | 40 | 12 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 79.5 | 40 | 11 | |
| 98-82-8 | Cumene | ND | ug/m3 | 79.5 | 40 | 12 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 79.5 | 80 | 23 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 79.5 | 40 | 13 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 79.5 | 400 | 64 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 75-69-4 | Freon 11 | 15 | ug/m3 | 79.5 | 40 | 14 | J |
| 76-13-1 | Freon 113 | 8500 | ug/m3 | 79.5 | 40 | 14 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 79.5 | 40 | 15 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 79.5 | 40 | 14 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 79.5 | 40 | 19 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 79.5 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 79.5 | 40 | 19 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 79.5 | 40 | 14 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 79.5 | 40 | 11 | |
| 110-54-3 | Hexane | ND | ug/m3 | 79.5 | 40 | 12 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 79.5 | 80 | 24 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 79.5 | 40 | 14 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 79.5 | 40 | 14 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 79.5 | 40 | 12 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 100-42-5 | Styrene | ND | ug/m3 | 79.5 | 40 | 12 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 79.5 | 40 | 11 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 79.5 | 40 | 16 | |
| 108-88-3 | Toluene | ND | ug/m3 | 79.5 | 40 | 14 | |
| 2037-26-5 | Toluene-d8 | 479 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 79.5 | 40 | 15 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 79.5 | 40 | 13 | |
| 79-01-6 | Trichloroethene | 440 | ug/m3 | 79.5 | 40 | 11 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 79.5 | 40 | 14 | |

| Borehole | 600-SGW-7 | Depth (ft) | 102.5 | Depth (m) | 31.24 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090937 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 106 | 53 | 18 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 106 | 53 | 16 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 106 | 53 | 17 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 106 | 53 | 17 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 106 | 53 | 18 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 106 | 53 | 17 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 106 | 53 | 16 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 106 | 53 | 17 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 106 | 53 | 16 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 106 | 53 | 17 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 454 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 106 | 53 | 17 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 106 | 53 | 17 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 106 | 53 | 23 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 106 | 53 | 16 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 106 | 53 | 15 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 106 | 53 | 17 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 106 | 53 | 16 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 106 | 530 | 22 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 106 | 53 | 17 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 106 | 110 | 45 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 106 | 53 | 17 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 106 | 53 | 17 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 106 | 53 | 17 | |
| 67-64-1 | Acetone | ND | ug/m3 | 106 | 530 | 82 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 106 | 53 | 12 | |
| 71-43-2 | Benzene | ND | ug/m3 | 106 | 53 | 17 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 106 | 53 | 16 | |
| 460-00-4 | Bromofluorobenzene | 480 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 106 | 53 | 16 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 106 | 53 | 20 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 106 | 530 | 16 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 106 | 53 | 16 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 106 | 53 | 17 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 106 | 53 | 18 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 106 | 53 | 18 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 106 | 53 | 16 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 106 | 53 | 17 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 106 | 53 | 15 | |
| 98-82-8 | Cumene | ND | ug/m3 | 106 | 53 | 16 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 106 | 110 | 31 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 106 | 53 | 17 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 106 | 530 | 85 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 106 | 53 | 17 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 106 | 53 | 18 | |
| 76-13-1 | Freon 113 | 11000 | ug/m3 | 106 | 53 | 18 | J |
| 76-14-2 | Freon 114 | ND | ug/m3 | 106 | 53 | 20 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 106 | 53 | 18 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 106 | 53 | 25 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 106 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 106 | 53 | 25 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 106 | 53 | 18 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 106 | 53 | 15 | |
| 110-54-3 | Hexane | ND | ug/m3 | 106 | 53 | 16 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 106 | 110 | 32 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 106 | 53 | 18 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 106 | 53 | 18 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 106 | 53 | 16 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 106 | 53 | 17 | |
| 100-42-5 | Styrene | ND | ug/m3 | 106 | 53 | 16 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 106 | 53 | 15 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 106 | 53 | 21 | |
| 108-88-3 | Toluene | ND | ug/m3 | 106 | 53 | 18 | |
| 2037-26-5 | Toluene-d8 | 494 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 106 | 53 | 20 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 106 | 53 | 17 | |
| 79-01-6 | Trichloroethene | 560 | ug/m3 | 106 | 53 | 15 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 106 | 53 | 18 | |

| Borehole | 600-SGW-7 | Depth (ft) | 152.5 | Depth (m) | 46.48 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090946 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 458 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 16200 | 8100 | 3600 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 16200 | 8100 | 2300 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 16200 | 81000 | 3400 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 16200 | 16000 | 6800 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 67-64-1 | Acetone | ND | ug/m3 | 16200 | 81000 | 12000 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 16200 | 8100 | 1800 | |
| 71-43-2 | Benzene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 460-00-4 | Bromofluorobenzene | 482 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 16200 | 8100 | 3100 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 16200 | 81000 | 2400 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 16200 | 8100 | 2300 | |
| 98-82-8 | Cumene | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 16200 | 16000 | 4700 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 16200 | 81000 | 13000 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 75-69-4 | Freon 11 | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 76-13-1 | Freon 113 | 1500000 | ug/m3 | 16200 | 8100 | 2800 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 16200 | 8100 | 3100 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 16200 | 8100 | 3900 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 16200 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 16200 | 8100 | 3900 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 16200 | 8100 | 2300 | |
| 110-54-3 | Hexane | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 16200 | 16000 | 4900 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 100-42-5 | Styrene | ND | ug/m3 | 16200 | 8100 | 2400 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 16200 | 8100 | 2300 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 16200 | 8100 | 3200 | |
| 108-88-3 | Toluene | ND | ug/m3 | 16200 | 8100 | 2800 | |
| 2037-26-5 | Toluene-d8 | 485 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 16200 | 8100 | 3100 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 16200 | 8100 | 2600 | |
| 79-01-6 | Trichloroethene | 3500 | ug/m3 | 16200 | 8100 | 2300 | J |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 16200 | 8100 | 2800 | |

| Borehole | 600-SGW-8 | Depth (ft) | 7.5 | Depth (m) | 2.29 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090837 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 456 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 19.25 | 9.6 | 4.2 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 19.25 | 9.6 | 2.7 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 19.25 | 96 | 4 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 19.25 | 19 | 8.1 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 67-64-1 | Acetone | ND | ug/m3 | 19.25 | 96 | 15 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 19.25 | 9.6 | 2.1 | |
| 71-43-2 | Benzene | 7.9 | ug/m3 | 19.25 | 9.6 | 3.1 | J |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 460-00-4 | Bromofluorobenzene | 489 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 19.25 | 9.6 | 3.7 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 19.25 | 96 | 2.9 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 19.25 | 9.6 | 2.7 | |
| 98-82-8 | Cumene | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 19.25 | 19 | 5.6 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 19.25 | 96 | 15 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 75-69-4 | Freon 11 | 4.8 | ug/m3 | 19.25 | 9.6 | 3.3 | J |
| 76-13-1 | Freon 113 | 1600 | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 19.25 | 9.6 | 3.7 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 19.25 | 9.6 | 4.6 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 19.25 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 19.25 | 9.6 | 4.6 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 19.25 | 9.6 | 2.7 | |
| 110-54-3 | Hexane | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 19.25 | 19 | 5.8 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 100-42-5 | Styrene | ND | ug/m3 | 19.25 | 9.6 | 2.9 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 19.25 | 9.6 | 2.7 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 19.25 | 9.6 | 3.9 | |
| 108-88-3 | Toluene | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |
| 2037-26-5 | Toluene-d8 | 485 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 19.25 | 9.6 | 3.7 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 19.25 | 9.6 | 3.1 | |
| 79-01-6 | Trichloroethene | 28 | ug/m3 | 19.25 | 9.6 | 2.7 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 19.25 | 9.6 | 3.3 | |

**Borehole** 600-SGW-8 **Depth (ft)** 52.5 **Depth (m)** 16.00 **Event Date** 10/9/2014

**Sample** 1410090845 **Sample Type** TO-15 **Analysis Method** TO-15

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 464 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 3.95 | 2 | 0.87 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 3.95 | 2 | 0.55 | |
| 123-91-1 | 1,4-Dioxane | 11 | ug/m3 | 3.95 | 2 | 0.63 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 2 | ug/m3 | 3.95 | 20 | 0.83 | J |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 3.95 | 4 | 1.7 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 67-64-1 | Acetone | 15 | ug/m3 | 3.95 | 20 | 3 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 3.95 | 2 | 0.43 | |
| 71-43-2 | Benzene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 460-00-4 | Bromofluorobenzene | 484 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 3.95 | 2 | 0.75 | |
| 75-15-0 | Carbon Disulfide | 29 | ug/m3 | 3.95 | 20 | 0.59 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 3.95 | 2 | 0.55 | |
| 98-82-8 | Cumene | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 3.95 | 4 | 1.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 3.95 | 20 | 3.2 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 75-69-4 | Freon 11 | 3.3 | ug/m3 | 3.95 | 2 | 0.67 | |
| 76-13-1 | Freon 113 | 210 | ug/m3 | 3.95 | 2 | 0.67 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 3.95 | 2 | 0.75 | |
| 75-71-8 | Freon 12 | 1.9 | ug/m3 | 3.95 | 2 | 0.67 | J |
| 306-83-2 | Freon 123 | ND | ug/m3 | 3.95 | 2 | 0.95 | U,X |
| 354-23-4 | Freon 123a | 53 | ug/m3 | 3.95 | NA | NA | TIC |
| 75-43-4 | Freon 21 | ND | ug/m3 | 3.95 | 2 | 0.95 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 3.95 | 2 | 0.55 | |
| 110-54-3 | Hexane | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 3.95 | 4 | 1.2 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 100-42-5 | Styrene | ND | ug/m3 | 3.95 | 2 | 0.59 | |
| 127-18-4 | Tetrachloroethene | 1.6 | ug/m3 | 3.95 | 2 | 0.55 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 3.95 | 2 | 0.79 | |
| 108-88-3 | Toluene | ND | ug/m3 | 3.95 | 2 | 0.67 | |
| 2037-26-5 | Toluene-d8 | 484 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 3.95 | 2 | 0.75 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 3.95 | 2 | 0.63 | |
| 79-01-6 | Trichloroethene | 15 | ug/m3 | 3.95 | 2 | 0.55 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 3.95 | 2 | 0.67 | |

| Borehole | 600-SGW-8 | Depth (ft) | 102.5 | Depth (m) | 31.24 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090852 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 466 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 3.88 | 1.9 | 0.85 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 3.88 | 1.9 | 0.54 | |
| 123-91-1 | 1,4-Dioxane | 95 | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 4.9 | ug/m3 | 3.88 | 19 | 0.81 | J |
| 591-78-6 | 2-Hexanone | 0.77 | ug/m3 | 3.88 | 1.9 | 0.62 | J |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 3.88 | 3.9 | 1.6 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 67-64-1 | Acetone | 21 | ug/m3 | 3.88 | 19 | 3 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 3.88 | 1.9 | 0.43 | |
| 71-43-2 | Benzene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 460-00-4 | Bromofluorobenzene | 479 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 3.88 | 1.9 | 0.74 | |
| 75-15-0 | Carbon Disulfide | 15 | ug/m3 | 3.88 | 19 | 0.58 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 3.88 | 1.9 | 0.54 | |
| 98-82-8 | Cumene | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 3.88 | 3.9 | 1.1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 3.88 | 19 | 3.1 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 75-69-4 | Freon 11 | 3.7 | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 76-13-1 | Freon 113 | 130 | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 3.88 | 1.9 | 0.74 | |
| 75-71-8 | Freon 12 | 2 | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 3.88 | 1.9 | 0.93 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 3.88 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 3.88 | 1.9 | 0.93 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 3.88 | 1.9 | 0.54 | |
| 110-54-3 | Hexane | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 3.88 | 3.9 | 1.2 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 100-42-5 | Styrene | ND | ug/m3 | 3.88 | 1.9 | 0.58 | |
| 127-18-4 | Tetrachloroethene | 1.3 | ug/m3 | 3.88 | 1.9 | 0.54 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 3.88 | 1.9 | 0.78 | |
| 108-88-3 | Toluene | 2.1 | ug/m3 | 3.88 | 1.9 | 0.66 | |
| 2037-26-5 | Toluene-d8 | 477 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 3.88 | 1.9 | 0.74 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 3.88 | 1.9 | 0.62 | |
| 79-01-6 | Trichloroethene | 7.9 | ug/m3 | 3.88 | 1.9 | 0.54 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 3.88 | 1.9 | 0.66 | |

| Borehole | 600-SGW-8 | Depth (ft) | 150.5 | Depth (m) | 45.87 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410090859 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 78.5 | 39 | 12 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 78.5 | 39 | 12 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 78.5 | 39 | 13 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 78.5 | 39 | 12 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 459 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 78.5 | 39 | 17 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 78.5 | 39 | 12 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 78.5 | 39 | 11 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 78.5 | 39 | 12 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 78.5 | 390 | 16 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 78.5 | 39 | 13 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 78.5 | 79 | 33 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 78.5 | 39 | 13 | |
| 67-64-1 | Acetone | ND | ug/m3 | 78.5 | 390 | 60 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 78.5 | 39 | 8.6 | |
| 71-43-2 | Benzene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 78.5 | 39 | 12 | |
| 460-00-4 | Bromofluorobenzene | 483 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 78.5 | 39 | 12 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 78.5 | 39 | 15 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 78.5 | 390 | 12 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 78.5 | 39 | 12 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 78.5 | 39 | 13 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 78.5 | 39 | 12 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 78.5 | 39 | 11 | |
| 98-82-8 | Cumene | ND | ug/m3 | 78.5 | 39 | 12 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 78.5 | 79 | 23 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 78.5 | 390 | 63 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 75-69-4 | Freon 11 | 26 | ug/m3 | 78.5 | 39 | 13 | J |
| 76-13-1 | Freon 113 | 7900 | ug/m3 | 314 | 160 | 53 | B, D |
| 76-14-2 | Freon 114 | ND | ug/m3 | 78.5 | 39 | 15 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 78.5 | 39 | 13 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 78.5 | 39 | 19 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 78.5 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 78.5 | 39 | 19 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 78.5 | 39 | 13 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 78.5 | 39 | 11 | |
| 110-54-3 | Hexane | ND | ug/m3 | 78.5 | 39 | 12 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 78.5 | 79 | 24 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 78.5 | 39 | 13 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 78.5 | 39 | 13 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 78.5 | 39 | 12 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 100-42-5 | Styrene | ND | ug/m3 | 78.5 | 39 | 12 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 78.5 | 39 | 11 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 78.5 | 39 | 16 | |
| 108-88-3 | Toluene | 44 | ug/m3 | 78.5 | 39 | 13 | |
| 2037-26-5 | Toluene-d8 | 484 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 78.5 | 39 | 15 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 78.5 | 39 | 13 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 78.5 | 39 | 11 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 78.5 | 39 | 13 | |

**Borehole** 600-SGW-9 **Depth (ft)** 7.5 **Depth (m)** 2.29 **Event Date** 10/9/2014

**Sample** 1410091310 **Sample Type** TO-15 **Analysis Method** TO-15

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 4 | 2 | 0.68 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 4 | 2 | 0.68 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 4 | 2 | 0.64 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 533 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 4 | 2 | 0.88 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 4 | 2 | 0.56 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 0.86 | ug/m3 | 4 | 20 | 0.84 | J |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 4 | 2 | 0.64 | |
| 67-63-0 | 2-Propanol | 13 | ug/m3 | 4 | 4 | 1.7 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 4 | 2 | 0.64 | |
| 67-64-1 | Acetone | 19 | ug/m3 | 4 | 20 | 3.1 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 4 | 2 | 0.44 | |
| 71-43-2 | Benzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 460-00-4 | Bromofluorobenzene | 489 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 4 | 2 | 0.6 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 4 | 2 | 0.76 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 4 | 20 | 0.6 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 4 | 2 | 0.6 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 4 | 2 | 0.68 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 4 | 2 | 0.68 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 4 | 2 | 0.56 | |
| 98-82-8 | Cumene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 4 | 4 | 1.2 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 4 | 2 | 0.64 | |
| 64-17-5 | Ethanol | 7.1 | ug/m3 | 4 | 20 | 3.2 | J |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 75-69-4 | Freon 11 | 3.5 | ug/m3 | 4 | 2 | 0.68 | |
| 76-13-1 | Freon 113 | 100 | ug/m3 | 4 | 2 | 0.68 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 4 | 2 | 0.76 | |
| 75-71-8 | Freon 12 | 2.4 | ug/m3 | 4 | 2 | 0.68 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 4 | 2 | 0.96 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 4 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 4 | 2 | 0.96 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 4 | 2 | 0.68 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 4 | 2 | 0.56 | |
| 110-54-3 | Hexane | ND | ug/m3 | 4 | 2 | 0.6 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 4 | 4 | 1.2 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 4 | 2 | 0.68 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 4 | 2 | 0.68 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 100-42-5 | Styrene | ND | ug/m3 | 4 | 2 | 0.6 | |
| 127-18-4 | Tetrachloroethene | 3.5 | ug/m3 | 4 | 2 | 0.56 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 4 | 2 | 0.8 | |
| 108-88-3 | Toluene | 9.5 | ug/m3 | 4 | 2 | 0.68 | |
| 2037-26-5 | Toluene-d8 | 499 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 4 | 2 | 0.76 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 4 | 2 | 0.64 | |
| 79-01-6 | Trichloroethene | 19 | ug/m3 | 4 | 2 | 0.56 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 4 | 2 | 0.68 | |

| Borehole | 600-SGW-9 | Depth (ft) | 80 | Depth (m) | 24.38 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091326 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 543 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 3.43 | 1.7 | 0.75 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 3.43 | 1.7 | 0.48 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | 1.1 | ug/m3 | 3.43 | 17 | 0.72 | J |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 67-63-0 | 2-Propanol | ND | ug/m3 | 3.43 | 3.4 | 1.4 | |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 67-64-1 | Acetone | 9.9 | ug/m3 | 3.43 | 17 | 2.6 | J |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 3.43 | 1.7 | 0.38 | |
| 71-43-2 | Benzene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 460-00-4 | Bromofluorobenzene | 492 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 3.43 | 1.7 | 0.65 | |
| 75-15-0 | Carbon Disulfide | 2 | ug/m3 | 3.43 | 17 | 0.51 | J |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 3.43 | 1.7 | 0.48 | |
| 98-82-8 | Cumene | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 3.43 | 3.4 | 0.99 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 3.43 | 17 | 2.7 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 75-69-4 | Freon 11 | 1.5 | ug/m3 | 3.43 | 1.7 | 0.58 | J |
| 76-13-1 | Freon 113 | 13 | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 3.43 | 1.7 | 0.65 | |
| 75-71-8 | Freon 12 | 2.4 | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 3.43 | 1.7 | 0.82 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 3.43 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 3.43 | 1.7 | 0.82 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 3.43 | 1.7 | 0.48 | |
| 110-54-3 | Hexane | 1.5 | ug/m3 | 3.43 | 1.7 | 0.51 | J |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 3.43 | 3.4 | 1 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 75-09-2 | Methylene Chloride | 2.1 | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 100-42-5 | Styrene | ND | ug/m3 | 3.43 | 1.7 | 0.51 | |
| 127-18-4 | Tetrachloroethene | 0.98 | ug/m3 | 3.43 | 1.7 | 0.48 | J |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 3.43 | 1.7 | 0.69 | |
| 108-88-3 | Toluene | 6.2 | ug/m3 | 3.43 | 1.7 | 0.58 | |
| 2037-26-5 | Toluene-d8 | 500 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 3.43 | 1.7 | 0.65 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 3.43 | 1.7 | 0.55 | |
| 79-01-6 | Trichloroethene | 5.5 | ug/m3 | 3.43 | 1.7 | 0.48 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 3.43 | 1.7 | 0.58 | |

| Borehole | 600-SGW-9 | Depth (ft) | 120 | Depth (m) | 36.57 | Event Date | 10/9/2014 |
|---|---|---|---|---|---|---|---|

| Sample | 1410091335 | Sample Type | TO-15 | Analysis Method | TO-15 |
|---|---|---|---|---|---|

| CAS No | Analyte | Result | Units | Dilution Factor | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | ND | ug/m3 | 225.71 | 110 | 38 | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | ug/m3 | 225.71 | 110 | 34 | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | ug/m3 | 225.71 | 110 | 36 | |
| 75-34-3 | 1,1-Dichloroethane | ND | ug/m3 | 225.71 | 110 | 36 | |
| 75-35-4 | 1,1-Dichloroethene | ND | ug/m3 | 225.71 | 110 | 38 | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 95-63-6 | 1,2,4-Trimethylbenzene | ND | ug/m3 | 225.71 | 110 | 34 | |
| 106-93-4 | 1,2-Dibromoethane (EDB) | ND | ug/m3 | 225.71 | 110 | 36 | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | ug/m3 | 225.71 | 110 | 34 | |
| 107-06-2 | 1,2-Dichloroethane | ND | ug/m3 | 225.71 | 110 | 36 | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 534 | ug/m3 | 40 | NA | NA | |
| 78-87-5 | 1,2-Dichloropropane | ND | ug/m3 | 225.71 | 110 | 36 | |
| 108-67-8 | 1,3,5-Trimethylbenzene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 106-99-0 | 1,3-Butadiene | ND | ug/m3 | 225.71 | 110 | 50 | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | ug/m3 | 225.71 | 110 | 34 | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | ug/m3 | 225.71 | 110 | 32 | |
| 123-91-1 | 1,4-Dioxane | ND | ug/m3 | 225.71 | 110 | 36 | |
| 540-84-1 | 2,2,4-Trimethylpentane | ND | ug/m3 | 225.71 | 110 | 34 | |
| 78-93-3 | 2-Butanone (Methyl Ethyl Ketone) | ND | ug/m3 | 225.71 | 1100 | 47 | |
| 591-78-6 | 2-Hexanone | ND | ug/m3 | 225.71 | 110 | 36 | |
| 67-63-0 | 2-Propanol | 140 | ug/m3 | 225.71 | 230 | 95 | J |
| 107-05-1 | 3-Chloropropene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 622-96-8 | 4-Ethyltoluene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | ug/m3 | 225.71 | 110 | 36 | |
| 67-64-1 | Acetone | ND | ug/m3 | 225.71 | 1100 | 170 | |
| 100-44-7 | alpha-Chlorotoluene | ND | ug/m3 | 225.71 | 110 | 25 | |
| 71-43-2 | Benzene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 75-27-4 | Bromodichloromethane | ND | ug/m3 | 225.71 | 110 | 34 | |
| 460-00-4 | Bromofluorobenzene | 485 | ug/m3 | 40 | NA | NA | |
| 75-25-2 | Bromoform | ND | ug/m3 | 225.71 | 110 | 34 | |
| 74-83-9 | Bromomethane | ND | ug/m3 | 225.71 | 110 | 43 | |
| 75-15-0 | Carbon Disulfide | ND | ug/m3 | 225.71 | 1100 | 34 | |
| 56-23-5 | Carbon Tetrachloride | ND | ug/m3 | 225.71 | 110 | 34 | |
| 108-90-7 | Chlorobenzene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 75-00-3 | Chloroethane | ND | ug/m3 | 225.71 | 110 | 38 | |
| 67-66-3 | Chloroform | ND | ug/m3 | 225.71 | 110 | 38 | |
| 74-87-3 | Chloromethane | ND | ug/m3 | 225.71 | 110 | 34 | |
| 156-59-2 | cis-1,2-Dichloroethene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | ug/m3 | 225.71 | 110 | 32 | |
| 98-82-8 | Cumene | ND | ug/m3 | 225.71 | 110 | 34 | |
| 110-82-7 | Cyclohexane | ND | ug/m3 | 225.71 | 230 | 65 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 124-48-1 | Dibromochloromethane | ND | ug/m3 | 225.71 | 110 | 36 | |
| 64-17-5 | Ethanol | ND | ug/m3 | 225.71 | 1100 | 180 | |
| 100-41-4 | Ethyl Benzene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 75-69-4 | Freon 11 | 360 | ug/m3 | 225.71 | 110 | 38 | |
| 76-13-1 | Freon 113 | 23000 | ug/m3 | 225.71 | 110 | 38 | |
| 76-14-2 | Freon 114 | ND | ug/m3 | 225.71 | 110 | 43 | |
| 75-71-8 | Freon 12 | ND | ug/m3 | 225.71 | 110 | 38 | |
| 306-83-2 | Freon 123 | ND | ug/m3 | 225.71 | 110 | 54 | U,X |
| 354-23-4 | Freon 123a | ND | ug/m3 | 225.71 | NA | NA | NF |
| 75-43-4 | Freon 21 | ND | ug/m3 | 225.71 | 110 | 54 | U,X |
| 142-82-5 | Heptane | ND | ug/m3 | 225.71 | 110 | 38 | |
| 87-68-3 | Hexachlorobutadiene | ND | ug/m3 | 225.71 | 110 | 32 | |
| 110-54-3 | Hexane | ND | ug/m3 | 225.71 | 110 | 34 | |
| 179601-23- | m,p-Xylene | ND | ug/m3 | 225.71 | 230 | 68 | |
| 1634-04-4 | Methyl tert-butyl ether | ND | ug/m3 | 225.71 | 110 | 38 | |
| 75-09-2 | Methylene Chloride | ND | ug/m3 | 225.71 | 110 | 38 | |
| 95-47-6 | o-Xylene | ND | ug/m3 | 225.71 | 110 | 34 | |
| 103-65-1 | Propylbenzene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 100-42-5 | Styrene | ND | ug/m3 | 225.71 | 110 | 34 | |
| 127-18-4 | Tetrachloroethene | ND | ug/m3 | 225.71 | 110 | 32 | |
| 109-99-9 | Tetrahydrofuran | ND | ug/m3 | 225.71 | 110 | 45 | |
| 108-88-3 | Toluene | ND | ug/m3 | 225.71 | 110 | 38 | |
| 2037-26-5 | Toluene-d8 | 507 | ug/m3 | 40 | NA | NA | |
| 156-60-5 | trans-1,2-Dichloroethene | ND | ug/m3 | 225.71 | 110 | 43 | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | ug/m3 | 225.71 | 110 | 36 | |
| 79-01-6 | Trichloroethene | ND | ug/m3 | 225.71 | 110 | 32 | |
| 75-01-4 | Vinyl Chloride | ND | ug/m3 | 225.71 | 110 | 38 | |

# Appendix H
# Detections in Soil Vapor

# Appendix H - Detections in Soil Vapor

**Analyte 1,1,1-Trichloroethane** **CAS Numbe 71-55-6** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 66 | ug/m3 | 41 | 14 | 81 | |

**Analyte 1,1-Dichloroethene** **CAS Numbe 75-35-4** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 530 | ug/m3 | 330 | 110 | 668 | |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 140 | ug/m3 | 120 | 40 | 234 | |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 130 | ug/m3 | 140 | 48 | 280 | J |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 250 | ug/m3 | 290 | 99 | 583.33 | J |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 40 | ug/m3 | 57 | 19 | 114 | J |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 300 | ug/m3 | 41 | 14 | 81 | |

**Analyte 1,2-Dichloroethane-d4** **CAS Numbe 17060-07-0** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 456 | ug/m3 | NA | NA | 40 | |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 451 | ug/m3 | NA | NA | 40 | |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 453 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 454 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-40 | 10/8/2014 | 1410081353 | TO-15 | 452 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-80 | 10/8/2014 | 1410081357 | TO-15 | 453 | ug/m3 | NA | NA | 40 | |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 523 | ug/m3 | NA | NA | 40 | |
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 500 | ug/m3 | NA | NA | 40 | |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 505 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 520 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 515 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-90 | 10/8/2014 | 1410081305 | TO-15 | 532 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 521 | ug/m3 | NA | NA | 40 | |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 525 | ug/m3 | NA | NA | 40 | |
| 200-SG-2-60 | 10/8/2014 | 1410081030 | TO-15 | 520 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 506 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 511 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-90 | 10/8/2014 | 1410081052 | TO-15 | 541 | ug/m3 | NA | NA | 40 | |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 457 | ug/m3 | NA | NA | 40 | |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 456 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 513 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 501 | ug/m3 | NA | NA | 40 | |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 515 | ug/m3 | NA | NA | 40 | |
| 200-SV-10-19 | 10/8/2014 | 1410080737 | TO-15 | 495 | ug/m3 | NA | NA | 40 | |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 500 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 498 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 511 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 519 | ug/m3 | NA | NA | 40 | |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 517 | ug/m3 | NA | NA | 40 | |
| 200-SV-13-14 | 10/7/2014 | 1410071410 | TO-15 | 521 | ug/m3 | NA | NA | 40 | |
| 200-SV-13-34 | 10/7/2014 | 1410071419 | TO-15 | 516 | ug/m3 | NA | NA | 40 | |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 525 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-119 | 10/7/2014 | 1410071124 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-59 | 10/7/2014 | 1410071052 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-9 | 10/7/2014 | 1410071035 | TO-15 | 493 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-19 | 10/7/2014 | 1410071300 | TO-15 | 508 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-59 | 10/7/2014 | 1410071312 | TO-15 | 494 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-99 | 10/7/2014 | 1410071320 | TO-15 | 491 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-139 | 10/8/2014 | 1410080915 | TO-15 | 518 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 530 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 520 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-29 | 10/7/2014 | 1410071331 | TO-15 | 525 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-59 | 10/7/2014 | 1410071347 | TO-15 | 503 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-89 | 10/7/2014 | 1410071400 | TO-15 | 499 | ug/m3 | NA | NA | 40 | |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 522 | ug/m3 | NA | NA | 40 | |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 523 | ug/m3 | NA | NA | 40 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 536 | ug/m3 | NA | NA | 40 |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 510 | ug/m3 | NA | NA | 40 |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 532 | ug/m3 | NA | NA | 40 |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 514 | ug/m3 | NA | NA | 40 |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 520 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 453 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 455 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-57.5 | 10/9/2014 | 1410090744 | TO-15 | 460 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-107. | 10/9/2014 | 1410091541 | TO-15 | 512 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-107. | 10/9/2014 | 1410091540 | TO-15 | 515 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-12.5 | 10/9/2014 | 1410091525 | TO-15 | 519 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-150 | 10/9/2014 | 1410091547 | TO-15 | 510 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-47.5 | 10/9/2014 | 1410091532 | TO-15 | 504 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 521 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-12.5 | 10/9/2014 | 1410090957 | TO-15 | 457 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 508 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 518 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-107. | 10/9/2014 | 1410090805 | TO-15 | 454 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 455 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-142. | 10/9/2014 | 1410090815 | TO-15 | 462 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 455 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 534 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 528 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 535 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 537 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 513 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-147. | 10/9/2014 | 1410091515 | TO-15 | 521 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-52.5 | 10/9/2014 | 1410091455 | TO-15 | 524 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091448 | TO-15 | 519 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091447 | TO-15 | 507 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-102. | 10/9/2014 | 1410090937 | TO-15 | 454 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-152. | 10/9/2014 | 1410090946 | TO-15 | 458 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 452 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 452 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 466 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-150. | 10/9/2014 | 1410090859 | TO-15 | 459 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 464 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 456 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-120 | 10/9/2014 | 1410091335 | TO-15 | 534 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 533 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 543 | ug/m3 | NA | NA | 40 |

**Analyte 1,2-Dichloropropane** **CAS Numbe 78-87-5** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 30 | ug/m3 | 41 | 13 | 81 | J |

**Analyte 1,4-Dioxane** **CAS Numbe 123-91-1** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 24 | ug/m3 | 7.9 | 2.5 | 15.7 | |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 95 | ug/m3 | 1.9 | 0.62 | 3.88 | |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 11 | ug/m3 | 2 | 0.63 | 3.95 | |

**Analyte 2,2,4-Trimethylpentane** **CAS Numbe 540-84-1** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 2100 | ug/m3 | 3600 | 1100 | 7200 | J |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 200 | ug/m3 | 280 | 84 | 556.67 | J |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 3100 | ug/m3 | 4700 | 1400 | 9450 | J |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 200 | ug/m3 | 140 | 42 | 280 | |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 550 | ug/m3 | 290 | 88 | 583.33 | |

**Analyte 2-Butanone (Methyl Ethyl Ketone)** **CAS Numbe 78-93-3** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 0.88 | ug/m3 | 21 | 0.87 | 4.13 | J |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 1.1 | ug/m3 | 20 | 0.84 | 4 | J |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 4.9 | ug/m3 | 79 | 3.3 | 15.7 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 4.9 | ug/m3 | 19 | 0.81 | 3.88 | J |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 2 | ug/m3 | 20 | 0.83 | 3.95 | J |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 0.86 | ug/m3 | 20 | 0.84 | 4 | J |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 1.1 | ug/m3 | 17 | 0.72 | 3.43 | J |

**Analyte 2-Hexanone** **CAS Numbe 591-78-6** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 0.77 | ug/m3 | 1.9 | 0.62 | 3.88 | J |

**Analyte 2-Propanol** **CAS Numbe 67-63-0** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 5400 | ug/m3 | 340 | 140 | 335 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 4900 | ug/m3 | 7200 | 3000 | 7200 | J |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 460 | ug/m3 | 560 | 230 | 556.67 | J |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 6900 | ug/m3 | 9500 | 4000 | 9450 | J |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 73 | ug/m3 | 110 | 45 | 108 | J |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 130 | ug/m3 | 89 | 37 | 88.67 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 33 | ug/m3 | 4.7 | 2 | 4.7 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 13 | ug/m3 | 4.1 | 1.7 | 4.13 | QD |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 26 | ug/m3 | 4.1 | 1.7 | 4.13 | QD |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 89 | ug/m3 | 140 | 57 | 135.33 | J |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 210 | ug/m3 | 280 | 120 | 280 | J |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 760 | ug/m3 | 580 | 250 | 583.33 | |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 57 | ug/m3 | 110 | 48 | 114 | J |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 1300 | ug/m3 | 2700 | 1100 | 2650 | J |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 89 | ug/m3 | 160 | 66 | 158 | J |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 2000 | ug/m3 | 3100 | 1300 | 3140 | J |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 79 | ug/m3 | 45 | 19 | 45.14 | FB |
| 600-SGW-9-120 | 10/9/2014 | 1410091335 | TO-15 | 140 | ug/m3 | 230 | 95 | 225.71 | J |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 13 | ug/m3 | 4 | 1.7 | 4 | |

**Analyte Acetone** **CAS Numbe 67-64-1** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 42 | ug/m3 | 210 | 32 | 41.25 | J |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 470 | ug/m3 | 1700 | 260 | 335 | J |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 20 | ug/m3 | 24 | 3.6 | 4.7 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 12 | ug/m3 | 21 | 3.2 | 4.13 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 18 | ug/m3 | 21 | 3.2 | 4.13 | J |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 10 | ug/m3 | 20 | 3.1 | 4 | J |
| 600-SGW-2-47.5 | 10/9/2014 | 1410091532 | TO-15 | 660 | ug/m3 | 4100 | 620 | 810 | J |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 8.5 | ug/m3 | 51 | 7.9 | 10.27 | J |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 51 | ug/m3 | 230 | 35 | 45.14 | J |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 2400 | ug/m3 | 12000 | 1800 | 2300 | J |
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 120 | ug/m3 | 400 | 61 | 79.5 | J |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 31 | ug/m3 | 79 | 12 | 15.7 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 21 | ug/m3 | 19 | 3 | 3.88 | |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 15 | ug/m3 | 20 | 3 | 3.95 | J |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 19 | ug/m3 | 20 | 3.1 | 4 | J |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 9.9 | ug/m3 | 17 | 2.6 | 3.43 | J |

**Analyte Benzene** **CAS Numbe 71-43-2** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 9.8 | ug/m3 | 17 | 5.6 | 34.75 | J |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 21 | ug/m3 | 32 | 10 | 64 | J |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 140 | ug/m3 | 170 | 54 | 335 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 0.81 | ug/m3 | 2.1 | 0.66 | 4.13 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 0.66 | ug/m3 | 2.1 | 0.66 | 4.13 | J |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 43 | ug/m3 | 78 | 25 | 156.67 | J |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 13 | ug/m3 | 39 | 12 | 77 | J |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 7.9 | ug/m3 | 9.6 | 3.1 | 19.25 | J |

**Analyte Bromofluorobenzene** **CAS Numbe 460-00-4** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 483 | ug/m3 | NA | NA | 40 | |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 481 | ug/m3 | NA | NA | 40 | |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 478 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 480 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-40 | 10/8/2014 | 1410081353 | TO-15 | 482 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-80 | 10/8/2014 | 1410081357 | TO-15 | 479 | ug/m3 | NA | NA | 40 | |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 519 | ug/m3 | NA | NA | 40 | |
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 522 | ug/m3 | NA | NA | 40 | |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 503 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 488 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 490 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 487 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-90 | 10/8/2014 | 1410081305 | TO-15 | 494 | ug/m3 | NA | NA | 40 | |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 494 | ug/m3 | NA | NA | 40 | |
| 200-SG-2-60 | 10/8/2014 | 1410081030 | TO-15 | 495 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 491 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 490 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 490 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-90 | 10/8/2014 | 1410081052 | TO-15 | 486 | ug/m3 | NA | NA | 40 | |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 478 | ug/m3 | NA | NA | 40 | |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 477 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 491 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 496 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 513 | ug/m3 | NA | NA | 40 | |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 496 | ug/m3 | NA | NA | 40 | |
| 200-SV-10-19 | 10/8/2014 | 1410080737 | TO-15 | 489 | ug/m3 | NA | NA | 40 | |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 468 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 504 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 466 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 504 | ug/m3 | NA | NA | 40 | |
| 200-SV-13-14 | 10/7/2014 | 1410071410 | TO-15 | 510 | ug/m3 | NA | NA | 40 | |
| 200-SV-13-34 | 10/7/2014 | 1410071419 | TO-15 | 495 | ug/m3 | NA | NA | 40 | |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 499 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-119 | 10/7/2014 | 1410071124 | TO-15 | 507 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-59 | 10/7/2014 | 1410071052 | TO-15 | 476 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-9 | 10/7/2014 | 1410071035 | TO-15 | 507 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-19 | 10/7/2014 | 1410071300 | TO-15 | 495 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-59 | 10/7/2014 | 1410071312 | TO-15 | 513 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-99 | 10/7/2014 | 1410071320 | TO-15 | 519 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-139 | 10/8/2014 | 1410080915 | TO-15 | 497 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 496 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 502 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-29 | 10/7/2014 | 1410071331 | TO-15 | 490 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-59 | 10/7/2014 | 1410071347 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-89 | 10/7/2014 | 1410071400 | TO-15 | 501 | ug/m3 | NA | NA | 40 | |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 499 | ug/m3 | NA | NA | 40 | |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 498 | ug/m3 | NA | NA | 40 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 478 | ug/m3 | NA | NA | 40 |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 492 | ug/m3 | NA | NA | 40 |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 504 | ug/m3 | NA | NA | 40 |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 493 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 485 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 486 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-57.5 | 10/9/2014 | 1410090744 | TO-15 | 487 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-107. | 10/9/2014 | 1410091540 | TO-15 | 508 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-107. | 10/9/2014 | 1410091541 | TO-15 | 508 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-12.5 | 10/9/2014 | 1410091525 | TO-15 | 497 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-150 | 10/9/2014 | 1410091547 | TO-15 | 524 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-47.5 | 10/9/2014 | 1410091532 | TO-15 | 501 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 497 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-12.5 | 10/9/2014 | 1410090957 | TO-15 | 485 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 504 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 504 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-107. | 10/9/2014 | 1410090805 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-142. | 10/9/2014 | 1410090815 | TO-15 | 486 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 486 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 488 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 483 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 493 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 499 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 501 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-147. | 10/9/2014 | 1410091515 | TO-15 | 502 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-52.5 | 10/9/2014 | 1410091455 | TO-15 | 501 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091447 | TO-15 | 517 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091448 | TO-15 | 490 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-102. | 10/9/2014 | 1410090937 | TO-15 | 480 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-152. | 10/9/2014 | 1410090946 | TO-15 | 482 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 481 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 487 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 479 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-150. | 10/9/2014 | 1410090859 | TO-15 | 483 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 484 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-120 | 10/9/2014 | 1410091335 | TO-15 | 485 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 492 | ug/m3 | NA | NA | 40 |

**Analyte Carbon Disulfide** **CAS Numbe 75-15-0** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 160 | ug/m3 | 1700 | 50 | 335 | J |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 290 | ug/m3 | 5400 | 160 | 1073.33 | J |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 3.8 | ug/m3 | 24 | 0.71 | 4.7 | J |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 14 | ug/m3 | 310 | 9.4 | 62.4 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 11 | ug/m3 | 21 | 0.62 | 4.13 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 11 | ug/m3 | 21 | 0.62 | 4.13 | J |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 3.3 | ug/m3 | 20 | 0.6 | 4 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 120 | ug/m3 | 2300 | 69 | 457.78 | J |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 170 | ug/m3 | 2900 | 88 | 583.33 | J |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 180 | ug/m3 | 200 | 6 | 40.25 | J |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 750 | ug/m3 | 13000 | 400 | 2650 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 15 | ug/m3 | 19 | 0.58 | 3.88 | J |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 29 | ug/m3 | 20 | 0.59 | 3.95 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 2 | ug/m3 | 17 | 0.51 | 3.43 | J |

**Analyte Chloroform** **CAS Numbe 67-66-3** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 350 | ug/m3 | 280 | 95 | 556.67 | |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 960 | ug/m3 | 850 | 290 | 1690 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 0.96 | ug/m3 | 2.4 | 0.8 | 4.7 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 1.6 | ug/m3 | 2.1 | 0.7 | 4.13 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 1.6 | ug/m3 | 2.1 | 0.7 | 4.13 | J |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 2.1 | ug/m3 | 2 | 0.68 | 4 | |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 63 | ug/m3 | 77 | 26 | 153 | J |
| 600-SGW-1-57.5 | 10/9/2014 | 1410090744 | TO-15 | 79 | ug/m3 | 220 | 74 | 437.14 | J |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 41 | ug/m3 | 20 | 6.8 | 40.25 | |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 2.9 | ug/m3 | 5.1 | 1.7 | 10.27 | J |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 18 | ug/m3 | 39 | 13 | 77 | J |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 70 | ug/m3 | 79 | 27 | 158 | J |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 95 | ug/m3 | 53 | 18 | 105.33 | |

**Analyte Chloromethane** **CAS Numbe 74-87-3** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 0.64 | ug/m3 | 2.1 | 0.62 | 4.13 | J |

**Analyte cis-1,2-Dichloroethene** **CAS Numbe 156-59-2** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 44 | ug/m3 | 57 | 18 | 114 | J |

**Analyte Ethanol** **CAS Numbe 64-17-5** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 7.1 | ug/m3 | 20 | 3.2 | 4 | J |

**Analyte Freon 11** **CAS Numbe 75-69-4** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 18 | ug/m3 | 20 | 6.9 | 40.75 | J |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 10 | ug/m3 | 17 | 5.9 | 34.75 | J |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 220 | ug/m3 | 32 | 11 | 64 | |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 19 | ug/m3 | 21 | 7 | 41.25 | J |
| 200-JG-110-40 | 10/8/2014 | 1410081353 | TO-15 | 160 | ug/m3 | 330 | 110 | 656 | J |
| 200-JG-110-80 | 10/8/2014 | 1410081357 | TO-15 | 770 | ug/m3 | 1600 | 530 | 3140 | J |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 12000 | ug/m3 | 170 | 57 | 335 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 9200 | ug/m3 | 3600 | 1200 | 7200 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 110 | ug/m3 | 280 | 95 | 556.67 | J |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 35 | ug/m3 | 74 | 25 | 147.33 | J |
| 200-SG-2-60 | 10/8/2014 | 1410081030 | TO-15 | 410 | ug/m3 | 650 | 220 | 1295 | J |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 860 | ug/m3 | 660 | 220 | 1320 | |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 280 | ug/m3 | 760 | 260 | 1520 | J |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 160 | ug/m3 | 330 | 110 | 668 | J |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 2800 | ug/m3 | 54 | 18 | 108 | |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 3000 | ug/m3 | 44 | 15 | 88.67 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 660 | ug/m3 | 24 | 8 | 47 | D |
| 200-SV-10-19 | 10/8/2014 | 1410080737 | TO-15 | 4700 | ug/m3 | 77 | 26 | 154 | |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 1300 | ug/m3 | 31 | 11 | 62.4 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 220 | ug/m3 | 2.1 | 0.7 | 4.13 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 220 | ug/m3 | 2.1 | 0.7 | 4.13 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 46 | ug/m3 | 2 | 0.68 | 4 | |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 22 | ug/m3 | 28 | 9.4 | 55.33 | J |
| 200-SV-13-14 | 10/7/2014 | 1410071410 | TO-15 | 240 | ug/m3 | 580 | 200 | 1164.29 | J |
| 200-SV-13-34 | 10/7/2014 | 1410071419 | TO-15 | 330 | ug/m3 | 830 | 280 | 1650 | J |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 51 | ug/m3 | 68 | 23 | 135.33 | J |
| 200-SV-15-119 | 10/7/2014 | 1410071124 | TO-15 | 18000 | ug/m3 | 27000 | 9100 | 53511.71 | J |
| 200-SV-15-59 | 10/7/2014 | 1410071052 | TO-15 | 6200 | ug/m3 | 10000 | 3400 | 19949.81 | J |
| 200-SV-15-9 | 10/7/2014 | 1410071035 | TO-15 | 130 | ug/m3 | 210 | 70 | 410 | J |
| 200-SV-16-19 | 10/7/2014 | 1410071300 | TO-15 | 890 | ug/m3 | 550 | 190 | 1100 | |
| 200-SV-16-59 | 10/7/2014 | 1410071312 | TO-15 | 2500 | ug/m3 | 1200 | 400 | 2357.14 | |
| 200-SV-16-99 | 10/7/2014 | 1410071320 | TO-15 | 30000 | ug/m3 | 14000 | 4800 | 28429.75 | |
| 200-SV-17-139 | 10/8/2014 | 1410080915 | TO-15 | 23000 | ug/m3 | 2300 | 800 | 4685.71 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 1000 | ug/m3 | 78 | 27 | 156.67 | |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 2700 | ug/m3 | 260 | 90 | 526.67 | |
| 200-SV-18-29 | 10/7/2014 | 1410071331 | TO-15 | 450 | ug/m3 | 600 | 200 | 1200 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 150 | ug/m3 | 230 | 78 | 457.78 | J |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 2000 | ug/m3 | 5100 | 1700 | 10133.33 | J |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 1100 | ug/m3 | 140 | 48 | 280 | |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 2500 | ug/m3 | 290 | 99 | 583.33 | |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 360 | ug/m3 | 57 | 19 | 114 | |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 2200 | ug/m3 | 120 | 41 | 243 | |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 840 | ug/m3 | 41 | 14 | 81 | |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 12 | ug/m3 | 20 | 6.8 | 40.25 | J |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 1100 | ug/m3 | 1300 | 450 | 2650 | J |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 2 | ug/m3 | 5.1 | 1.7 | 10.27 | J |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 1200 | ug/m3 | 1600 | 530 | 3140 | J |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 20 | ug/m3 | 23 | 7.7 | 45.14 | J |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 15 | ug/m3 | 40 | 14 | 79.5 | J |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 3.6 | ug/m3 | 7.9 | 2.7 | 15.7 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 3.7 | ug/m3 | 1.9 | 0.66 | 3.88 | |
| 600-SGW-8-150. | 10/9/2014 | 1410090859 | TO-15 | 26 | ug/m3 | 39 | 13 | 78.5 | J |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 3.3 | ug/m3 | 2 | 0.67 | 3.95 | |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 4.8 | ug/m3 | 9.6 | 3.3 | 19.25 | J |
| 600-SGW-9-120 | 10/9/2014 | 1410091335 | TO-15 | 360 | ug/m3 | 110 | 38 | 225.71 | |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 3.5 | ug/m3 | 2 | 0.68 | 4 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 1.5 | ug/m3 | 1.7 | 0.58 | 3.43 | J |

**Analyte Freon 113** **CAS Numbe 76-13-1** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 2700 | ug/m3 | 20 | 6.9 | 40.75 | |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 2200 | ug/m3 | 17 | 5.9 | 34.75 | |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 22000 | ug/m3 | 320 | 110 | 640 | D |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 4300 | ug/m3 | 21 | 7 | 41.25 | |
| 200-JG-110-40 | 10/8/2014 | 1410081353 | TO-15 | 45000 | ug/m3 | 330 | 110 | 656 | |
| 200-JG-110-80 | 10/8/2014 | 1410081357 | TO-15 | 200000 | ug/m3 | 1600 | 530 | 3140 | |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 25000 | ug/m3 | 170 | 57 | 335 | |
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 6600000 | ug/m3 | 52000 | 18000 | 104000 | |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 680000 | ug/m3 | 5200 | 1800 | 10466.67 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 550000 | ug/m3 | 3600 | 1200 | 7200 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 51000 | ug/m3 | 280 | 95 | 556.67 | |
| 200-SG-1-90 | 10/8/2014 | 1410081305 | TO-15 | 2000000 | ug/m3 | 13000 | 4300 | 25000 | QD |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 710000 | ug/m3 | 4700 | 1600 | 9450 | QD |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 15000 | ug/m3 | 74 | 25 | 147.33 | |
| 200-SG-2-60 | 10/8/2014 | 1410081030 | TO-15 | 110000 | ug/m3 | 650 | 220 | 1295 | |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 100000 | ug/m3 | 660 | 220 | 1320 | |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 90000 | ug/m3 | 540 | 180 | 1073.33 | |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 140000 | ug/m3 | 760 | 260 | 1520 | |
| 200-SG-3-90 | 10/8/2014 | 1410081052 | TO-15 | 4400000 | ug/m3 | 41000 | 14000 | 82500 | D |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 110000 | ug/m3 | 850 | 290 | 1690 | |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 54000 | ug/m3 | 330 | 110 | 668 | |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 12000 | ug/m3 | 54 | 18 | 108 | |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 7900 | ug/m3 | 130 | 45 | 266 | D |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 2800 | ug/m3 | 24 | 8 | 47 | D |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 14000 | ug/m3 | 120 | 40 | 234 | |
| 200-SV-10-19 | 10/8/2014 | 1410080737 | TO-15 | 15000 | ug/m3 | 77 | 26 | 154 | |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 4400 | ug/m3 | 31 | 11 | 62.4 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 2100 | ug/m3 | 21 | 7 | 41.25 | D |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 1900 | ug/m3 | 21 | 7 | 41.25 | D |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 750 | ug/m3 | 20 | 6.8 | 40 | D |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 5100 | ug/m3 | 55 | 19 | 110.67 | D |
| 200-SV-13-14 | 10/7/2014 | 1410071410 | TO-15 | 110000 | ug/m3 | 580 | 200 | 1164.29 | |
| 200-SV-13-34 | 10/7/2014 | 1410071419 | TO-15 | 140000 | ug/m3 | 830 | 280 | 1650 | |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 15000 | ug/m3 | 200 | 69 | 406 | D |
| 200-SV-15-119 | 10/7/2014 | 1410071124 | TO-15 | 5500000 | ug/m3 | 53000 | 18000 | 106666.7 | D |
| 200-SV-15-59 | 10/7/2014 | 1410071052 | TO-15 | 2100000 | ug/m3 | 10000 | 3400 | 19949.81 | |
| 200-SV-15-9 | 10/7/2014 | 1410071035 | TO-15 | 37000 | ug/m3 | 210 | 70 | 410 | |
| 200-SV-16-19 | 10/7/2014 | 1410071300 | TO-15 | 84000 | ug/m3 | 550 | 190 | 1100 | |
| 200-SV-16-59 | 10/7/2014 | 1410071312 | TO-15 | 220000 | ug/m3 | 1200 | 400 | 2357.14 | |
| 200-SV-16-99 | 10/7/2014 | 1410071320 | TO-15 | 2800000 | ug/m3 | 28000 | 9700 | 56953.64 | D |
| 200-SV-17-139 | 10/8/2014 | 1410080915 | TO-15 | 350000 | ug/m3 | 2300 | 800 | 4685.71 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 13000 | ug/m3 | 390 | 130 | 783.33 | D |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 47000 | ug/m3 | 260 | 90 | 526.67 | |
| 200-SV-18-29 | 10/7/2014 | 1410071331 | TO-15 | 110000 | ug/m3 | 600 | 200 | 1200 | |
| 200-SV-18-59 | 10/7/2014 | 1410071347 | TO-15 | 160000 | ug/m3 | 1000 | 350 | 2062.5 | |
| 200-SV-18-89 | 10/7/2014 | 1410071400 | TO-15 | 4900000 | ug/m3 | 32000 | 11000 | 64285.71 | |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 44000 | ug/m3 | 230 | 78 | 457.78 | |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 750000 | ug/m3 | 5100 | 1700 | 10133.33 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 24000 | ug/m3 | 140 | 48 | 280 | |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 47000 | ug/m3 | 290 | 99 | 583.33 | |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 12000 | ug/m3 | 57 | 19 | 114 | |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 19000 | ug/m3 | 120 | 41 | 243 | |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 7400 | ug/m3 | 41 | 14 | 81 | |
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 43000 | ug/m3 | 260 | 88 | 520 | |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 22000 | ug/m3 | 150 | 52 | 306 | D |
| 600-SGW-1-57.5 | 10/9/2014 | 1410090744 | TO-15 | 26000 | ug/m3 | 220 | 74 | 437.14 | |
| 600-SGW-2-107. | 10/9/2014 | 1410091541 | TO-15 | 198000 | ug/m3 | 1300 | 450 | 2666.67 | |
| 600-SGW-2-107. | 10/9/2014 | 1410091540 | TO-15 | 200000 | ug/m3 | 1300 | 450 | 2666.67 | |
| 600-SGW-2-12.5 | 10/9/2014 | 1410091525 | TO-15 | 28000 | ug/m3 | 160 | 54 | 318 | |
| 600-SGW-2-150 | 10/9/2014 | 1410091547 | TO-15 | 200000 | ug/m3 | 1100 | 390 | 2271.43 | |
| 600-SGW-2-47.5 | 10/9/2014 | 1410091532 | TO-15 | 86000 | ug/m3 | 410 | 140 | 810 | |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 5000 | ug/m3 | 54 | 18 | 107.33 | D |
| 600-SGW-3-12.5 | 10/9/2014 | 1410090957 | TO-15 | 18000 | ug/m3 | 140 | 47 | 274 | |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 250000 | ug/m3 | 1300 | 450 | 2650 | |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 950 | ug/m3 | 5.1 | 1.7 | 10.27 | |
| 600-SGW-4-107. | 10/9/2014 | 1410090805 | TO-15 | 8500 | ug/m3 | 40 | 13 | 79 | |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 11000 | ug/m3 | 96 | 33 | 192.5 | |
| 600-SGW-4-142. | 10/9/2014 | 1410090815 | TO-15 | 200000 | ug/m3 | 1600 | 530 | 3140 | |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 7500 | ug/m3 | 39 | 13 | 77 | |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 9600 | ug/m3 | 79 | 27 | 158 | |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 280000 | ug/m3 | 1600 | 530 | 3140 | |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 10000 | ug/m3 | 53 | 18 | 105.33 | |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 3800 | ug/m3 | 23 | 7.7 | 45.14 | |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 220000 | ug/m3 | 1200 | 390 | 2300 | |
| 600-SGW-6-147. | 10/9/2014 | 1410091515 | TO-15 | 140000 | ug/m3 | 800 | 270 | 1590 | |
| 600-SGW-6-52.5 | 10/9/2014 | 1410091455 | TO-15 | 170000 | ug/m3 | 810 | 280 | 1620 | |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091447 | TO-15 | 23000 | ug/m3 | 130 | 45 | 266.67 | |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091448 | TO-15 | 24000 | ug/m3 | 130 | 46 | 268.33 | |
| 600-SGW-7-102. | 10/9/2014 | 1410090937 | TO-15 | 11000 | ug/m3 | 53 | 18 | 106 | J |
| 600-SGW-7-152. | 10/9/2014 | 1410090946 | TO-15 | 1500000 | ug/m3 | 8100 | 2800 | 16200 | |
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 8500 | ug/m3 | 40 | 14 | 79.5 | |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 1500 | ug/m3 | 7.9 | 2.7 | 15.7 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 130 | ug/m3 | 1.9 | 0.66 | 3.88 | |
| 600-SGW-8-150. | 10/9/2014 | 1410090859 | TO-15 | 7900 | ug/m3 | 160 | 53 | 314 | B, D |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 210 | ug/m3 | 2 | 0.67 | 3.95 | |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 1600 | ug/m3 | 9.6 | 3.3 | 19.25 | |
| 600-SGW-9-120 | 10/9/2014 | 1410091335 | TO-15 | 23000 | ug/m3 | 110 | 38 | 225.71 | |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 100 | ug/m3 | 2 | 0.68 | 4 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 13 | ug/m3 | 1.7 | 0.58 | 3.43 | |

**Analyte Freon 12** **CAS Numbe 75-71-8** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 110000 | ug/m3 | 52000 | 18000 | 104000 | |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 3200 | ug/m3 | 5200 | 1800 | 10466.67 | J |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 1.7 | ug/m3 | 2.4 | 0.8 | 4.7 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 2.2 | ug/m3 | 2.1 | 0.7 | 4.13 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 2.2 | ug/m3 | 2.1 | 0.7 | 4.13 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 2.2 | ug/m3 | 2 | 0.68 | 4 | |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 2.2 | ug/m3 | 5.1 | 1.7 | 10.27 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 2 | ug/m3 | 1.9 | 0.66 | 3.88 | |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 1.9 | ug/m3 | 2 | 0.67 | 3.95 | J |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 2.4 | ug/m3 | 2 | 0.68 | 4 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 2.4 | ug/m3 | 1.7 | 0.58 | 3.43 | |

**Analyte Freon 123a** **CAS Numbe 354-23-4** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 480000 | ug/m3 | NA | NA | 104000 | TIC |
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 7200 | ug/m3 | NA | NA | 520 | TIC |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 8600 | ug/m3 | NA | NA | 153 | TIC |
| 600-SGW-2-12.5 | 10/9/2014 | 1410091525 | TO-15 | 18000 | ug/m3 | NA | NA | 318 | TIC |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 310 | ug/m3 | NA | NA | 40.25 | TIC |
| 600-SGW-3-12.5 | 10/9/2014 | 1410090957 | TO-15 | 2400 | ug/m3 | NA | NA | 274 | TIC |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 62 | ug/m3 | NA | NA | 10.27 | TIC |
| 600-SGW-4-107. | 10/9/2014 | 1410090805 | TO-15 | 210 | ug/m3 | NA | NA | 79 | TIC |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 2000 | ug/m3 | NA | NA | 192.5 | TIC |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 650 | ug/m3 | NA | NA | 77 | TIC |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 410 | ug/m3 | NA | NA | 158 | TIC |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 690 | ug/m3 | NA | NA | 105.33 | TIC |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091447 | TO-15 | 1700 | ug/m3 | NA | NA | 266.67 | TIC QD |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 53 | ug/m3 | NA | NA | 3.95 | TIC |

**Analyte Heptane** **CAS Numbe 142-82-5** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 13 | ug/m3 | 32 | 11 | 64 | J |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 74 | ug/m3 | 170 | 57 | 335 | J |

**Analyte Hexane** **CAS Numbe 110-54-3** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 100 | ug/m3 | 170 | 50 | 335 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 0.65 | ug/m3 | 2.1 | 0.62 | 4.13 | J |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 0.72 | ug/m3 | 2.1 | 0.62 | 4.13 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 70 | ug/m3 | 230 | 69 | 457.78 | J |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 780 | ug/m3 | 1200 | 350 | 2300 | J |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 1.5 | ug/m3 | 1.7 | 0.51 | 3.43 | J |

**Analyte Methylene Chloride** **CAS Numbe 75-09-2** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 58 | ug/m3 | 170 | 57 | 335 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 140 | ug/m3 | 230 | 78 | 457.78 | J |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 14 | ug/m3 | 41 | 14 | 81 | J |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 39 | ug/m3 | 77 | 26 | 153 | J |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 53 | ug/m3 | 96 | 33 | 192.5 | J |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 14 | ug/m3 | 39 | 13 | 77 | J |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 1500 | ug/m3 | 1200 | 390 | 2300 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 2.1 | ug/m3 | 1.7 | 0.58 | 3.43 | |

**Analyte Tetrachloroethene** **CAS Numbe 127-18-4** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 9.2 | ug/m3 | 20 | 5.7 | 40.75 | J |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 12 | ug/m3 | 17 | 4.9 | 34.75 | J |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 14 | ug/m3 | 32 | 9 | 64 | J |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 85 | ug/m3 | 21 | 5.8 | 41.25 | |
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 19000 | ug/m3 | 52000 | 15000 | 104000 | J |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 42000 | ug/m3 | 5200 | 1500 | 10466.67 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 1600 | ug/m3 | 280 | 78 | 556.67 | |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 4400 | ug/m3 | 4700 | 1300 | 9450 | J |
| 200-SG-1-90 | 10/8/2014 | 1410081305 | TO-15 | 12000 | ug/m3 | 13000 | 3500 | 25000 | J |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 61 | ug/m3 | 74 | 21 | 147.33 | J |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 200 | ug/m3 | 660 | 180 | 1320 | J |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 350 | ug/m3 | 540 | 150 | 1073.33 | J |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 580 | ug/m3 | 760 | 210 | 1520 | J |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 8000 | ug/m3 | 850 | 240 | 1690 | |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 8300 | ug/m3 | 330 | 94 | 668 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 3.1 | ug/m3 | 2.4 | 0.66 | 4.7 | |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 3700 | ug/m3 | 120 | 33 | 234 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 8.1 | ug/m3 | 2.1 | 0.58 | 4.13 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 8.4 | ug/m3 | 2.1 | 0.58 | 4.13 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 6 | ug/m3 | 2 | 0.56 | 4 | |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 9 | ug/m3 | 28 | 7.7 | 55.33 | J |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 160 | ug/m3 | 68 | 19 | 135.33 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 120 | ug/m3 | 78 | 22 | 156.67 | |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 110 | ug/m3 | 260 | 74 | 526.67 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 820 | ug/m3 | 230 | 64 | 457.78 | |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 9100 | ug/m3 | 5100 | 1400 | 10133.33 | |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 860 | ug/m3 | 140 | 39 | 280 | |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 1600 | ug/m3 | 290 | 82 | 583.33 | |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 470 | ug/m3 | 57 | 16 | 114 | |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 190 | ug/m3 | 120 | 34 | 243 | |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 250 | ug/m3 | 41 | 11 | 81 | |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 3 | ug/m3 | 7.9 | 2.2 | 15.7 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 1.3 | ug/m3 | 1.9 | 0.54 | 3.88 | J |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 1.6 | ug/m3 | 2 | 0.55 | 3.95 | J |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 3.5 | ug/m3 | 2 | 0.56 | 4 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 0.98 | ug/m3 | 1.7 | 0.48 | 3.43 | J |

**Analyte Toluene** **CAS Numbe 108-88-3** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 1900 | ug/m3 | 170 | 57 | 335 | |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 36 | ug/m3 | 74 | 25 | 147.33 | J |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 540 | ug/m3 | 44 | 15 | 88.67 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 5.8 | ug/m3 | 2.4 | 0.8 | 4.7 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 0.8 | ug/m3 | 2.1 | 0.7 | 4.13 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 81 | ug/m3 | 230 | 78 | 457.78 | J |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 16 | ug/m3 | 41 | 14 | 81 | J |
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 95 | ug/m3 | 260 | 88 | 520 | J |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 17 | ug/m3 | 20 | 6.8 | 40.25 | J |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 2.4 | ug/m3 | 5.1 | 1.7 | 10.27 | J |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 28 | ug/m3 | 79 | 27 | 158 | J |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 22 | ug/m3 | 53 | 18 | 105.33 | J |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 580 | ug/m3 | 1200 | 390 | 2300 | J |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 2.1 | ug/m3 | 1.9 | 0.66 | 3.88 | |
| 600-SGW-8-150. | 10/9/2014 | 1410090859 | TO-15 | 44 | ug/m3 | 39 | 13 | 78.5 | |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 9.5 | ug/m3 | 2 | 0.68 | 4 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 6.2 | ug/m3 | 1.7 | 0.58 | 3.43 | |

**Analyte Toluene-d8** **CAS Numbe 2037-26-5** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 493 | ug/m3 | NA | NA | 40 | |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 494 | ug/m3 | NA | NA | 40 | |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 493 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 496 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-40 | 10/8/2014 | 1410081353 | TO-15 | 496 | ug/m3 | NA | NA | 40 | |
| 200-JG-110-80 | 10/8/2014 | 1410081357 | TO-15 | 500 | ug/m3 | NA | NA | 40 | |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 492 | ug/m3 | NA | NA | 40 | |
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 495 | ug/m3 | NA | NA | 40 | |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 514 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 508 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 514 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-90 | 10/8/2014 | 1410081305 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 511 | ug/m3 | NA | NA | 40 | |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SG-2-60 | 10/8/2014 | 1410081030 | TO-15 | 514 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 519 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 520 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 516 | ug/m3 | NA | NA | 40 | |
| 200-SG-3-90 | 10/8/2014 | 1410081052 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 494 | ug/m3 | NA | NA | 40 | |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 499 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 478 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 489 | ug/m3 | NA | NA | 40 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 487 | ug/m3 | NA | NA | 40 | |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 510 | ug/m3 | NA | NA | 40 | |
| 200-SV-10-19 | 10/8/2014 | 1410080737 | TO-15 | 491 | ug/m3 | NA | NA | 40 | |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 453 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 459 | ug/m3 | NA | NA | 40 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 497 | ug/m3 | NA | NA | 40 | |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 473 | ug/m3 | NA | NA | 40 | |
| 200-SV-13-14 | 10/7/2014 | 1410071410 | TO-15 | 493 | ug/m3 | NA | NA | 40 | |
| 200-SV-13-34 | 10/7/2014 | 1410071419 | TO-15 | 493 | ug/m3 | NA | NA | 40 | |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 511 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-119 | 10/7/2014 | 1410071124 | TO-15 | 486 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-59 | 10/7/2014 | 1410071052 | TO-15 | 451 | ug/m3 | NA | NA | 40 | |
| 200-SV-15-9 | 10/7/2014 | 1410071035 | TO-15 | 490 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-19 | 10/7/2014 | 1410071300 | TO-15 | 491 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-59 | 10/7/2014 | 1410071312 | TO-15 | 502 | ug/m3 | NA | NA | 40 | |
| 200-SV-16-99 | 10/7/2014 | 1410071320 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-139 | 10/8/2014 | 1410080915 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 511 | ug/m3 | NA | NA | 40 | |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-29 | 10/7/2014 | 1410071331 | TO-15 | 475 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-59 | 10/7/2014 | 1410071347 | TO-15 | 497 | ug/m3 | NA | NA | 40 | |
| 200-SV-18-89 | 10/7/2014 | 1410071400 | TO-15 | 509 | ug/m3 | NA | NA | 40 | |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 513 | ug/m3 | NA | NA | 40 | |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 512 | ug/m3 | NA | NA | 40 | |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 504 | ug/m3 | NA | NA | 40 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 511 | ug/m3 | NA | NA | 40 |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 511 | ug/m3 | NA | NA | 40 |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 512 | ug/m3 | NA | NA | 40 |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 514 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 491 | ug/m3 | NA | NA | 40 |
| 600-SGW-1-57.5 | 10/9/2014 | 1410090744 | TO-15 | 489 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-107. | 10/9/2014 | 1410091541 | TO-15 | 511 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-107. | 10/9/2014 | 1410091540 | TO-15 | 518 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-12.5 | 10/9/2014 | 1410091525 | TO-15 | 491 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-150 | 10/9/2014 | 1410091547 | TO-15 | 533 | ug/m3 | NA | NA | 40 |
| 600-SGW-2-47.5 | 10/9/2014 | 1410091532 | TO-15 | 505 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 507 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-12.5 | 10/9/2014 | 1410090957 | TO-15 | 487 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 507 | ug/m3 | NA | NA | 40 |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 514 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-107. | 10/9/2014 | 1410090805 | TO-15 | 487 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 490 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-142. | 10/9/2014 | 1410090815 | TO-15 | 486 | ug/m3 | NA | NA | 40 |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 485 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 505 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 508 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 509 | ug/m3 | NA | NA | 40 |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 506 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 513 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-147. | 10/9/2014 | 1410091515 | TO-15 | 492 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-52.5 | 10/9/2014 | 1410091455 | TO-15 | 514 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091447 | TO-15 | 502 | ug/m3 | NA | NA | 40 |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091448 | TO-15 | 505 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-102. | 10/9/2014 | 1410090937 | TO-15 | 494 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-152. | 10/9/2014 | 1410090946 | TO-15 | 485 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 479 | ug/m3 | NA | NA | 40 |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 491 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 477 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-150. | 10/9/2014 | 1410090859 | TO-15 | 484 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 484 | ug/m3 | NA | NA | 40 |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 485 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-120 | 10/9/2014 | 1410091335 | TO-15 | 507 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 499 | ug/m3 | NA | NA | 40 |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 500 | ug/m3 | NA | NA | 40 |

**Analyte Toulene-d8** **CAS Numbe 2037-26-5** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 504 | ug/m3 | NA | NA | 40 | |

**Analyte Trichloroethene** **CAS Numbe 79-01-6** **Analysis TO-15**

| Bore Hole Sample Depth | Event Date | Sample Number | Specific Method | Result | Units | PQL | MDL | Dilution | QA Flag |
|---|---|---|---|---|---|---|---|---|---|
| 100-HG-139-40 | 10/8/2014 | 1410081420 | TO-15 | 38 | ug/m3 | 20 | 5.7 | 40.75 | |
| 100-HG-139-6.5 | 10/8/2014 | 1410081410 | TO-15 | 52 | ug/m3 | 17 | 4.9 | 34.75 | |
| 100-HG-139-72 | 10/8/2014 | 1410081434 | TO-15 | 48 | ug/m3 | 32 | 9 | 64 | |
| 200-JG-110-10 | 10/8/2014 | 1410081348 | TO-15 | 500 | ug/m3 | 21 | 5.8 | 41.25 | |
| 200-JG-110-40 | 10/8/2014 | 1410081353 | TO-15 | 130 | ug/m3 | 330 | 92 | 656 | J |
| 200-JG-110-80 | 10/8/2014 | 1410081357 | TO-15 | 1100 | ug/m3 | 1600 | 440 | 3140 | J |
| 200-KV-150-59 | 10/7/2014 | 1410071525 | TO-15 | 240 | ug/m3 | 170 | 47 | 335 | |
| 200-LV-150-64 | 10/8/2014 | 1410080800 | TO-15 | 380000 | ug/m3 | 52000 | 15000 | 104000 | |
| 200-LV-150-84 | 10/8/2014 | 1410080805 | TO-15 | 250000 | ug/m3 | 5200 | 1500 | 10466.67 | |
| 200-SG-1-122 | 10/8/2014 | 1410081314 | TO-15 | 19000 | ug/m3 | 3600 | 1000 | 7200 | |
| 200-SG-1-30 | 10/8/2014 | 1410081300 | TO-15 | 6800 | ug/m3 | 280 | 78 | 556.67 | |
| 200-SG-1-90 | 10/8/2014 | 1410081306 | TO-15 | 51000 | ug/m3 | 4700 | 1300 | 9450 | QD |
| 200-SG-1-90 | 10/8/2014 | 1410081305 | TO-15 | 140000 | ug/m3 | 13000 | 3500 | 25000 | QD |
| 200-SG-2-30 | 10/8/2014 | 1410081019 | TO-15 | 300 | ug/m3 | 74 | 21 | 147.33 | |
| 200-SG-2-60 | 10/8/2014 | 1410081030 | TO-15 | 800 | ug/m3 | 650 | 180 | 1295 | |
| 200-SG-3-154 | 10/8/2014 | 1410081102 | TO-15 | 4200 | ug/m3 | 660 | 180 | 1320 | |
| 200-SG-3-30 | 10/8/2014 | 1410081040 | TO-15 | 1600 | ug/m3 | 540 | 150 | 1073.33 | |
| 200-SG-3-60 | 10/8/2014 | 1410081046 | TO-15 | 2600 | ug/m3 | 760 | 210 | 1520 | |
| 200-SG-3-90 | 10/8/2014 | 1410081052 | TO-15 | 78000 | ug/m3 | 17000 | 4600 | 33000 | |
| 200-SG-4-60 | 10/8/2014 | 1410081500 | TO-15 | 75000 | ug/m3 | 850 | 240 | 1690 | |
| 200-SV-05-9 | 10/8/2014 | 1410081330 | TO-15 | 47000 | ug/m3 | 330 | 94 | 668 | |
| 200-SV-08-29 | 10/7/2014 | 1410071514 | TO-15 | 270 | ug/m3 | 54 | 15 | 108 | |
| 200-SV-08-49 | 10/7/2014 | 1410071521 | TO-15 | 320 | ug/m3 | 44 | 12 | 88.67 | |
| 200-SV-08-9 | 10/7/2014 | 1410071509 | TO-15 | 54 | ug/m3 | 2.4 | 0.66 | 4.7 | |
| 200-SV-09-9 | 10/8/2014 | 1410080825 | TO-15 | 23000 | ug/m3 | 120 | 33 | 234 | |
| 200-SV-10-19 | 10/8/2014 | 1410080737 | TO-15 | 410 | ug/m3 | 77 | 22 | 154 | |
| 200-SV-10-39 | 10/8/2014 | 1410080745 | TO-15 | 170 | ug/m3 | 31 | 8.7 | 62.4 | |
| 200-SV-11-29 | 10/7/2014 | 1410071500 | TO-15 | 110 | ug/m3 | 2.1 | 0.58 | 4.13 | |
| 200-SV-11-29 | 10/7/2014 | 1410071501 | TO-15 | 120 | ug/m3 | 2.1 | 0.58 | 4.13 | |
| 200-SV-11-9 | 10/7/2014 | 1410071447 | TO-15 | 20 | ug/m3 | 2 | 0.56 | 4 | |
| 200-SV-12-14 | 10/7/2014 | 1410071440 | TO-15 | 47 | ug/m3 | 28 | 7.7 | 55.33 | |
| 200-SV-13-14 | 10/7/2014 | 1410071410 | TO-15 | 590 | ug/m3 | 580 | 160 | 1164.29 | |
| 200-SV-13-34 | 10/7/2014 | 1410071419 | TO-15 | 1100 | ug/m3 | 830 | 230 | 1650 | |
| 200-SV-14-4.75 | 10/8/2014 | 1410081005 | TO-15 | 1000 | ug/m3 | 68 | 19 | 135.33 | |
| 200-SV-15-119 | 10/7/2014 | 1410071124 | TO-15 | 13000 | ug/m3 | 27000 | 7500 | 53511.71 | J |
| 200-SV-17-139 | 10/8/2014 | 1410080915 | TO-15 | 4100 | ug/m3 | 2300 | 660 | 4685.71 | |
| 200-SV-17-29 | 10/8/2014 | 1410080905 | TO-15 | 640 | ug/m3 | 78 | 22 | 156.67 | |
| 200-SV-17-79 | 10/8/2014 | 1410080910 | TO-15 | 710 | ug/m3 | 260 | 74 | 526.67 | |
| 200-SV-18-29 | 10/7/2014 | 1410071331 | TO-15 | 260 | ug/m3 | 600 | 170 | 1200 | J |
| 200-SV-18-59 | 10/7/2014 | 1410071347 | TO-15 | 460 | ug/m3 | 1000 | 290 | 2062.5 | J |
| 200-SV-18-89 | 10/7/2014 | 1410071400 | TO-15 | 9600 | ug/m3 | 32000 | 9000 | 64285.71 | J |
| 200-SV-19-39 | 10/8/2014 | 1410080947 | TO-15 | 12000 | ug/m3 | 230 | 64 | 457.78 | |
| 200-SV-19-9 | 10/8/2014 | 1410080943 | TO-15 | 130000 | ug/m3 | 5100 | 1400 | 10133.33 | |
| 200-SV-20-29 | 10/8/2014 | 1410081117 | TO-15 | 8300 | ug/m3 | 140 | 39 | 280 | |
| 200-SV-20-49 | 10/8/2014 | 1410081125 | TO-15 | 15000 | ug/m3 | 290 | 82 | 583.33 | |
| 200-SV-20-9 | 10/8/2014 | 1410081113 | TO-15 | 3600 | ug/m3 | 57 | 16 | 114 | |
| 200-SV-21-29 | 10/8/2014 | 1410080842 | TO-15 | 770 | ug/m3 | 120 | 34 | 243 | |
| 200-SV-21-9 | 10/8/2014 | 1410080837 | TO-15 | 1100 | ug/m3 | 41 | 11 | 81 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 600-SGW-1-117. | 10/9/2014 | 1410090752 | TO-15 | 3800 | ug/m3 | 260 | 73 | 520 | |
| 600-SGW-1-12.5 | 10/9/2014 | 1410090737 | TO-15 | 1600 | ug/m3 | 77 | 21 | 153 | |
| 600-SGW-1-57.5 | 10/9/2014 | 1410090744 | TO-15 | 2700 | ug/m3 | 220 | 61 | 437.14 | |
| 600-SGW-2-107. | 10/9/2014 | 1410091541 | TO-15 | 10300 | ug/m3 | 1300 | 370 | 2666.67 | |
| 600-SGW-2-107. | 10/9/2014 | 1410091540 | TO-15 | 10000 | ug/m3 | 1300 | 370 | 2666.67 | |
| 600-SGW-2-12.5 | 10/9/2014 | 1410091525 | TO-15 | 1000 | ug/m3 | 160 | 45 | 318 | |
| 600-SGW-2-150 | 10/9/2014 | 1410091547 | TO-15 | 8500 | ug/m3 | 1100 | 320 | 2271.43 | |
| 600-SGW-2-47.5 | 10/9/2014 | 1410091532 | TO-15 | 4900 | ug/m3 | 410 | 110 | 810 | |
| 600-SGW-3-107. | 10/9/2014 | 1410091009 | TO-15 | 720 | ug/m3 | 20 | 5.6 | 40.25 | |
| 600-SGW-3-12.5 | 10/9/2014 | 1410090957 | TO-15 | 300 | ug/m3 | 140 | 38 | 274 | |
| 600-SGW-3-137. | 10/9/2014 | 1410091017 | TO-15 | 3700 | ug/m3 | 1300 | 370 | 2650 | |
| 600-SGW-3-57.5 | 10/9/2014 | 1410091002 | TO-15 | 46 | ug/m3 | 5.1 | 1.4 | 10.27 | |
| 600-SGW-4-107. | 10/9/2014 | 1410090805 | TO-15 | 680 | ug/m3 | 40 | 11 | 79 | |
| 600-SGW-4-12.5 | 10/9/2014 | 1410090756 | TO-15 | 500 | ug/m3 | 96 | 27 | 192.5 | |
| 600-SGW-4-142. | 10/9/2014 | 1410090815 | TO-15 | 1800 | ug/m3 | 1600 | 440 | 3140 | |
| 600-SGW-4-47.5 | 10/9/2014 | 1410090800 | TO-15 | 530 | ug/m3 | 39 | 11 | 77 | |
| 600-SGW-5-102. | 10/9/2014 | 1410091042 | TO-15 | 1700 | ug/m3 | 79 | 22 | 158 | |
| 600-SGW-5-137. | 10/9/2014 | 1410091051 | TO-15 | 15000 | ug/m3 | 1600 | 440 | 3140 | |
| 600-SGW-5-52.5 | 10/9/2014 | 1410091035 | TO-15 | 2000 | ug/m3 | 53 | 15 | 105.33 | |
| 600-SGW-5-7.5 | 10/9/2014 | 1410091027 | TO-15 | 7.5 | ug/m3 | 23 | 6.3 | 45.14 | J |
| 600-SGW-6-102. | 10/9/2014 | 1410091505 | TO-15 | 8600 | ug/m3 | 1200 | 320 | 2300 | |
| 600-SGW-6-147. | 10/9/2014 | 1410091515 | TO-15 | 5000 | ug/m3 | 800 | 220 | 1590 | |
| 600-SGW-6-52.5 | 10/9/2014 | 1410091455 | TO-15 | 7500 | ug/m3 | 810 | 230 | 1620 | |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091448 | TO-15 | 550 | ug/m3 | 130 | 38 | 268.33 | |
| 600-SGW-6-7.5 | 10/9/2014 | 1410091447 | TO-15 | 540 | ug/m3 | 130 | 37 | 266.67 | |
| 600-SGW-7-102. | 10/9/2014 | 1410090937 | TO-15 | 560 | ug/m3 | 53 | 15 | 106 | |
| 600-SGW-7-152. | 10/9/2014 | 1410090946 | TO-15 | 3500 | ug/m3 | 8100 | 2300 | 16200 | J |
| 600-SGW-7-62.5 | 10/9/2014 | 1410090927 | TO-15 | 440 | ug/m3 | 40 | 11 | 79.5 | |
| 600-SGW-7-7.5 | 10/9/2014 | 1410090920 | TO-15 | 31 | ug/m3 | 7.9 | 2.2 | 15.7 | |
| 600-SGW-8-102. | 10/9/2014 | 1410090852 | TO-15 | 7.9 | ug/m3 | 1.9 | 0.54 | 3.88 | |
| 600-SGW-8-52.5 | 10/9/2014 | 1410090845 | TO-15 | 15 | ug/m3 | 2 | 0.55 | 3.95 | |
| 600-SGW-8-7.5 | 10/9/2014 | 1410090837 | TO-15 | 28 | ug/m3 | 9.6 | 2.7 | 19.25 | |
| 600-SGW-9-7.5 | 10/9/2014 | 1410091310 | TO-15 | 19 | ug/m3 | 2 | 0.56 | 4 | |
| 600-SGW-9-80 | 10/9/2014 | 1410091326 | TO-15 | 5.5 | ug/m3 | 1.7 | 0.48 | 3.43 | |

# Appendix I
# Selected Groundwater Results

# Appendix I - Selected Groundwater Result

**Borehole** **100-A-182** **Event Date** **2/12/2014**

**Sample** **1402120855B** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 150 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 2.5 | ug/L | 1.0 | 0.20 | |

**Borehole** **100-C-365** **Event Date** **12/3/2013**

**Sample** **1312030936B** **Sample Type** **VOA** **Analysis Method** **8260_LL**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 0.50 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 0.50 | 0.20 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 0.50 | 0.20 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 0.50 | 0.20 | |

**Borehole** **100-D-176** **Event Date** **11/19/2013**

**Sample** **1311190900B** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 46 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 4.5 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Sample** **1311190901B** **Sample Type** **VOA-D** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 47 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 4.4 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** **100-E-261** **Event Date** **6/13/2014**

**Sample** **1406130850A** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.42 | ug/L | 1.0 | 0.31 | J |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Sample** **1406130851A** **Sample Type** **VOA-D** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.52 | ug/L | 1.0 | 0.31 | J |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** **100-F-358** **Event Date** **7/24/2014**

**Sample** **1407240945A** **Sample Type** **VOA** **Analysis Method** **8260_LL**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 0.50 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 0.50 | 0.20 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 0.50 | 0.20 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 0.50 | 0.20 | |

**Borehole** **100-G-223** **Event Date** **8/18/2014**

**Sample** **1408181355C** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** **100-HG-139** **Event Date** **9/25/2013**

**Sample** **1309251316B** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 96 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 0.3 | ug/L | 1.0 | 0.22 | J |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 0.63 | ug/L | 1.0 | 0.20 | J |

**Borehole** 200-B-240 **Event Date** 11/1/2013

**Sample** 1311011310C **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 140 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 2.4 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 45 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 64 | ug/L | 1.0 | 0.20 | |

**Sample** 1311011311C **Sample Type** VOA-D **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 150 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 2.1 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 46 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 66 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-C-170 **Event Date** 5/15/2013

**Sample** 1305151417Z **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 32 | ug/L | 1.0 | 0.31 | QD |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 1.3 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 12 | ug/L | 1.0 | 0.20 | QD |

**Sample** 1305151418Z **Sample Type** VOA-D **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 22 | ug/L | 1.0 | 0.31 | QD |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 1.2 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 8.6 | ug/L | 1.0 | 0.20 | QD |

**Borehole** 200-C-225 **Event Date** 5/14/2013

**Sample** 1305150930Z **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 15 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 2.1 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 13 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-C-270 **Event Date** 5/14/2013

**Sample** 1305141330Z **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 11 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 1.8 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 8.1 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-D-109 **Event Date** 8/30/2013

**Sample** 1308301000B **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 240 | ug/L | 5.0 | 1.6 | |
| 127-18-4 | Tetrachloroethene (PCE) | 25 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 460 | ug/L | 5.0 | 1.1 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 7.3 | ug/L | 1.0 | 0.20 | |

**Sample** 1308301001B **Sample Type** VOA-D **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 230 | ug/L | 5.0 | 1.6 | |
| 127-18-4 | Tetrachloroethene (PCE) | 26 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 450 | ug/L | 5.0 | 1.1 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 7.4 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-D-240 **Event Date** 9/25/2013

**Sample** 1309260915C **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 420 | ug/L | 5.0 | 1.6 | Q |
| 127-18-4 | Tetrachloroethene (PCE) | 0.52 | ug/L | 1.0 | 0.30 | J Q |
| 79-01-6 | Trichloroethene (TCE) | 21 | ug/L | 1.0 | 0.22 | Q |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 64 | ug/L | 1.0 | 0.20 | Q |

**Borehole** 200-F-225 **Event Date** 11/4/2013

**Sample** 1311041355X **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 18 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 0.41 | ug/L | 1.0 | 0.30 | J |
| 79-01-6 | Trichloroethene (TCE) | 26 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 6.2 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-F-370 **Event Date** 11/2/2013

**Sample** 1311021005X **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1.6 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 0.93 | ug/L | 1.0 | 0.22 | J |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-F-420 **Event Date** 11/4/2013

**Sample** 1311040943X **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-G-175 **Event Date** 12/12/2013

**Sample** 1312121330Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 3.8 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 1.8 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 5 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-G-220 **Event Date** 12/11/2013

**Sample** 1312120840Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 0.27 | ug/L | 1.0 | 0.20 | J |

**Borehole** 200-G-340 **Event Date** 12/11/2013

**Sample** 1312110855Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-G-420 **Event Date** 12/10/2013

**Sample** 1312101330Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-G-495 **Event Date** 12/10/2013

**Sample** 1312101010Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-H-225 **Event Date** 8/26/2014

**Sample** 1408260925Z **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.87 | ug/L | 1.0 | 0.31 | J |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 1.2 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-H-331 **Event Date** 8/23/2014

**Sample** 1408231036Z **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-H-433 **Event Date** 8/25/2014

**Sample** 1408251310Z **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-I-185 **Event Date** 11/20/2013

**Sample** 1311201445Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 6.9 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 11 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-I-300 **Event Date** 11/20/2013

**Sample** 1311200930Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 19 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 0.35 | ug/L | 1.0 | 0.30 | J |
| 79-01-6 | Trichloroethene (TCE) | 26 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 0.23 | ug/L | 1.0 | 0.20 | J |

**Borehole** 200-I-375 **Event Date** 11/19/2013

**Sample** 1311191445Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-I-490 **Event Date** 11/19/2013

**Sample** 1311190955Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | T |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | T |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | T |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | T |

**Borehole** 200-I-675 **Event Date** 11/18/2013

**Sample** 1311181405Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-I-795 **Event Date** 11/16/2013

**Sample** 1311180935Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 0.31 | ug/L | 1.0 | 0.31 | J |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | ND | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-JG-110 **Event Date** 9/9/2013

**Sample** 1309091316B **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 150 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 1.4 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 25 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 17 | ug/L | 1.0 | 0.20 | |

**Sample** 1309091317B **Sample Type** VOA-D **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 150 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 1.3 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 25 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 17 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-KV-150 **Event Date** 10/20/2014

**Sample** 1410201400 **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 6.7 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 0.77 | ug/L | 1.0 | 0.22 | J |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 2.7 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-LV-150 **Event Date** 10/20/2014

**Sample** 1410201000 **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 8.1 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 1.2 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | ND | ug/L | 1.0 | 0.20 | |

**Borehole** 200-SG-1 **Event Date** 10/21/2014

**Sample** 1410211040 **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 390 | ug/L | 5.0 | 1.6 | |
| 127-18-4 | Tetrachloroethene (PCE) | 4 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 110 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 11 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-SG-2 **Event Date** 10/22/2014

**Sample** 1410221330 **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 1.2 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 24 | ug/L | 1.0 | 0.20 | |

**Borehole** 200-SG-3 **Event Date** 10/21/2014

**Sample** 1410211400 **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 89 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | ND | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 4.2 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 9.8 | ug/L | 1.0 | 0.20 | |

**Borehole** BW-4-270 **Event Date** 2/24/2014

**Sample** 1402241515Y **Sample Type** VOA **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 35 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 2.4 | ug/L | 1.0 | 0.30 | QD |
| 79-01-6 | Trichloroethene (TCE) | 76 | ug/L | 1.0 | 0.22 | QD |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 9.6 | ug/L | 1.0 | 0.20 | QD |

**Sample** 1402241516Y **Sample Type** VOA-D **Analysis Method** 8260

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 38 | ug/L | 1.0 | 0.31 | |
| 127-18-4 | Tetrachloroethene (PCE) | 3.7 | ug/L | 1.0 | 0.30 | QD |
| 79-01-6 | Trichloroethene (TCE) | 100 | ug/L | 1.0 | 0.22 | QD |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 14 | ug/L | 1.0 | 0.20 | QD |

**Borehole** **BW-4-355** **Event Date** **2/24/2014**

**Sample** **1402241015Y** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 160 | ug/L | 2.0 | 0.62 | Q |
| 127-18-4 | Tetrachloroethene (PCE) | 6.9 | ug/L | 1.0 | 0.30 | Q |
| 79-01-6 | Trichloroethene (TCE) | 130 | ug/L | 1.0 | 0.22 | Q |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 76 | ug/L | 1.0 | 0.20 | Q |

**Borehole** **BW-4-455** **Event Date** **2/21/2014**

**Sample** **1402211309Y** **Sample Type** **VOA** **Analysis Method** **8260**

| CAS No | Analyte | Result | Units | Report Limit | Detection Limit | QA Flag |
|---|---|---|---|---|---|---|
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 320 | ug/L | 2.0 | 0.62 | |
| 127-18-4 | Tetrachloroethene (PCE) | 5 | ug/L | 1.0 | 0.30 | |
| 79-01-6 | Trichloroethene (TCE) | 130 | ug/L | 1.0 | 0.22 | |
| 75-69-4 | Trichlorofluoromethane (CFC 11) | 74 | ug/L | 1.0 | 0.20 | |