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

February 1, 2022

Reply to Attn of: RE-22-016

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

Subject: NASA WSTF Periodic Monitoring Report – Fourth Quarter 2021

Enclosed is the NASA WSTF Periodic Monitoring Report (PMR) for the fourth quarter of 2021. This report provides detailed information about routine groundwater, Plume Front Treatment System (PFTS), and Mid-plume Interception and Treatment System (MPITS) monitoring performed between August 1, 2021 and October 31, 2021. Analytical data processed through the WSTF data management system, operational and performance data for both treatment systems, and site-wide potentiometric surface data are also provided for the same reporting period. Activity updates not associated with or reliant upon analytical data are reported for the previous calendar quarter.

This submittal includes an Executive Summary of the PMR that provides important events and observations as Enclosure 1, suggestions for installing and using WSTF PMR Databases as Enclosure 2, a bound paper copy of the main body of the report (pages i-115) as Enclosure 3, a DVD-ROM containing the entire report, the accompanying historical analytical databases, an Excel spreadsheet comprising groundwater data for the last four calendar quarters (November 2020 to October 2021) as Enclosure 4, a CD-ROM containing analytical lab reports for the reporting period as Enclosure 5, and three D-size paper maps of WSTF depicting pertinent features and conceptualized NDMA, TCE, and PCE groundwater plumes as Enclosure 6.

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.

If you have any questions or comments concerning this submittal, please contact Antonette Doherty of my staff at 575-202-5406.

TIMOTHY DAVIS
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Timothy J. Davis
Chief, Environmental Office

5 Enclosures

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Executive Summary

Groundwater monitoring is performed at the National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) to meet regulatory requirements, monitor the effectiveness of corrective actions, develop additional corrective actions, and provide environmental data for a variety of investigations. This Periodic Monitoring Report (PMR) includes the following:

- Purpose, scope, and discussion of the groundwater monitoring data contained in this report.
- Discussion of applicable cleanup levels and comparisons of those cleanup levels to current groundwater contaminant concentrations.
- Detailed information related to the operation, maintenance, and status of the Plume Front Treatment System (PFTS) and the Mid-plume Interception and Treatment System (MPITS), NASA's presumptive remedy interim measures corrective actions for groundwater.
- Information related to the development and implementation of source area investigations and, where applicable, related corrective actions.
- Evaluations of groundwater and treatment system monitoring results and chemical analytical data as it relates to the effectiveness of groundwater remediation.
- Conclusions and recommendations based upon groundwater and remediation system monitoring analytical data and the subsequent evaluations and interpretations of those data presented in this report.

Analytical data included in this report correspond to groundwater monitoring wells, PFTS, and MPITS samples collected between August 1, 2021 and October 31, 2021. The data were processed through the WSTF data management system during the fourth calendar quarter of 2021.

A variety of data elements including PFTS and MPITS operational and performance data, potentiometric surface maps, and plume isoconcentration maps are used to evaluate the effects of the PFTS and MPITS on the WSTF groundwater contaminant plume. An evaluation of the PFTS data elements indicates that the PFTS is currently achieving plume capture and contaminant extraction in the Plume Front area. Data elements related to MPITS operation are presented and contaminant mass removal for both systems is included in this report.

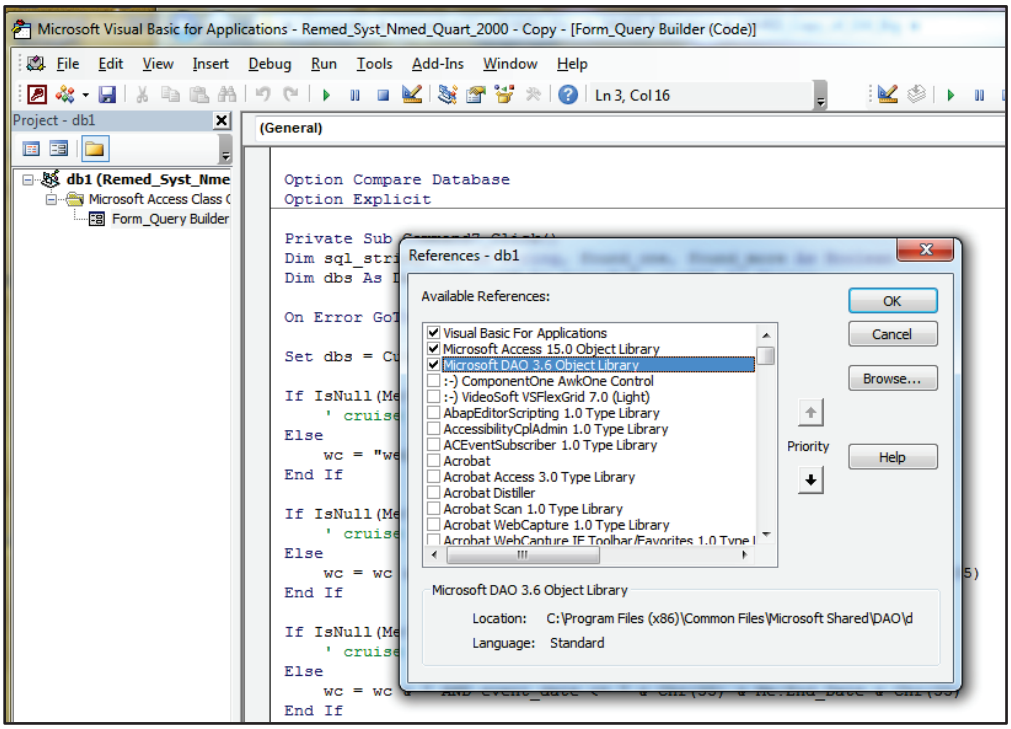
NASA's groundwater monitoring objectives are discussed in more detail in the applicable sections of this report. It is recommended that groundwater monitoring continue in accordance with the Groundwater Monitoring Plan (NASA, 2021a). NASA also recommends that groundwater corrective action operations at the PFTS and MPITS continue as scheduled. Further, NASA recommends that source area investigations continue in accordance with NMED-approved schedules.

Suggestions for Installing and Using WSTF PMR Databases

1. Ensure Microsoft Access 2013 is installed.
2. Ensure the following Microsoft libraries are installed:

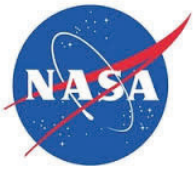
    - Visual Basic for Applications
    - Microsoft Access 15.0 Object Library
    - Microsoft DAO 3.6 Object Library

    To verify the presence of these libraries, choose any table, click “Database Tools” on the menu bar, then click the “Visual Basic” button. A new window will open (see example below). Click “Tools” on the menu bar, then click “References”. Another window will open (see example below), showing the libraries available. Ensure the boxes are checked for the three required libraries.



3. Copy the database files from the DVD to your hard drive. This will improve the performance of databases.
4. After running a query, you can export the data to Excel by selecting *External Data* on the menu bar, then click the *Export to Excel* button.

National Aeronautics and Space Administration



NASA WSTF Periodic Monitoring Report for Fourth Quarter 2021

NM8800019434

NASA WSTF Periodic Monitoring Report for Fourth Quarter 2021

Reporting Period: August 1, 2021 through October 31, 2021

Report Deadline: January 31, 2022

NM8800019434

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 DAVIS Digitally signed by TIMOTHY DAVIS Date: 2022.02.01 08:10:04 -07'00'

See Electronic Signature

Timothy J. Davis
Chief, NASA Environmental Office

Date

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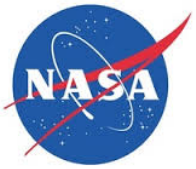

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List of Acronyms and Abbreviations

µg/L	Micrograms per liter
AOC	Area of concern
bgs	Below ground surface
BLM	Bureau of Land Management
COC	Contaminant of concern
CoC	Chain-of-Custody
DP	Discharge Plan
DTW	Depth to water
EPA	Environmental Protection Agency
FLUTe	Flexible Liner Underground Technologies, LLC
Freon 11	Trichlorofluoromethane
ft	Foot/feet
g	Gram
GMP	Groundwater Monitoring Plan
gpm	Gallons per minute
gpm/ft	Gallons per minute per foot
HIS	Historical Information Summary
HWTL	Hazardous Waste Transmission Lines
IDW	Investigation-Derived Waste
IWP	Investigation Work Plan
JDMB	Jornada del Muerto Basin
JER	Jornada Experimental Range
kg	Kilogram
L	Liter
MDL	Method detection limit
mg/L	Milligrams per liter
MPCA	Mid-plume Constriction Area
MPE	Mid-plume Extraction
MPITS	Mid-plume Interception and Treatment System
NASA	National Aeronautics and Space Administration
ND	Not detected
NDMA	N-nitrosodimethylamine
ng/L	Nanograms per liter
NMED	New Mexico Environment Department
NMED HWB	New Mexico Environment Department Hazardous Waste Bureau
NMED PSTB	New Mexico Environment Department Petroleum Storage Tank Bureau
NMOSE	New Mexico Office of the State Engineer
PCE	Tetrachloroethene
Permit	NMED Hazardous Waste Permit
PFE	Plume Front Extraction
PFI	Plume Front Injection
PFTS	Plume Front Treatment System
PMR	Periodic Monitoring Report
QA	Quality Assurance
RSMP	Remediation System Monitoring Plan
scfm	Standard cubic feet per minute
STGT	Second TDRS Ground Terminal

SVOC	Semi-volatile Organic Compound
SWMU	Solid Waste Management Unit
T-C	Time-concentration
TCE	Trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TDRS	Tracking and Data Relay Satellite
TDRSS	Tracking and Data Relay Satellite System
TP	Toxic Pollutants
USGS	United States Geological Survey
UV	Ultraviolet
VOC	Volatile Organic Compound
WBFZ	Western Boundary Fault Zone
WSTF	NASA Johnson Space Center White Sands Test Facility

1.0 Introduction

National Aeronautics and Space Administration (NASA) White Sands Test Facility (WSTF) is located at 12600 NASA Road near Las Cruces, New Mexico. WSTF (U.S. Environmental Protection Agency [EPA] and New Mexico Environment Department [NMED] Facility Identification Number NM8800019434) currently operates as a field test facility under the NASA Lyndon B. Johnson Space Center in Houston, Texas. Figure 1.1 is a map showing the location of WSTF in southern Doña Ana County.

The facility provides testing services to NASA for United States space programs and support for the Department of Defense, Department of Energy, private industry, and foreign government agencies. The primary WSTF mission is to develop, qualify, and test the limits of spacecraft propulsion systems and subsystems. The installation also operates several laboratory facilities that conduct simulated use tests for space station materials, as well as compatibility testing.

WSTF historical operations resulted in a groundwater contaminant plume that requires extensive investigation activities and associated corrective actions. NASA developed and implemented a strategy for remediating contaminated WSTF groundwater in 1996, based on an analysis of potential risk to human health and the environmental and hydrogeological characteristics of the site. This strategy involves a sequential three-phase approach: 1) to stabilize the leading edge of the plume in the alluvial aquifer at the Plume Front area through operation of the Plume Front Treatment System (PFTS); 2) to intercept a high-concentration portion of the plume within fractured bedrock in the Mid-plume area through operation of the Mid-plume Interception and Treatment System (MPITS); and 3) to investigate contaminant source areas and remediate, as appropriate, any remaining sources of contamination identified during ongoing investigations.

There are currently 215 active groundwater monitoring locations (treatment system sample ports, extraction wells, conventional wells, and multiport well zones) in use at WSTF. Figure 1.2 provides a map of the facility and shows the locations of groundwater monitoring wells and components of the PFTS and the MPITS. Routine groundwater monitoring is performed in accordance with the NMED Hazardous Waste Permit (Permit; NMED, 2009), the Groundwater Monitoring Plan (GMP; NASA, 2021a), and the Remediation System Monitoring Plan (RSMP; NASA, 2021f).

This report provides details of groundwater (routine and related to corrective actions), PFTS, and MPITS samples processed through the WSTF data management system during the fourth quarter of 2021. Between August 1 and October 31, 2021, groundwater samples were collected at 119 groundwater monitoring wells or zones (111 sample events), seven PFTS sampling locations (12 sample events), and seven MPITS sampling locations (11 sample events). Specific monitoring activities for routine groundwater sampling are discussed in Section 4.0. The individual sampling activity at each monitoring well, well zone, or other sampling point is identified as a discrete sampling event (by location and sampling date). This report includes and discusses these sampling events.

The PFTS was operational on 65 of 92 days during the reporting period at an average flow rate of 739 gallons per minute (gpm) while running. Approximately 205 acre-feet (ft) of groundwater were treated at the PFTS during this timeframe. Specific information related to operation, maintenance, and monitoring of the PFTS is included in Section 5.1 of this report. The MPITS was operational on 73 of 92 days during the reporting period, treating approximately 2.9 acre-ft of groundwater including investigation-derived waste (IDW). Specific information on MPITS operation, maintenance, monitoring, and related activities is provided in Section 5.2.

2.0 Scope of Activities

Groundwater and remediation systems sampling event analytical results and remediation systems operational data are provided for the reporting period. Updates for activities that are not associated with or reliant upon groundwater analytical data are provided for the calendar quarter.

NASA routinely collects groundwater and treatment system samples for the analysis of volatile organic compounds (VOC), N-nitrosodimethylamine (NDMA), and several inorganic compounds. On a less frequent basis, semi-volatile organic compounds (SVOCs) are sampled, and in certain wells, 1,4-dioxane, total petroleum hydrocarbons, and 40 CFR Part 264 Appendix IX compounds. The GMP (NASA, 2021a) identifies the specific samples that are to be collected at each groundwater monitoring well. The RSMP (NASA, 2021f) provides sampling requirements for the PFTS and the MPITS.

Groundwater quality data, collectively referred to as indicator parameters, are collected during each sampling event. Indicator parameters may include temperature, pH, conductivity, turbidity, and (at wells sampled using low-flow procedures) oxidation-reduction potential and dissolved oxygen. Depth to groundwater (DTW) is also measured at each conventional monitoring well during the sampling event. Indicator parameters associated with sampling events during the reporting period are included in Appendix A as follows: groundwater monitoring wells (Section 4.2.2) – Appendix A.1; PFTS (Section 5.1.4.2) – Appendix A.3; and MPITS (Section 5.2.1.2) – Appendix A.5.

Chemical analytical data (detections only) for sampling events during the reporting period are discussed in the following sections: groundwater monitoring wells (Section 4.3) – Appendix A.2; PFTS (Section 5.1.5) – Appendix A.4; and MPITS (Section 5.2.5) – Appendix A.6.

Chemical analytical data (detections only) for drinking water wells during the comprehensive period are discussed in the following sections: WSTF water quality parameters (Section 6.0) – Appendix A.7 and chemical analytical results (Section 6.2) – Appendix A.8.

Field data and the recording of other specific sampling-related details for each sampling event are discussed in Sections 4.0, 5.1, and 5.2 of this report. Logbook entries and internal chain-of-custody (CoC) forms from sampling events included in the report are provided in Appendix B. The external CoC forms associated with the sampling events can be found in the Lab Reports included on the enclosed DVD. Appendix C provides internal monthly WSTF Quality Assurance (QA) Reports for the reporting period. Appendix D includes the comparison of analytical results from the groundwater monitoring wells (Appendix D.1), PFTS (Appendix D.2), and MPITS (Appendix D.3) with cleanup levels. Only results that exceed cleanup levels are included in these appendices.

During the course of groundwater, PFTS, MPITS, and other related sampling, IDW such as decontamination water and purged groundwater is produced. This IDW is treated by the MPITS as specified in the GMP (NASA, 2021a).

3.0 Cleanup Levels

Cleanup levels for all hazardous constituents detected in WSTF groundwater are summarized in the GMP update (NASA, 2021a) for 2021, submitted to NMED on April 19, 2021. That document outlines the process for developing cleanup levels as specified in Attachment 15 of the Permit (NMED, 2009).

3.1 Discharge Standards for PFTS and MPITS Effluent

The Ground Water Discharge Permit Renewal and Modification, DP-1255 (NMED, 2017) specifies that "Remediated groundwater discharged from the two remediation systems shall not exceed the concentrations in the most recent version of NMED's *Risk Assessment Guidance for Investigation and Remediation Table A-1 Soil Screening Levels for Tap Water*…" for NDMA, trichloroethene (TCE), tetrachloroethene (PCE), and chloroform (NMED, 2021l). Table 3.1 includes the updated DP-1255 discharge standards for the four constituents. Please note that previous versions of the quarterly Periodic Monitoring Reports (PMRs) included constituents that are not listed in the current version of DP-1255 (NMED, 2017). This PMR only lists the four constituents required by the current DP-1255 (NDMA, TCE, PCE, and chloroform).

3.2 New Detections

The GMP requires that NASA report new detections of hazardous constituents in groundwater (NASA, 2021a). Each quarter, NASA adds several new constituents to the list of analytes detected at certain WSTF groundwater wells. As a result, a number of new detections have been reported in sampling results at those wells. Most of the new detections are consistent with regional groundwater chemistry and require no action beyond continued monitoring and reporting. New detections, including non-hazardous constituents, reported in sampling events during the reporting period are provided in Table 3.2.

The GMP also requires detection monitoring at specific compliance points downgradient of the closures and operational areas of the facility. The wells specified are BLM-3-182 (for the 100 and 600 Areas), 200-B-240 and 200-SG-1 (for the 200 Area), 300-A-120 (for the 300 Area), and 400-C-118 (for the 400 Area). No detection monitoring was performed during the reporting period.

In addition to the inorganic constituents that are characteristic of regional groundwater, NASA observed several new detections that require further evaluation. The hazardous constituents in Table 3.3 have not been previously detected at the wells listed in the table. As specified in Section 3.3 of the GMP, NASA has scheduled resampling of these wells to confirm these detections (NASA, 2021a). Table 3.4 lists the resampling date and the resolution of some of the unconfirmed detections reported in previous PMRs. The wells were resampled as required and the new detections were resolved as indicated in the table.

4.0 Routine Groundwater Monitoring

A variety of groundwater monitoring data are collected from monitoring wells and the groundwater treatment systems during routine WSTF operations. These data consist of measured groundwater elevations, calculated groundwater piezometric elevations, the graphical representations of groundwater elevation generated from these data, and groundwater indicator parameters (field water quality measurements).

Data presented in this section, including groundwater elevations and indicator parameters, were collected from various groundwater monitoring locations during the reporting period. Groundwater chemical analytical data also from this timeframe, while not considered monitoring data in some contexts, are also presented in this section.

4.1 Current Status and Monitoring Performed

NASA continues to monitor groundwater to maintain a complete understanding of plume characteristics, contaminant migration, and the overall impact of ongoing corrective action efforts. This section discusses

the results of routine groundwater samples collected from groundwater monitoring wells or zones during the reporting period and processed using the WSTF data management system during the fourth quarter of 2021. Table 4.1 provides a list of the monitoring wells, drinking water wells, PFTS and MPITS sampling locations, and their associated sampling events for which analytical data are presented in this report.

4.2 Groundwater Monitoring Results

This section provides the results of groundwater monitoring, including groundwater elevations and groundwater quality measurements.

4.2.1 Groundwater Elevations

Groundwater elevations at WSTF's conventional monitoring wells, piezometers, and exploration wells are determined by manually measuring the water level. Piezometric elevations at Westbay®[1] multiport wells are calculated based on the groundwater formation pressures measured at target monitoring zones. Piezometric elevations for Flexible Liner Underground Technologies, LLC (FLUTe™) multiport monitoring wells are calculated from dedicated pressure transducer measurements at specified monitoring zones. DTW or formation pressures are measured quarterly and during each sampling event.

Formation pressures at multiport wells in the Plume Front and Mid-plume areas are typically measured during the same week as quarterly DTW measurements at conventional wells. Groundwater elevations from Westbay zones are calculated from pressure data typically collected at the uppermost sampling ports (proximal to the water table) using Westbay pressure measurement equipment. Potentiometric data from multiport wells in other areas of the site are also available. Groundwater elevations are subject to quality review prior to their use in data presentations. Anomalous or erroneous values are flagged as unusable and excluded from the dataset used to generate graphical presentations of groundwater elevation.

The groundwater surface depicted in Figure 4.1 was developed by hand-contouring the most recent water level dataset that corresponds to the analytical reporting period. These data were collected from July 22 to August 10, 2021 and are provided in Table 4.2. In Figure 4.1, groundwater elevation contours depict a general westward groundwater flow across the facility. Subtle variations in groundwater elevation may occur within discrete transmissive flow paths at varying depths below ground surface (bgs) in the fractured bedrock aquifer located east of the Western Boundary Fault Zone (WBFZ). Due to the scale, these local elevation variations may not be reflected in the figure. The prominent transition in the hydraulic gradient from the WSTF pediment area east of the WBFZ (0.05 ft/ft) to the relatively flat southern Jornada del Muerto Basin (JDMB) of the WSTF Plume Front area (0.0002 ft/ft) is also evident in the figure. No contours are depicted in the Plume Front area because the range of observed water elevations in that area is less than the contour interval (40 ft). Further discussion of Plume Front and Mid-plume groundwater elevations is provided in Section 7.3.3 of this report.

4.2.2 Groundwater Quality Measurements (Indicator Parameters)

Groundwater indicator parameters are obtained from field quality measurements performed during each sampling event. The groundwater indicator parameters associated with the groundwater monitoring well sampling events included in this report (see Table 4.1) are provided in Appendix A.1.

[1] Westbay is a registered trademark of Nova Metrix Ground Monitoring (Canada) Ltd.

Indicator parameters and other specific sampling-related details associated with each monitoring well sampling event are recorded by technicians in the field sampling record. Appendix B provides the field sampling records and field/internal CoC forms for each sampling event performed during the reporting period. The WSTF external CoC forms for groundwater samples collected during these sampling events are provided in the Lab Reports on the enclosed DVD.

4.3 Groundwater Chemical Analytical Results

Table 4.1 lists groundwater monitoring wells sampled during the reporting period. Groundwater chemical analytical data from these wells were processed through the WSTF data management system during the fourth calendar quarter of 2021 and detections are included in Appendix A.2.

NASA has also included a copy of the historical analytical database with this report. The database is provided to facilitate NMED's review of groundwater analytical data provided in this report and to allow for the historical comparisons required by the Permit (NMED, 2009). NASA's historical database is an operational tool developed, maintained, and used by NASA environmental staff to manage and archive environmental data. It is not intended to serve specifically as a regulatory reporting mechanism. NASA reserves the right to implement changes to the database that are deemed appropriate to meet the WSTF internal environmental data management requirements. Any changes will not affect the integrity of historical analytical data. The amount of historical data has exceeded the capacity of a Microsoft Access®[2] database, and as a result, all the historical data cannot be contained in the database included with this report for use by NMED. Historical data prior to 2000 was removed from the reporting database to facilitate database operation and ease of use by NMED. Pre-2000 historical data of significance in decision-making is appropriately reflected in the time-concentration (T-C) plots presented in Appendix E.

A summary of internal QA methods applied to groundwater chemical analytical data is provided in Appendix C. The QA reports included in Appendix C apply to analytical results from sampling events performed during the reporting period. As requested by NMED (NMED, 2013a), all laboratory analytical reports corresponding to the analytical data presented in this report are also provided electronically (.pdf format) with this submittal.

The most recent chemical analytical data, including data processed in the fourth quarter of 2021, were used to develop manually contoured plume isoconcentration maps for NDMA (Figure 4.2) and TCE (Figure 4.3). The lowest iso-concentration contour on each map corresponds to the required cleanup level for that analyte. Figure 4.4, Figure 4.5, and Figure 4.6 present iso-concentration contours for PCE, Freon®[3] 11, and Freon 113, respectively.

The configuration of the NDMA and TCE plumes for the fourth quarter 2021 is similar to the plumes presented for the first three quarters of 2021. The 10,000 ng/L NDMA isoconcentration line encloses the 400 Area wells and well BLM-15-305, separately. There may, however, be an uncharacterized connection.

5.0 Treatment System Monitoring

This section provides information related to NASA's environmental remediation systems at WSTF. It provides the current operational status of the treatment systems and includes a discussion of the

[2] Microsoft Access is a registered trademark of the Microsoft Corporation.
[3] Freon is a registered trademark of The Chemours Company CF, LLC.

capabilities and performance of the treatment systems, pertinent monitoring data from the systems, and applicable chemical analytical data associated with remediation system monitoring.

5.1 Plume Front Treatment System

The PFTS is a pump and treat groundwater remediation system that utilizes air stripping and ultraviolet (UV) photolysis to remove VOC and nitrosamines from contaminated groundwater. The system is an interim measures presumptive remedy located at the leading edge of the WSTF contaminant plume. It was implemented during the first phase of NASA's remediation strategy to stabilize plume migration. This section provides information related to PFTS operation, performance, and monitoring during the reporting period. Chemical analytical data from PFTS sampling events completed during the reporting period are also provided.

5.1.1 PFTS Operational Status

The operational status of the PFTS is summarized in Table 5.1 and Table 5.2.

5.1.2 PFTS Performance

This section summarizes the performance of the air strippers and UV reactor for the reporting period. Additional operational status and other details may also be presented or discussed. A variety of parameters are monitored regularly to ensure that the PFTS is properly functioning and is adequately treating the WSTF contaminants of concern (COC).

Operational records indicate that the PFTS performed favorably during the reporting period. System availability statistics, which exclude scheduled shutdowns for planned maintenance, indicate that the system was operational for 83.5% of October, 89.5% of November, and 95.7% of December 2021. Notable events during the reporting period included the following:

- Changed out the UV lamps with a full set of new lamps on October 1, 2021.
- Extraction well PFE-5 was brought back online on October 14, 2021 after completing drying a section of piping that was flooded by a heavy thunderstorm in June 2021.
- Installed a new air compressor for the water-level bubbler at PFE-3 and verified that it is operating correctly.
- Replaced an approximately 40-ft section of recirculation piping as part of planned system maintenance and installed isolation valves on each of the air stripper units as part of planned system improvements.

5.1.2.1 Air Stripper Capabilities and Performance

The PFTS consists, in part, of two multi-sieve tray air strippers that operate in a parallel configuration to treat the WSTF VOC of concern. A single air stripper can be used when the system is operating at 650 gpm or less. Both air strippers are used when the system flow rate is greater than 650 gpm. The air strippers must maintain an air flow rate between 3,600 standard cubic feet per minute (scfm) and 4,680 scfm to ensure treatment of VOC. Table 5.3 provides the VOC performance data for the air strippers during the reporting period. Chemical analytical data provided in this report demonstrate that DP-1255 discharge limits and Permit-required cleanup levels were achieved throughout the reporting period.

5.1.2.2 UV Reactor Capabilities and Performance

The PFTS includes a 12-lamp Rayox®[4] UV reactor that uses UV photolysis to break down nitrosamines (specifically NDMA) in groundwater. The UV reactor is designed to operate at a minimum hydraulic flow rate of 200 gpm and a maximum flow rate of 3,000 gpm. Table 5.3 provides the NDMA treatment performance data for the UV reactor during the reporting period. As indicated by these data, system design parameters and cleanup levels for NDMA were achieved during the reporting period.

5.1.3 Extraction and Injection Well Performance

Extraction and injection well performance for the reporting period, as based on volumetric flow rates, extraction well drawdown, and water levels and injection well specific capacities, is summarized below. Average Plume Front injection (PFI) well flow rates and average Plume Front extraction (PFE) well flow rates for the reporting period are provided in Table 5.4. Additional events relevant to the performance of individual extraction or injection wells during the reporting period are summarized below.

NASA removed well PFI-1 from service in December 2019 as the result of excessive gravel pack found in the discharge water while backflushing. NASA undertook efforts in April, August, and September 2021 to remove the downhole equipment from well PFI-1 using a pump hoist truck so the well casing and screen could be inspected with a downhole video camera and potentially repaired. All efforts to remove the equipment from well PFI-1 were unsuccessful due to the presence of a large volume of gravel pack within the well screen, along with a suspected breach in the well casing and/or screen that is acting as a subsurface obstruction to prevent the removal of the equipment. Based on this finding, NASA concludes that well PFI-1 is permanently out of service. An evaluation regarding options to replace well PFI-1 or redistribute treated groundwater produced by the PFTS is underway.

NASA removed well PFE-2 from service on October 1, 2021 following the installation of a new pump and motor at well PFE-1 in September 2021. This configuration change was completed so well PFE-1 could be reactivated in place of well PFE-2 while maintaining the overall groundwater extraction flow rate during the continued operation of the system. Well PFE-2 was reactivated on October 13, 2021. On the same day a ground fault at well PFE-3 required NASA to remove that well from service for the remainder of the reporting period. Work to repair well PFE-3 and return it to service is expected in the first quarter of 2022.

Well PFE-4A was briefly taken out of service from December 1 to December 2, 2021 to change out a faulty motor starter. Well PFE-4A otherwise was in use while the PFTS was operating.

NASA reactivated well PFE-5 on October 14, 2021, after runoff from a thunderstorm on June 11, 2021 invaded a nearby manway and portions of the dual wall piping tied to the well, resulting in protracted efforts to dry the flooded piping. Well PFE-5 remained in use over the rest of the reporting period while the PFTS was operating.

Well PFE-7 remained fully operational during the reporting period.

[4] Rayox is a registered trademark of Calgon Carbon Corporation.

5.1.3.1 Extraction and Injection Well Flow Rates and Specific Capacities

Flow rates for extraction and injection wells were measured and monitored throughout the reporting period. While in operation during the reporting period, flow rates for extraction wells PFE-2, PFE-4A, and PFE-7 were stable and relatively unchanged from the previous reporting period. As noted above, wells PFE-1 and PFE-5 were out of service during the previous reporting period. NASA operated wells PFE-1 and PFE-5 throughout the reporting period at approximately 247 gpm and 3.5 gpm, respectively.

Flow rates for extraction wells PFE-1, PFE-4A, and PFE-5 were below their respective design flow rates during the reporting period, whereas wells PFE-2 and PFE-7 operated above their design flow rates. Well PFE-3 was out of service for most of the reporting period and is expected to be repaired in the first quarter of 2022. As a result of wells PFE-3 and PFI-1 not being operational, the overall production of the PFTS was reduced during this period.

Injection well PFI-2 operated slightly below its design flow rate during the reporting period; whereas wells PFI-3 and PFI-4 operated below and above their design flow rates, respectively. As previously discussed, well PFI-1 was shut down in December 2019 to investigate a suspected casing breach. Attempts to remove the downhole equipment from PFI-1 in April, August, and September 2021 were unsuccessful, resulting in the determination that the well cannot be reactivated.

Specific capacities for the PFE and PFI wells are provided in Table 5.5 and are expressed in gallons per minute per foot (gpm/ft). Generally, PFE well specific capacities are higher than PFI well specific capacities. This is due to the differences between extraction and injection well hydraulics.

5.1.3.2 Injection Well Water Level Variations, Well Monitoring, and Maintenance

Water levels at the PFI wells are monitored on a continual basis using dedicated pressure transducers that record the levels at 3-minute intervals. Specific well capacities are tracked daily while the system is in operation. Periodic backflushing of the injection wells is performed when the wells exhibit rising water levels associated with decreased well capacities and during start-ups and shutdowns. Operations personnel use static water table levels as a guide for setting the injection flow rates to each well to maintain a stable injection operation. This has lowered the initial design rates at the PFI wells. The original design flow rates in Table 5.4 were not reduced to account for the one nonoperational extraction well.

5.1.4 PFTS Monitoring Results

System monitoring involves the evaluation of a variety of data collected during routine PFTS sampling-related operations. Groundwater monitoring data consist of measured groundwater elevations, calculated groundwater piezometric elevations, graphical representations of groundwater elevation generated from the data (Section 7.3.3), and groundwater indicator parameters (water quality field measurements). The data presented in this section were collected from PFTS monitoring locations during the reporting period. Groundwater chemical analytical data from PFTS sampling events, while not considered monitoring data in some contexts, are also presented in this section.

5.1.4.1 PFTS Monitoring Events

This section and associated appendices discuss the results of routine PFTS samples processed through the WSTF data management system during the reporting period. Groundwater samples processed and included in this report were collected at two PFTS monitoring locations during the reporting period.

Table 4.1 provides a list of the PFTS monitoring locations and sampling event dates for which analytical data are presented in this report.

5.1.4.2 PFTS Groundwater Quality Measurements (Indicator Parameters)

Groundwater indicator parameters and other specific sampling-related details associated with each sampling event are recorded by field technicians in the field sampling record. The groundwater indicator parameters measured at each PFTS sampling event in Table 4.1 are provided in Appendix A.3. Appendix B provides the field sampling records and internal CoC forms and the lab reports include laboratory CoC forms for each of the PFTS sampling events discussed in this section.

5.1.5 PFTS Chemical Analytical Results

This section and associated appendices provide the groundwater chemical analytical data processed through the WSTF data management system during the fourth calendar quarter of 2021. Appendix A.4 provides the analytical results (detections only) from PFTS sampling events performed during the reporting period. A summary of internal QA methods applied to groundwater chemical analytical data is provided in Appendix C.

5.1.6 PFTS Mass Removal

Table 5.6 uses available analytical data to calculate the mass of the various WSTF COC removed by the PFTS between November 1, 2020 and October 31, 2021. During this 12-month period, the PFTS removed approximately 24 kilograms (kg) of TCE, 22 kg of trichlorofluoromethane (Freon 11), 769 grams (g) of PCE, and 183 g of NDMA.

The contaminant mass removal was calculated as follows:

$$\textit{Mass Removal} = \textit{Total Volume Treated} \times (\textit{Influent Concentration} - \textit{Effluent Concentration})$$

5.2 Mid-plume Interception and Treatment System

The MPITS is the major component of the second phase of NASA's overall groundwater plume remediation strategy. This interim measure presumptive remedy was designed to intercept high COC concentrations within the fractured bedrock aquifer of the Mid-plume Constriction Area (MPCA).

The operational status of the MPITS is summarized below. Component/system failures, repair, and scheduled maintenance activities accounted for the majority of the short duration shutdowns during the reporting period.

5.2.1 MPITS Monitoring Results

System monitoring involves the collection and evaluation of a variety of data during routine MPITS sampling-related operations. Groundwater monitoring data consist of measured groundwater elevations, calculated groundwater piezometric elevations, graphical representations of groundwater elevation generated from these data (refer to Section 7.3.3), and groundwater indicator parameters (water quality field measurements).

The data presented in this section were collected from seven MPITS monitoring locations during the reporting period. Groundwater chemical analytical data from MPITS sampling events, while not considered monitoring data in some contexts, are also presented in this section.

5.2.1.1 MPITS Monitoring Events

This section and associated appendices discuss the results of routine MPITS samples collected during the reporting period and processed by the WSTF data management system during the reporting period. Table 4.1 includes the MPITS monitoring locations and sampling event dates for which analytical data are presented in this report.

5.2.1.2 MPITS Groundwater Quality Measurements (Indicator Parameters)

Groundwater indicator parameters and other specific sampling-related details associated with each sampling event are recorded by the field technicians in the field sampling record. The groundwater indicator parameters measured at each MPITS sampling event listed in Table 4.1 are provided in Appendix A.5. Appendix B provides the field sampling records and internal CoC for each of the MPITS sampling events discussed in this section. The laboratory CoC for each of the MPITS sampling events discussed in this section are provided in the Lab Reports enclosed on the DVD.

5.2.2 MPITS Operational Status

The operational status of the MPITS is included in Table 5.1 and Table 5.2.

5.2.3 MPITS Performance

This section summarizes the MPITS air stripper and UV reactor performance during the reporting period. Operational status and other details may also be presented or discussed. A variety of parameters are monitored regularly to ensure that the MPITS is functioning properly and effectively treating the WSTF groundwater for COC reduction.

Operational records indicate that the MPITS performed favorably during the reporting period. System availability statistics, which exclude scheduled shutdowns for planned maintenance, indicate that the system was operational for 99.2% of October, 92.7% of November, and 100% of December 2021. Notable events during the reporting period included the following:

- The planned shutdown of the system from October 1 to October 21, 2021 while awaiting the delivery of replacement UV lamps which had been delayed due to pandemic-related supply chain issues.
- Power outages on November 6 and November 13, 2021.
- A planned data center outage on November 18, 2021.
- Shut down of the system on November 29, 2021 to replace failed batteries in the infiltration basin flow meter.
- The planned shutdown of the system on December 16, 2021 for the scheduled installation of a new electrical powerline recloser.

5.2.3.1 Air Stripper Capabilities and Performance

The MPITS consists of a single sieve tray air stripper designed to treat WSTF groundwater VOCs of concern at flow rates up to 125 gpm. Table 5.7 provides the VOC performance data for the air stripper based on MPITS analytical data for the reporting period. As indicated by these data, system design parameters and discharge limits for the VOCs were achieved during the reporting period, with the exception of one TCE effluent sample in August. The MPITS influent is composed of groundwater from operational Mid-plume extraction (MPE) wells and IDW generated during groundwater sampling, well maintenance, well evaluation activities, and other groundwater-related operations at WSTF. Effluent sample results are closely monitored to ensure the air stripper continues to function properly.

5.2.3.2 UV Reactor Capabilities and Performance

The MPITS uses a 72-lamp UV photolysis reactor to break down nitrosamines in groundwater. The UV reactor is designed to operate at flow rates between 20 and 125 gpm. The reactor is capable of automatically adjusting power to the lamps to meet a target of 4.1 orders of magnitude reduction in contaminant concentrations. However, electrical power to the lamps is currently set manually at 100 percent to comply with current internal NASA operational requirements. The UV reactor achieved approximately four orders of magnitude reduction during the reporting period. Table 5.7 shows the UV reactor's performance for the reporting period. As indicated by these data, system design parameters and discharge limits for NDMA were achieved during the reporting period. Effluent sample results are closely monitored to ensure the UV Reactor continues to function properly.

5.2.4 MPITS Extraction Well and Infiltration Basin Performance

MPE-1, MPE-8, MPE-10, and MPE-11 operated at various flow rates during the reporting period. NASA removed well MPE-9 from service on September 7, 2021, due to electrical damage to the submersible motor from an apparent lightning strike. A new submersible motor for MPE-9 was installed at the end of December 2021 and the well is scheduled to be returned to operation in January 2022.

There were no MPITS infiltration basin performance anomalies during the reporting period.

5.2.4.1 Extraction Well Flow Rates and Production Capacities

The MPE wells are completed in a fractured bedrock aquifer. Reduced well production capacity has resulted in cyclic operation of the extraction wells. Extraction well performance is characterized by evaluating well pumping rates and drawdown of water levels during pumping at each extraction well. NASA observed no extraction well performance anomalies with respect to pumping rates and water-level drawdowns during the reporting period.

5.2.4.2 Infiltration Basin Performance, Monitoring, and Maintenance

The MPITS infiltration basin was designed to accept up to 200 gpm. The treatment system must maintain a minimum operational flow of 25 gpm to achieve treatment design parameters before discharging the treated effluent to the infiltration basin. No operational or performance issues were identified during the reporting period.

5.2.5 MPITS Chemical Analytical Results

Appendix A.6 provides the MPITS chemical analytical data for the analytical reporting period (detections only). A summary of internal QA methods applied to groundwater chemical analytical data is provided in Appendix C.

5.2.6 MPITS Mass Removal

Table 5.8 summarizes the mass of the various WSTF COC removed by the MPITS between November 1, 2020 and October 31, 2021. Approximately 2.9 kg of COC mass was removed by the MPITS during this 12-month period. In addition to groundwater extracted in the MPCA, the MPITS accepts and treats IDW generated during other groundwater investigations. The contaminant mass removal was calculated as follows:

Mass Removal =
Volume of Water Extracted at Each Well x (Contaminant Concentration at Each Well – MPITS Effluent Concentration)

5.3 Remediation Systems Operation Costs

Table 5.9 presents the costs for operating the PFTS and MPITS for the 12 months from November 1, 2020 to October 31, 2021. The table summarizes the cost of the labor and materials for operation and maintenance of both systems, and includes the electrical costs associated with system operations.

6.0 WSTF Water Supply Well Monitoring

6.1 Water Quality Measurements (Indicator Parameters)

Groundwater indicator parameters are obtained from field quality measurements performed during each water supply well sampling event. The groundwater indicator parameters associated with the water supply well sampling events for the November 2020 through October 2021 period are included in this report (see Table 4.1) are provided in Appendix A.7.

Indicator parameters and other specific sampling-related details associated with each monitor well sampling event are recorded by technicians in the field sampling record. Appendix B provides the field sampling records and field/internal CoC forms for each sampling event performed during the reporting period. The WSTF external CoC forms for groundwater samples collected during these sampling events are provided in the Lab Reports on the enclosed DVD.

6.2 Chemical Analytical Results

Table 4.1 lists supply wells sampled during 2021. Groundwater chemical analytical data from these wells were processed through the WSTF data management system during 2021 and are included in Appendix A.8. Because analytical data from WSTF water supply wells are not considered groundwater monitoring data, they are not included in the historical analytical database provided with this report. Data are not used for decision-making or to prepare graphical representations of groundwater characteristics. Although data from the water supply wells are subject to quality review upon receipt, they are not evaluated with groundwater chemical analytical data and are thus not included in the internal QA reports provided in Appendix C. As requested by NMED via email (NMED, 2013a), laboratory analytical reports

corresponding to the analytical data presented in this report are also provided electronically (.pdf format) with this submittal.

7.0 Discussion and Conclusions

Routine groundwater monitoring is conducted at WSTF to support a variety of projects. The primary objectives of routine groundwater monitoring at WSTF are to delineate the extensive contaminant plume resulting from historical contaminant releases at the facility, support the development and implementation of corrective actions, and monitor the impact of these corrective actions during implementation and operation. Groundwater sampling at WSTF is currently focused on the Plume Front and Mid-plume areas, both of which are critical to NASA's overall groundwater remediation efforts.

This section provides discussion and conclusions based on the results of groundwater monitoring conducted at WSTF. Also included is a summary discussion of the remediation systems' performance, monitoring results, system modifications, and compliance with discharge requirements and/or applicable cleanup levels. Chemical analytical results from the PFTS, MPITS, and routine groundwater monitoring are compared to cleanup levels (refer to Appendix D). This section also provides NASA's anticipated future groundwater monitoring and related activities at WSTF.

7.1 Summary of Groundwater Monitoring Projects

Routine groundwater monitoring was performed during this quarter in accordance with currently approved permits, plans, and other regulatory requirements. In general, the WSTF contaminant plume is relatively stable in nature and extent. The potential for continued migration of the plume resulted in the development of the phased approach to groundwater remediation discussed in Section 1.0. NASA continues to collect a variety of groundwater data from the comprehensive WSTF groundwater monitoring network. Monitoring results are presented in detail in the relevant sections of this report and in later sections of this summary. Several noteworthy projects related to routine groundwater monitoring are discussed below.

7.1.1 Monitoring Well Performance or Sampling Equipment Issues

NASA was unable to sample three wells during the reporting period (August 1, 2021 – October 31, 2021) because of mechanical or well performance issues only. This section does not address wells that were not sampled due to resource limitations.

- In October 2021, well JP-3-509 was not sampled because the sampling system was not operational.
- In October 2021, NASA could not sample wells PL-3-453 and 400-C-118 because the water levels were inadequate for the collection of representative groundwater samples.

The current new occurrences of sampling issues, backlog of prior unresolved issues, and issues resolved this quarter are shown on Table 7.1.

7.1.2 Monitoring Well Installation and Well Plugging and Abandonment

There was no physical well installation or plugging and abandonment activity this quarter. Other fourth quarter 2021 activity included:

- Last quarter, NASA determined that additional groundwater monitoring is required beneath the screened interval of current monitoring well BLM-10-517. NASA prepared and submitted the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600C-001-GW* on August 31, 2021 (NASA, 2021m). NASA received NMED's October 14, 2021 fee assessment for review of the work plan (NMED, 2021d) and provided the fee for review of the plan on October 28, 2021 (NASA, 2021u).
- In its January 25, 2021 *Approval with Modifications of the NASA Groundwater Monitoring Plan 2020 Update*, NMED (2021a) directed NASA to submit a work plan for abandonment of monitoring wells 200-SG-2 and 200-SG-3 and installation of replacement wells by November 30, 2021. On November 30, 2021, NASA submitted a letter to NMED that attached a draft New Mexico Office of the State Engineer (NMOSE) Well Plugging Plan of Operations for Multiport Soil Vapor Groundwater Monitoring Wells 200-SG-2 and 200-SG-3 with an attachment indicating why NASA does not intend to replace the wells (NASA, 2021x).

7.1.3 Westbay Well Reconfiguration

There was no physical well reconfiguration activity the fourth quarter of 2021. Historical information and full submittal history for well reconfiguration projects are provided in Appendix F.

- NASA plans to plug and abandon groundwater monitoring well BLM-28. NMED is reviewing the *Well Abandonment Work Plan for Well BLM-28*, submitted on April 29, 2021 (NASA, 2021b). NASA (2021m) determined that a replacement well is necessary and submitted the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600B-001-GW* on August 31, 2021. NASA received NMED's October 14, 2021 fee assessment for review of the work plan (NMED, 2021c) and provided the fee for review of the plan on October 28, 2021 (NASA, 2021t).
- As described in previous reports, NASA plans to plug, abandon, and replace groundwater monitoring well BLM-30 with well BLM-43. Plugging, abandonment, and replacement have been approved by the NMOSE (2021a) and NMED (NMED, 2020b). The well completion report for BLM-43 was due to NMED no later than November 30, 2021. To accommodate subcontractor schedule impacts caused by COVID-19, NASA submitted the *Request for Extension of Time for Submittal of the Completion Report for Monitoring Well BLM-30 Abandonment and Installation of Replacement Well BLM-43* on September 28, 2021 (NASA, 2021q). NMED (2021f) approved the request on October 27, 2021, extending the submittal date to November 30, 2022.
- NMED is reviewing the *NASA WSTF Well Reconfiguration Work Plan for Well BW-4*, submitted on June 29, 2021 (NASA, 2021g).
- NMED is reviewing the *Westbay Well Reconfiguration Work Plan for Wells PL-7, PL-8, PL-10, ST-5, and WW-3*, submitted on April 29, 2021 (NASA, 2021b).

7.1.4 Groundwater Monitoring Data Representativeness

Activities in the fourth quarter 2021 included the following:

- NASA submitted the *Abbreviated Investigation Work Plan for Groundwater Data Representativeness, Phase 2: FLUTe Well Evaluation* to NMED on November 2, 2021 (NASA, (2021v). NASA received NMED's December 1, 2021 fee assessment for review of the work plan (NMED, 2021k) and provided the fee for review of the plan on December 14, 2021 (NASA, 2021z).

7.2 Comparison of Analytical Data to Cleanup Levels

This section and the associated appendix compare the chemical analytical data obtained from groundwater remediation system sampling points and groundwater monitoring wells to the approved cleanup levels provided in the GMP (NASA, 2021a). Appendix D provides a comparison of groundwater data to cleanup levels for the current analytical reporting period.

7.2.1 Groundwater Monitoring Wells

Appendix D.1 includes a comparison of groundwater monitoring well data to applicable cleanup levels for the analytical reporting period. Only analytical results that exceed cleanup levels are included in the tables.

7.2.2 Plume Front Treatment System

Groundwater samples were collected from the PFTS influent and effluent as required by the RSMP (NASA, 2021f) and DP-1255 (NMED, 2017). Chemical analytical data from these sampling events were presented in Section 5.1.5 and Appendix A.4. Appendix D.2 includes any PFTS influent results that exceeded cleanup levels during the current analytical reporting period. The PFTS effluent met all DP-1255 discharge limits and Permit cleanup levels.

7.2.3 Mid-plume Interception and Treatment System

Groundwater samples were collected from the MPITS influent and effluent as required by the RSMP (NASA, 2021f) and DP-1255 (NMED, 2017). Chemical analytical data from these sampling events were presented in Section 5.2.5 and Appendix A.6. Appendix D.3 includes any MPITS influent data that exceeded cleanup levels during the current analytical reporting period. The MPITS effluent met all DP-1255 discharge limits and Permit cleanup levels, except for one TCE detection in August 2021 (concentration of 2.2 µg/L) that exceeded the design parameter of 1.0 µg/L.

7.3 Contaminant Plume Evaluation

System operational and performance data, potentiometric surface maps, groundwater velocity vectors, and a variety of chemical analytical data were used to perform the plume capture evaluation for 2021. The evaluation process is based on the six steps described in "A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems" (EPA, 2008). The steps are:

1. Review site data, site conceptual model, and remedy objectives.
2. Define site-specific target capture zone(s).
3. Interpret water levels.
4. Perform calculations, and groundwater modeling (particle tracking).
5. Evaluate concentration trends.
6. Interpret actual capture based on steps 1-5, compare to target capture zone(s), and assess uncertainties and data gaps.

7.3.1 Site Conceptual Model and Treatment System Remedy Objectives

The WSTF conceptual groundwater model, presented in Figure 7.1, identifies contaminant source areas in the 200, 300, and 400 Areas of the site. Groundwater flows generally westward from the source areas through a fractured bedrock aquifer to the MPCA where the MPITS extraction wells are located. Groundwater not intercepted by the MPITS continues to flow westward through the WBFZ to the southern JDMB alluvial aquifer at the Plume Front area. The PFTS extraction wells are completed in alluvium within the WBFZ, which is an area where Tertiary volcanic bedrock is offset to a depth of over 2,000 ft into the southern JDMB across a series of sub-parallel half-graben step faults. The WSTF groundwater contaminant plume is approximately 4 miles long and 1 mile wide at its broadest extent.

Remedy objectives for the PFTS and MPITS are described in the RSMP (NASA, 2021f). The objective of the PFTS is to control threats to human health and the environment through stabilization and mass removal of groundwater contamination encountered at the leading (westernmost) edge of the WSTF groundwater contaminant plume. The current objective of the MPITS is to intercept and treat contaminated groundwater moving from the source areas in the WSTF industrial area towards the Plume Front area. The MPITS is also used to treat and dispose of IDW generated during well sampling and testing activities in accordance with the GMP (NASA, 2021a).

7.3.2 Definition of Site-Specific Capture Zone

Figure 7.2 provides a comparison of the current contaminant plume location to the original capture zone for the PFTS. A composite of the 2002 (5 µg/L TCE) and 1999 (10 ng/L NDMA) equiconcentration lines defined the original PFTS capture zone. These values were the cleanup levels for those contaminants at that time. All other COC groundwater plumes exist within the boundaries of the TCE and NDMA plumes. The current capture zone extent is defined as the 4.9 µg/L TCE and 1.1 ng/L NDMA equiconcentration lines. These TCE and NDMA concentrations are the current cleanup levels identified in the GMP (NASA, 2021a). The current capture zone is mostly contained within the original capture zone, with the exception of the areas near well PFE-7 and west of monitoring well PL-5. Though the current plume extends beyond the original designed capture zone at this location, particle tracking shows that the PFTS is capable of intercepting contamination in this area (Section 7.3.8).

Low-level NDMA detections at or above the 1.1 ng/L cleanup level at wells PL-7, PL-8, PL-10, PL-11, ST-4-481, ST-5, ST-6, WW-2-664, WW-2, WW-3, and WW-5 are not considered part of the WSTF groundwater contamination plume and are not included in the current definition of the capture zone. NDMA has been regularly observed at low concentrations in samples taken from Westbay and FLUTe multiport wells. NASA believes the NDMA observed at these wells may be caused by analytical interference or degradation of monitoring well components, especially in the lower monitoring zones. Many of these observed detections carry multiple data qualifiers. NASA will continue to closely monitor NDMA results for these wells and report any observable trend in NDMA concentration in subsequent PMRs. The northwestern extension of the Mid-plume contaminant lobe is located outside of the original capture zone. This was not addressed during the original design of the PFTS, because no monitoring data existed for this area during that time. Even though the original design did not address contamination in this area, current particle tracking shows that the westernmost particles in this area remain in bedrock throughout the simulation period (Section 7.3.8).

7.3.3 Groundwater Elevations

A manually contoured potentiometric surface map (Figure 7.3) is provided for the WSTF Plume Front area that correlates with the end of the current reporting period. Data used to generate contours for this

map are identical to the data used to generate the site-wide contours (Figure 4.1). The 40-ft contour used in the site-wide piezometric map is supplemented by 2-ft contours in the Plume Front potentiometric surface map. Arrows indicate the direction of groundwater flow. The influence of PFTS operation is evident by the depression in the potentiometric surface that is caused by pumping at the PFE wells. The hydraulic mound produced by injecting treated water at the PFI wells is apparent at the southern edge of the figure.

Groundwater elevations measured in the MPCA during this analytical reporting period are presented in the manually contoured Mid-plume potentiometric surface map (Figure 7.4). The data used to generate contours for this map are the same values used to generate the site-wide potentiometric map (Figure 4.1). The general west-trending groundwater flow direction through the Mid-plume area is apparent in Figure 7.4, though local variations may exist within discrete fractures or higher conductivity flow zones within the fractured bedrock aquifer in this area. Groundwater elevation is generally depressed downgradient of well MPE-11 near well MPE-6 plume isoconcentration maps.

7.3.4 Overall Plume Front Iso-concentration Maps

Figure 7.5 through Figure 7.8 present manually contoured iso-concentration maps of the WSTF groundwater contaminant plume between the fourth quarter 2013 and the fourth quarter 2021 for NDMA, TCE, PCE, and Freon 11. The manual contouring method allows a geologist to evaluate plume contaminants against interpreted hydrogeological features in order to create a realistic representation of the contaminant plume. Hydrogeological conditions considered during the manual contouring of contaminant concentrations are primarily hydrostratigraphic units or significant structural features that cause the juxtaposition of variable hydraulic conductivities. The lowest value solid isoconcentration line on each map corresponds to the required cleanup level for the analyte presented. The isoconcentration maps are consistent with the maps presented in previous reports (i.e., a like-to-like comparison in the case of NDMA), the monthly evaluation of contaminant concentrations, and site-wide plume maps that have been provided to NMED over the last several years. The isoconcentration contours on the four maps provided in each figure clearly show the decreasing concentrations and overall contaminant mass reduction within the groundwater contaminant plume. The Freon 113 plume was excluded for three reasons: the nature of Freon 113 is highly volatile and shows widely fluctuating results over time, the interior plume mass does not show a significant reduction, and the plume concentrations are below the EPA Regional Screening Level (RSL; 10,000 ug/L).

7.3.5 Plume Front Isoconcentration Maps

Figure 7.9 through Figure 7.13 present manually contoured isoconcentration maps of the Plume Front for NDMA, TCE, PCE, Freon 11, and Freon 113 using data processed during this reporting period. The lowest value solid isoconcentration line on each map corresponds to the required cleanup level for the analyte presented.

Two exceedances of the NDMA cleanup level were observed in the Plume Front Area this quarter. These included NDMA detections at wells at well BLM-32 (2.2 ng/L) and well JER-2 (7.7 ng/L). Ten exceedances of NDMA cleanup levels were observed in sentinel wells this quarter. These comprised NDMA detections at wells PL-7 (1.4 ng/L), PL-8 (1.1 ng/L), PL-10 (1.5 ng/L), PL-11 (1.5 ng/L), ST-4-481 (1.7 ng/L), ST-5 (2.4 ng/L), ST-6 (1.5 ng/L), WW-2-664 (1.8 ng/L), WW-3 (7.1 ng/L), and WW-5 (4.5 ng/L). VOCs were not detected at or above the cleanup level at these wells. The following quality exceptions exist:

- The NDMA result at well BLM-32 was qualified with “FB” and “QD” data quality exceptions.

- The NDMA result at well JER-2 was not qualified with a data quality exception.
- The NDMA result at well PL-7 was qualified with an "EB" data quality exception.
- The NDMA result at well PL-8 was qualified with "RB", "*", and "EB" data quality exceptions.
- The NDMA result at well PL-10 was qualified with an "EB" data quality exception.
- The NDMA result at well PL-11 was qualified with "RB", "FB", and "QD" data quality exceptions.
- The NDMA result at well ST-4-481 was qualified with "RB", "*", "TB", and "FB" data quality exceptions.
- The NDMA result at well ST-5 was qualified with "EB" data quality exceptions.
- The NDMA result at well ST-6 was qualified with "RB", "A", "FB", and "QD" data quality exceptions.
- The NDMA result at well WW-2-664 was qualified with "RB", "*", "FB" data quality exceptions.
- The NDMA result at well WW-3 was qualified with a "QD" data quality exception.
- The NDMA result at well WW-5 was qualified with a "QD" data quality exception.

"A" indicates NDMA for a laboratory control sample, initial calibration verification or continuing calibration verification was outside standard limits. "EB" indicates NDMA was detected in the equipment blank. "FB" indicates NDMA was detected in the field blank. "RB" indicates NDMA was detected in the reference blank. "QD" indicates the relative percent difference for a field duplicate was outside standard limits. "*" indicates a user defined qualifier and to see the quality assurance narrative.

7.3.6 Combined Plume Isoconcentration Maps and Potentiometric Surface Map

Figure 7.14 shows the interrelationship of the Plume Front potentiometric surface and manually contoured TCE plume for the current analytical reporting period. TCE was selected because it is the most widely distributed health-risk-driving contaminant in the conceptualized contaminant plume.

7.3.7 Time-concentration Plots and Groundwater Data Analytical Trends

T-C plots are used to evaluate and summarize contaminant concentration trends in WSTF wells over time on a quarterly basis as presented in this report. A detailed interpretation of the concentration trends shown in T-C plots is provided in this PMR.

To facilitate the evaluation of T-C plots, WSTF monitoring wells are grouped as listed in Table 5 of the GMP (NASA, 2021a). T-C plots are generated using analytical data from each monitoring and remediation well where available. The concentration trends for four of the primary COC (Freon 11, TCE, PCE, and NDMA) in groundwater are reviewed by technical personnel to develop the summary table presented in Appendix E. This table includes the historical maximum contaminant concentrations, the latest concentrations, and an interpretation of the current concentration trend for each well. For NDMA, results are presented for both EPA Method 607 and low-level laboratory analysis. T-C trend evaluation places greater emphasis on the most recent analytical results reported over the last several years. As a result, the current T-C interpretation may therefore not reflect the full historical variability in T-C behavior through the life of the well, particularly for the older wells at WSTF installed in the mid-1980s through the 1990s.

The determination of a trend for an anomalous COC concentration within a specific well is based on the evaluation of analytical data collected over several quarters (typically a minimum of three to four sampling events) in conjunction with other potentially influencing factors (including hydrogeology, aquifer recharge conditions, monitoring well development activities, and changes in the operational status of remediation wells) before a modification to the T-C plot interpretation is performed. This approach is necessary to avoid the premature identification of a trend that represents a short-term fluctuation that reverts back to previous conditions.

A summary site-wide well map and analytical table depicting the most recent interpreted T-C trend for each individual well is included in Appendix E. A summary evaluation of each of the GMP well groups is provided in the following paragraphs, along with a discussion of the T-C plots for specific wells identified within the group. T-C plots (for the specific wells where identified) are also provided as attachments in Appendix E.

Upgradient Well Group: Four wells designated as upgradient monitoring wells are located east of the WSTF industrialized areas. There have been no confirmed VOC or NDMA detections in groundwater for these wells, and all wells are all classified as not detected (ND).

100/600 Area Well Group: Monitoring wells in this group are located within the 100 Area and adjacent easternmost part of the 600 Area. These wells are located in the vicinity of the southeastern boundary of the contaminant source areas and groundwater plume. Where located within the footprint of the groundwater plume, the wells typically show decreasing groundwater concentration trend for Freon 11, TCE, and PCE. This trend is applicable to both wells within the primary bedrock aquifer and well 600-G-138 (T-C plot provided) that is screened across a localized perched groundwater horizon on the top of andesite bedrock at the bedrock-alluvial interface. NDMA is derived primarily from the northern source areas and is not identified within the 100 and 600 Areas.

200 Area Well Group: The 200 Area represents the primary historical source of contamination for the TCE and Freon 11 components of the WSTF groundwater plume. Maximum concentrations in groundwater were identified in the late 1980s through mid-1990s. Over the last 30 years, the majority of 200 Area T-C plots have displayed a decreasing trend in contaminant concentrations for these VOCs. As an example, TCE in well 200-D-240 (T-C plot provided) has decreased from 110 µg/L in 1990 to 14 µg/L in 2021. The declines are interpreted to reflect natural plume migration and degradation under the influence of a steep horizontal hydraulic gradient of 0.05 ft/ft within a relatively porous fractured limestone bedrock aquifer, in conjunction with the implementation of effective waste management practices at WSTF that eliminated waste discharges. Wells that display more irregular concentrations with no distinct trend are typically associated with screened intervals characterized by lower hydraulic conductivity and reduced groundwater flow.

300/400 Area Well Group: The T-C plots for monitoring wells generally show groundwater VOC concentration trends that have been either fluctuating (most notably wells installed recently in January 2017 within poorly fractured andesite bedrock as part of the 400 Area Closure Investigation) or have declined over the long-term following initial well installation. Declining concentrations primarily correlate to wells characterized by higher hydraulic conductivity and/or groundwater flow screened across the andesite bedrock-alluvium interface. These wells are located within or adjacent to the 300/400 Area primary arroyo that experiences greater natural recharge. Wells that do not display declines are typically located off the axis of recharge drainages and may also be protected from infiltration by localized less permeable surfaces such as the Closure impoundment caps. Similar to the 200 Area, the predominant declines in the 300 and 400 Areas reflect the influence of migration related to the strong hydraulic gradient of 0.05 ft/ft along the WSTF pediment slope in conjunction with the implementation of effective

waste management practices that eliminated waste discharges. Local disparities for concentrations reported within adjacent bedrock monitoring wells (particularly for NDMA) is interpreted to be a result of both the limited connectivity of andesite bedrock fractures, and the position of the screened intervals relative to the andesite bedrock-alluvial interface. Higher hydraulic conductivity, groundwater flow, and contaminant decline are typically attributed screened intervals within the alluvium on top of bedrock.

Northern Boundary Well Group: The monitoring wells in this group are generally characterized by low-level contaminant concentrations that do not display any sustained T-C trends or are ND. Fluctuating low-level NDMA is reported this quarter from the latest samples collected in wells BLM-32 (2.2 ng/L), BLM-41-420 (1.6 ng/L), and JER-2 (7.7 ng/L). All three wells are located adjacent to the boundary of the northwest-trending plume arm that coincides with northwest-trending structural controls in the bedrock (identified from seismic geophysical surveys) that extend northwest from the Mid-plume constriction area.

Southern Boundary Well Group: Monitoring wells in this group are located south of the NDMA and TCE plumes, do not exceed the low-level NDMA cleanup level of 1.1 ng/L, and are classified as ND. A single well (BLM-6-488, T-C plot provided) continues to show a low fluctuating concentration of TCE (2.2 µg/L) below the NMED cleanup level and is characterized as exhibiting "natural migration - no overall T-C trend."

MPCA Well Group: T-C plots for monitoring wells in this group that characterize the MPCA generally show declining contaminant trends associated with either natural plume migration and degradation or the effect of system stresses imparted by MPITS pumping since startup in 2011. T-C plots for wells BLM-21-400, BLM-36, BLM-18-430, and BLM-5-527 are included in Appendix E.

Well BLM-21-400 is located adjacent and south of the MPITS extraction wells and immediately downgradient of the interpreted primary confluence of the TCE and NDMA groundwater plumes sources (Freon 11 and TCE originate from the 200 Area [upgradient well BLM-14-327] and NDMA originates from the 300 and 400 Areas [upgradient well BLM-15-305]). Contaminant concentrations in BLM-21-400 since installation in 1991 show a natural decreasing trend for Freon 11 (320 to 79 µg/L), TCE (220 to 48 µg/L), PCE (12 to 2.4 µg/L), and NDMA (5.6 to 1.1 µg/L). This well is being monitored with respect to potential pumping-related migration under the influence of nearby extraction well MPE-11.

Multiport well BLM-36 is located downgradient and to the south-southwest of the MPITS. The T-C plots for the shallow zone in well BLM-36 (BLM-36-350) identify groundwater contamination that has not been detected in deeper zones of this well, providing a significant location for vertical delineation in the Mid-plume. BLM-36-350 has shown fluctuating but relatively consistent concentrations for groundwater contaminants since activation of the MPITS and is currently classified as "pumping-related migration – no overall trend."

Wells BLM-18-430 and BLM-5-527 are located in the northwest-trending arm of the WSTF groundwater contaminant plume that extends from the MPCA. These wells are monitored to determine the effect of operation of the MPITS on the migration of groundwater contaminants into this area. The T-C plot for well BLM-18-430 shows a decline in contaminant concentrations since startup of the MPITS, inferred to be related to the arrest of contaminant migration to the northwest arm through continued operation of the MPE wells. Well BLM-5-527 is currently the other of the two monitoring wells on-site (in addition to 400-FV-131) interpreted as "natural migration – increasing T-C" trend. Increases in this well are inferred to reflect the migration of contaminants into low conductivity rhyolite bedrock of the extreme northwest section of the northwest-trending arm not impacted since the inception of MPITS pumping. Pumping activity (13,350 gallons extracted) within well BLM-5-527 between April 6, 2020 and May 5, 2020 as

part of the Targeted Mobile Remediation Process Pilot Test at WSTF may also have impacted contaminant concentrations in the area by temporarily creating a cone of depression.

Main Plume Well Group: Wells in this group are located within the western section of the groundwater plume at the Plume Front and show widespread declining trends related to natural migration or pumping depending on proximity to the PFTS remediation wells. Contaminant concentrations within this well group typically decline significantly during intervals of system operation and rebound during quiescent periods.

Plume Front Well Group: Monitoring wells within this group are generally located outside the boundary of the contaminant plume and groundwater analytical results are typically ND. Well BLM-10-517 (located south of the southern plume boundary, T-C plot provided) has displayed periodic trace detections of TCE and Freon 11 since early 2012. The latest groundwater sampling indicated that the Freon 11 concentration is 0.33 µg/L (with a J flag) and TCE (detection limit 0.21 µg/L) is ND. Low-level NDMA was also below the detection limit of 0.4 ng/L at well BLM-10-517. Well ST-7 is located west of PFTS extraction well PFE-2 and south of extraction well PFE-7. Low-level TCE (0.75 µg/L) may have migrated northward to ST-7 as a result of continued pumping of well PFE-7. The fluctuating concentration of TCE and Freon 11 in the area of ST-7 demonstrate pumping related migration of contaminants through the heterogeneity of the alluvial aquifer. For this quarter, fluctuating low-level NDMA detections were identified in three Plume Front wells (PL-7 [1.4 ng/L], and ST-5 [2.4 ng/L], and ST-6 [1.5 ng/L]).

Sentinel Well Group: Monitoring wells within this group form a more distal tier located outside the groundwater contaminant plume and have all historically shown analytical results that are ND. For this quarter, fluctuating low-level NDMA detections have been identified in six of the sentinel wells (JP-3 [1.8 ng/L], PL-10 [1.5 ng/L], PL-8 [1.1 ng/L], WW-2-664 [1.8 ng/L], WW-3 [7.1 ng/L], and WW-5 [4.5 ng/L]).

Other Well Group – Mid-plume Extraction Wells: The T-C plots for the five MPITS wells are included in Appendix E. The COC concentrations for Freon 11 and TCE in wells MPE-8 and MPE-10 have displayed a generally increasing trend since 2013, under the influence of pumping-related plume migration. Wells MPE-1 (decreasing), MPE-9 (fluctuating), and MPE-11 (fluctuating) are also influenced by continued operation of the MPITS.

Other Well Group – Plume Front Extraction Wells: The T-C Plots for the six PFTS wells; PFE-1, PFE-2, PFE-3, PFE-4A, PFE-5, and PFE-7 are included in Appendix E. The high-volume extraction wells generally exhibit declining trends due to pumping-related plume dilution within the alluvial aquifer at the Plume Front. Well PFE-5 was installed further east with a screened zone primarily in fractured bedrock within the WBFZ displays significantly lower well yield, with no overall trend and a relatively elevated concentration of NDMA.

7.3.8 MODPATH Particle Tracking Simulation

Particle tracking analysis was conducted to assess the capability of the PFTS to effectively contain the TCE and NDMA plumes, which are the most extensive contaminant plumes at the Plume Front. All other COC plumes are within or coincident with the footprint of these primary contaminants. Consequently, simulated capture of the TCE and NDMA plumes confirms capture of the remaining contaminant plumes.

The WSTF groundwater model was originally developed to support the design of the PFTS and was used to optimize remediation well locations and well flow rates. The model currently uses the MODFLOW-SURFACT™ groundwater modeling computer code, which is based on the United States Geological

Survey (USGS) modular finite difference groundwater flow model code MODFLOW. MODFLOW-SURFACT was designed to simulate flow through porous medium. Where required, an equivalent porous medium approach is used to simulate flow though fractured bedrock in the WSTF model. This approach assumes that groundwater flow through fractured bedrock can approximate porous medium flow conditions when a large enough model area or volume is considered. This allows the MODFLOW-SURFACT modeling code to be used for porous medium and fractured bedrock aquifers. Results from model calibration indicate this approach can generally approximate groundwater flow from the WSTF source areas, through the Mid-plume area, to the alluvial aquifer of the southern JDMB. The inherent assumptions used in this method does not allow the model to predict exact groundwater elevations and groundwater flow directions for specific locations within the bedrock aquifer. Instead, predicted hydraulic heads and flow directions produced by the WSTF groundwater model approximate generalized groundwater elevation and flow conditions for bedrock areas.

NASA completed calibration and sensitivity analysis of the updated WSTF groundwater model in 2013. This revision incorporated updated hydrogeologic data obtained from recently drilled wells and aquifer tests into the model. Boundary condition values were also updated. Values for the general head boundary condition at the western extent of the model were updated with predictive hydraulic heads data from regional southern JDMB groundwater model. This regional model is administered by the New Mexico Office of the State Engineer and accounts for the anticipated increase in pumping throughout the southern JDMB over time. After flow model calibration, the model was calibrated for TCE and NDMA contaminant transport.

The USGS particle tracking code MODPATH was used in conjunction with the NASA WSTF groundwater flow model to conduct particle tracking simulations for this current contaminant plume capture evaluation. MODPATH is a post-processing package developed by the USGS that simulates adjective transport of virtual particles through a simulated flow field. It uses the numerical flow model output in combination with a semi-analytical particle tracking scheme to calculate flow paths within each finite-difference model grid cell throughout a defined simulation period (USGS, 1994). The WSTF groundwater flow model has a simulation period from 1962 through 2110. Particle paths, or traces, are computed in MODPATH by tracking particles from cell to cell until the individual particle reaches a boundary, an internal sink, or satisfies some other specified termination criterion.

The first MODPATH simulation for this evaluation began on the last day of the current reporting period, October 31, 2021, and ran through December 31, 2061. PFTS extraction and injection well flow rates were varied to account for the appropriate operational scheme during a given stress period. These varying flow rates in the simulation account for PFTS extraction or injection well downtime associated with equipment failure or maintenance periods. The current WSTF potable water supply wells, Well K and Well M, are included in the simulation. Water supply well J2 is assumed activated in 2022, with shutoff of Well K that same year.

Particle starting locations in the MODPATH simulation corresponded to the maximum extent of the 4.9 µg/L TCE and 1.1 ng/L NDMA equiconcentration lines presented in this report. Particles were released at a 250 ft interval along the composite TCE-NDMA equiconcentration line representing the main body of the plume in model layers 8 through 13. These model layers correspond to saturated layers in the model that contain the WSTF groundwater contamination plume. Results from the MODPATH simulation are presented in Figure 7.15. A second extended MODPATH simulation was run through 2110 to confirm that all traces, especially those at the southwestern boundary of the current plume extent, reach or are trending towards PFE wells over time (Figure 7.16). These results indicate successful simulated capture of the WSTF contaminant plume by the PFTS.

Particles released at the northwestern extension of the Mid-plume contaminant lobe are within a fractured bedrock aquifer, east of the WBFZ and southern JDMB alluvial aquifer. MODPATH results indicate most of these particles remain in the bedrock aquifer through the end of the 2061 simulation period, with the exception of several particles released southeast of monitoring well JER-1. These particles travel west in the bedrock aquifer and turn south towards PFTS extraction well PFE-1 once they enter the alluvial aquifer in later stress periods. The PFTS was not specifically designed to address the northwestern Mid-plume contaminant lobe feature, but results from the extended simulation through 2110 indicate particles released in that area are either captured by or are trending towards PFE wells once they enter the alluvial aquifer (Figure 7.16). NASA will continue to closely monitor contaminant concentrations in this area to confirm successful plume capture.

7.3.9 Evaluation of Vertical Gradients

Vertical gradients at select well locations within the contaminated Plume Front aquifer are recorded and examined bi-annually. Gradients are expressed as pressure differences between screened zones in well clusters or multi-port wells. Analyses of these pressure gradients (Table 7.2) are performed as a line of evidence to verify effectiveness of the PFTS on contaminant plume capture. Downward vertical gradients are expected to be observed in well clusters and multiport wells in close proximity to extraction wells. During this reporting period, downward vertical gradients were observed in well clusters BLM-17, BLM-36, and all but the deepest segment of well ST-5. Well PL-10 experienced upward vertical gradients in the deepest two zones, as expected, due to the well's close proximity to PFTS injection wells. The shallowest zone of PL-10 experienced a slightly downward vertical gradient, likely due the nearby injection wells having less influence in shallower portions of the water table.

Conclusions drawn from the examination of vertical gradients from data collected from 1990 to the present indicate in general that:

- Pumping from the PFTS wells impacts the contaminated aquifers in the Plume Front at all levels, ranging from shallow to levels deeper than where extraction pumps are set.
- Pumping shows the most discernable effects when the combined extraction rate of the PFE wells approaches or exceeds the design flow rate of 1,000 gpm and remains consistent.
- Vertical gradient responses in the different well groups monitored are not uniform and reflect the lack of homogeneity of the alluvial aquifer and natural recharge pulses moving westward from the San Andres Mountain front.

For the current reporting period, vertical gradient responses were unremarkable and continue to indicate that the PFTS impacts the target depth range in the contaminated aquifer. No significant changes in groundwater flow at depth are indicated.

7.3.10 Plume Capture Interpretation and Conclusions

None of the Plume Front evaluation elements discussed in this section suggest unanticipated migration of the current observed plume beyond the PFTS limit of capture. NASA has determined that capture at the Plume Front is sufficient and will be maintained by continued operation of the PFTS. Additionally, none of the Mid-plume evaluation elements discussed in this section suggest that the MPITS is ineffective in treating water extracted from the MPCA area.

7.4 Summary of Source Area Investigations

The following subsections summarize the status of each solid waste management unit (SWMU) or hazardous waste management unit (HWMU) (Figure 7.17) at WSTF and provide specific information on work performed during the fourth calendar quarter of 2021. Historical information through the end of 2019 including investigation status, and full submittal history for each potential source area is provided in Appendix F.

7.4.1 200 Area

NASA continues work associated with the investigation of two HWMUs and SWMUs in the 200 Area. NASA performed a wide-area soil vapor survey in the 200 and 600 Areas to assess the potential risk to workers posed by soil vapor intrusion into the buildings adjacent to areas with the greatest soil vapor concentrations. NMED disapproved NASA's report on the assessment, stating that the vapor intrusion pathway is complete from the standpoint of risk assessment. During the fourth quarter of 2021, activities related to this SWMU included:

- NMED is reviewing the *NMED Disapproval Response for 200 Area and 600 Area Vapor Intrusion Assessment Report* (NASA, 2020a).

7.4.2 300 Area

NASA performed routine groundwater sampling at the 300 Area and recommended a corrective measures study in conjunction with the 400 Area. There was activity at the 300 Area based on NMED's prior disapproval of the *300 Area Supplemental Abbreviated Drilling Work Plan* (May 30, 2019; NASA, 2019b) and resulting direction. See next section and Appendix F, Section 2.2.

7.4.3 400 Area

There were no document submittals for the 400 Area in the fourth quarter of 2021. Recent and ongoing activity includes:

- Last quarter, NASA submitted the *NASA WSTF 400 Area Closure Investigation Report – NMED Third Disapproval Response* on July 27, 2021 (NASA, 2021k). NASA received NMED's September 8, 2021 fee assessment for review of the third document revision of the 400 Area Closure IR and provided the fee for review of the report on September 28, 2021 (NASA, 2021p).

- NMED is reviewing the *Response to Disapproval of 400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* (July 14, 2021; NASA, 2021j).

- NMED is reviewing the *NASA WSTF 400 Area Closure Investigation Report – NMED Third Disapproval Response* (July 27, 2021; NASA, 2021k).

- NMED is reviewing the *Response to Disapproval of 300 Area Supplemental Abbreviated Drilling Work Plan* (July 14, 2021; NASA, 2021i).

7.4.4 600 Area Perched Groundwater Extraction and Investigations

NASA is currently conducting a perched groundwater extraction pilot test in the 600 Area and investigating the presence of additional perched groundwater beneath and adjacent to the 600 Area Closure. During the fourth quarter of 2021, activities related to this HWMU included:

- NASA continued extraction of perched groundwater from monitoring well 600-G-138 in accordance with NMED's March 1, 2013, Approval Time Extension for Implementation of the Perched Groundwater Extraction Pilot Test at the 600 Area. Approximately 736 gallons of perched groundwater were removed from 600-G-138 from October 2021 through December 2021 and transported to the MPITS for treatment.
- NASA planned for drilling the boreholes at the 600 Area closure per NMED's *Approval with Modifications 600 Area Closure Geophysical Survey Status Report* (NMED, 2020c) and to submit the Investigation Report. Recognizing a continued delay in obtaining the services of a qualified driller due to COVID backlog, NASA requested an extension for submittal of the 600 Area Perched Groundwater Investigation Report on October 5, 2021 (NASA, 2021r). NMED approved the extension on October 27, 2021 (NMED, 2021e).
- NASA also submitted an application to drill the perched groundwater boreholes through the NMOSE (NASA, 2021w) and received approval on November 9, 2021 (NMOSE, 2021b).

7.4.5 SWMUs 2, 8, and 34 and Area of Concern (AOC) 51 (Wastewater Lagoons)

NASA continued work required to investigate and close the WSTF Wastewater Lagoons in the 100, 200, and 600 Areas and at the Second Tracking and Data Relay Satellite (TDRS) Ground Terminal (STGT). Activities during the fourth quarter of 2021 included:

- NMED is reviewing the *NASA WSTF 100 Area Wastewater Lagoons Closure (SWMU 2) Investigation Report* (NASA, 2020c).
- NMED is reviewing the *NASA WSTF 200 Area Wastewater Lagoons Closure (SWMU 8) Investigation Report* (NASA, 2019d).
- NMED is reviewing the *NASA WSTF 600 Area Wastewater Lagoons Closure (SWMU 34) Investigation Report* (NASA, 2019e).
- NMED is reviewing the *NASA White Sands Test Facility WSTF STGT Wastewater Lagoons Closure (AOC 51) Investigation Report* (NASA, 2020f).

7.4.6 SWMU 10 (200 Area Hazardous Waste Transmission Lines [HWTL])

NASA performed an investigation of the abandoned HWTL that consisted of HWTL excavation, pipeline removal, soil sampling, and the submittal of an investigation report. Activities during the fourth quarter of 2021 included the following:

- On September 14, 2021, NASA requested a second extension of time for submittal of a response to disapproval of the HWTL IR (NASA, 2021n). NMED approved the extension request on October 27, 2021 (NMED, 2021g).
- NASA is revising the HWTL investigation report (July 30, 2019) in response to NMED's November 16, 2020 disapproval. This includes planning to resample along the HWTL as required by the disapproval. The due date is January 30, 2022.

7.4.7 SWMU 16 (600 Area Bureau of Land Management [BLM] Off-Site Soil Pile)

NASA completed a multi-part investigation of the 600 Area BLM Off-Site Soil Pile and has addressed NMED comments on multiple iterations of the investigation report. Activities in the fourth quarter of 2021 were:

- NASA submitted the *Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* to NMED on September 28, 2021 (NASA, 2021o). NASA received NMED's November 18, 2021 fee assessment for review of the work plan (NMED, 2021j) and provided the fee for review of the plan on December 7, 2021 (NASA, 2021y).
- NMED is reviewing NASA's *Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* (September 28, 2021).

7.4.8 SWMUs 18–20 (700 Area High Energy Blast Facility, 800 Area Below Grade Storage Tank, and 800 Area Oxidizer Burner)

NASA performed investigation fieldwork at the 800 Area Below Grade Storage Tank (SWMU 19) in December 2015 and October 2017 and provided the results to NMED in an investigation report, which NMED disapproved twice.

7.4.9 SWMUs 21–27 (Septic Tanks)

Activities during the fourth quarter of 2021 included the following:

- NMED is reviewing NASA's *Response to Disapproval of NASA WSTF Septic Tanks (SWMUs 21-27) Investigation Report* (May 18, 2021; revised IR; NASA, 2021d).

7.4.10 SWMUs 29–31 (Small Arms Firing Ranges)

NASA performed initial corrective measures fieldwork at the three closed small arms firing ranges, summarized the results for NMED, and recommended additional fieldwork based on NMED feedback. NASA submitted the *Response to Second Disapproval Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report and Risk Assessment Report* on August 3, 2020 (NASA, 2020d). During the fourth quarter of 2021, activities related to these SWMUs included:

- NMED is reviewing the *Response to Second Disapproval Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report and Risk Assessment Report* (August 3, 2020; NASA, 2020d).

7.4.11 SWMU 33 (300 Area Test Stand 302 Cooling Water Pond)

The *300 Area Test Stand 302 Cooling Water Pond (SWMU 33) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* (NASA, 2020e) were submitted to the NMED HWB on August 17, 2020. NASA received and paid the NMED HWB Fee Assessment (NMED, 2020a; NASA, 2020g). During the fourth quarter of 2021, activities related to this SWMU included the following:

- NMED is reviewing the 300 Area Test Stand 302 Cooling Water Pond (SWMU 33) IWP and HIS.

7.4.12 SWMU 47 (500 Fuel Storage Area)

NASA plans to perform an investigation of the 500 Area Fuel Storage Area (SWMU 47). During the fourth quarter of 2021, activities related to this SWMU included the following:

- NMED is reviewing NASA's *Response to Second Disapproval of 500 Area Fuel Storage (SWMU 47) Investigation Work Plan* (June 29, 2021; revised IWP; NASA, 2021h).

7.4.13 SWMU 49 (700 Area Landfill)

NMED-approved investigation work at the closed landfill as described in the *Response to NMED Approval with Modifications SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan and Historical Information Summary* (NASA, 2019c). Activities during the fourth quarter of 2021 include the following:

- NASA reviewed soil vapor data from the Phase 1A soil vapor survey and concluded that a Phase 1B survey would not provide any more useful information. NASA submitted a letter, *Discussion Relative to the Phase 1A and Phase 1B Soil Vapor Survey (SVS) Component of the Ongoing 700 Area Landfill Phase I Investigation,* on the lack of need to perform for a Phase 1B SVS for the 700 Area Landfill to NMED on October 19, 2021 (NASA, 2021s). NMED disapproved the approach and asked for clarification on November (NMED, 2021h). NASA provided a revised discussion on December 21, 2021 (NASA, 2021bb).

- NASA continued work on the Phase I field investigation report, due April 29, 2022.

7.4.14 SWMU 50 (First TDRS Diesel Release)

NASA performed NMED-approved investigation fieldwork at SWMU 50 and provided the results to NMED in the *First Tracking Data Relay Satellite System (TDRSS) Diesel Release (SWMU 50) Investigation Report* (NASA, 2019a). Activities during the fourth quarter of 2021 include the following:

- NMED is reviewing NASA's *Response to Disapproval of First Tracking Data Relay Satellite System (TDRSS) Diesel Release (SWMU 50) Investigation Report and Risk Screen Evaluation Report* (November 9, 2020; NASA, 2020h).

7.4.15 SWMU 52 (Second TDRS UST)

On August 11, 2020, NASA discovered a diesel fuel leak in the area of the SWMU 52 Underground Storage Tank (UST), which is located north of WSTF at the White Sands Complex. SWMU 52 related activities performed during the fourth quarter of 2021 included the following:

- NMED is reviewing the *Second TDRS UST Minimum Site Assessment Report* (June 25, 2021; NASA, 2021e).

7.4.16 Newly Identified SWMU

While researching documentation related to the Fuel Treatment Unit, NASA identified the location of a former 500 Area oxidizer as a potential new SWMU. Activities during the fourth quarter of 2021 include the following:

- On December 20, 2021, NMED (2021m) approved the *500 Area Newly Identified SMWU Release Assessment Report* (June 22, 2020; NASA, 2020b). NMED directed NASA to list the former oxidizer burner as a SWMU requiring corrective action in the WSTF Hazardous Waste Permit (during a Permit renewal or modification, as applicable) and to submit an investigation work plan for the unit no later than August 31, 2022.

8.0 Planned Activities

This section discusses NASA's planned activities related to groundwater monitoring at WSTF.

8.1 Groundwater Monitoring and Related Projects

8.1.1 Groundwater Monitoring

NASA plans to continue routine groundwater monitoring in accordance with the GMP (NASA, 2021a). Sampling for per- and polyfluoroalkyl substances will be included in 2022 per NMED's November 15, 2021 Approval with Modifications of the 2021 GMP (NMED, 2021i), and will be reflected in the GMP update for 2022. NASA committed to PFAS sampling in its *Response to Approval with Modifications of NASA WSTF Groundwater Monitoring Plan Update for 2021* (NASA, 2021aa).

8.1.2 Monitoring Well Performance or Sampling Equipment Issues

This section presents plans to address wells that could not be sampled in the reporting period (August 1, 2021 through October 31, 2021) due to mechanical or well performance issues and were not resolved by the end of the period. The backlog of prior unresolved issues is shown on Table 7.1. The section also presents issues that have been resolved.

- In October 2021, well JP-3-509 was not sampled because the sampling system was not operational. NASA will repair the system.
- In the Approval with Modifications of the 2021 GMP update, NMED stated, "Due to reported damage associated with root growth at monitoring well NASA 9, a work plan for abandonment and replacement of the monitoring well must be submitted to NMED for approval... The work plan for abandonment and replacement of monitoring well NASA 9 must be submitted no later than April 29, 2022" (NMED, 2021i). NASA plans to prepare and consider and submit the required well replacement work plan.
- There were prior period sampling failure issues resolved this quarter. Based on water level measurements at wells 400-IV-123 and 300-C-128 in September 2021, NASA scheduled them for groundwater sampling in October 2021. Sampling efforts were successful.

8.1.3 Westbay Well Reconfiguration.

NASA expects to plug and abandon well BLM-28. NASA plans to plug and abandon the borehole at former monitoring well BLM-30 in conjunction with drilling and completing replacement well BLM-43.

8.1.4 Monitoring Well Installation

In addition to replacement well BLM-43 mentioned in the preceding section, NASA plans to replace well BLM-28 and to install a deeper monitoring well adjacent to existing well BLM-10-517.

8.2 Groundwater Remediation System Monitoring

The RSMP (NASA, 2021f) and DP-1255 (NMED, 2017) include provisions for monitoring the effectiveness of the PFTS and MPITS. Sampling at designated locations, including extraction wells and remediation system sampling points, will continue as required during remediation system operational periods in accordance with the RSMP and/or DP-1255. Monitoring well sampling to assess remediation system effectiveness will continue in accordance with the GMP (NASA, 2021a).

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Figures

Figure 1.1 **WSTF Location Map**

(SEE NEXT PAGE)

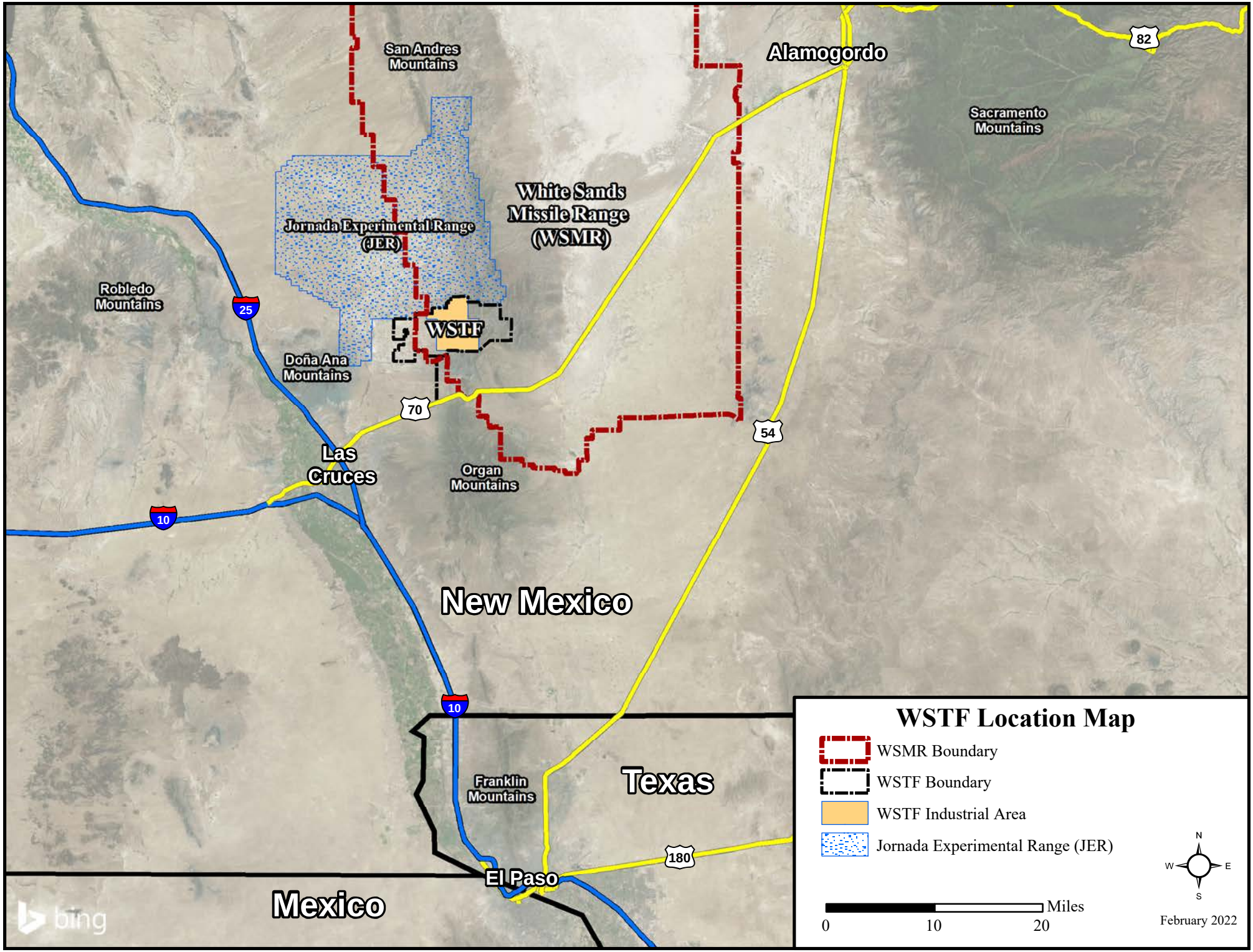
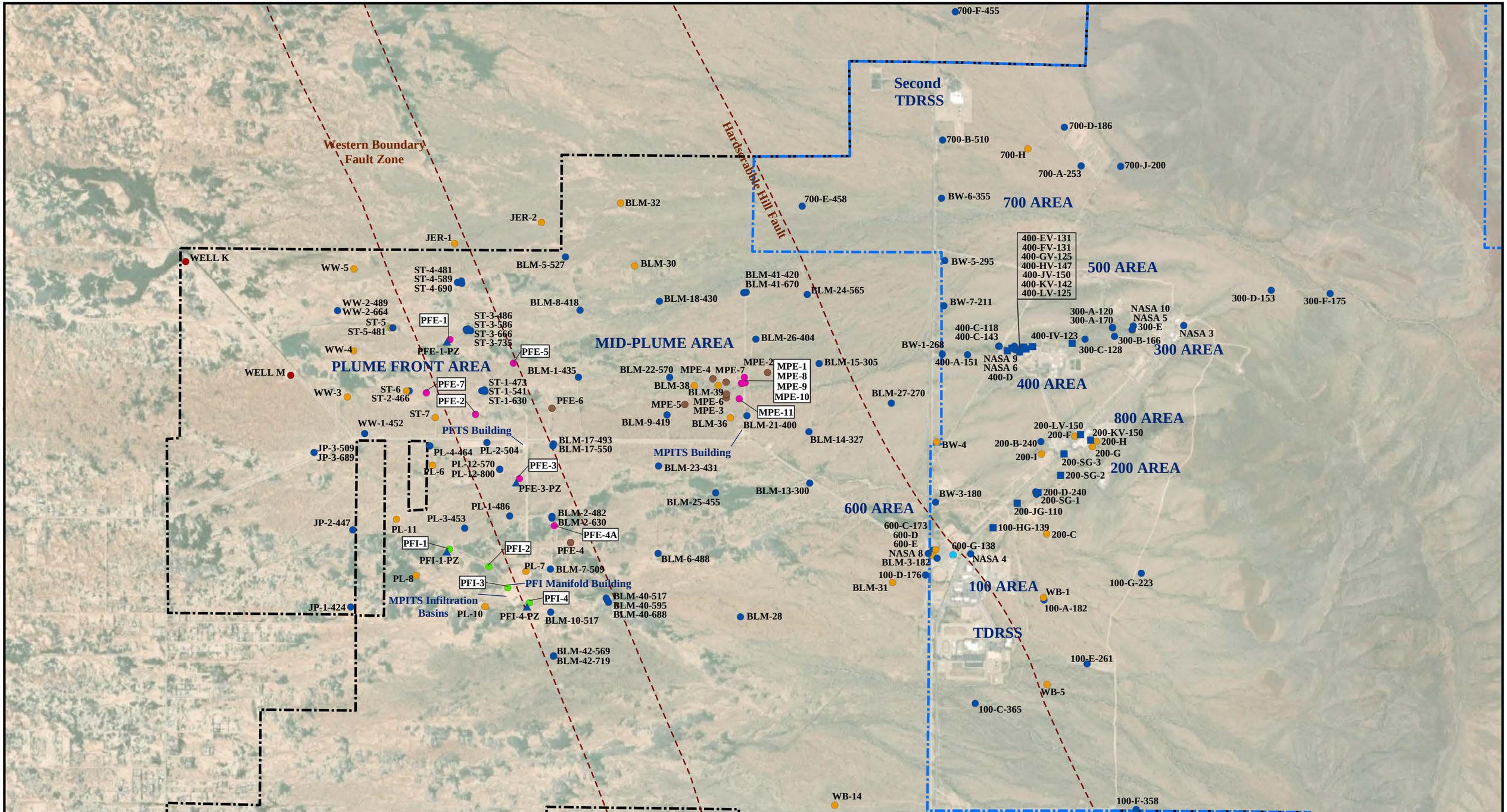

San Andres Mountains
Alamogordo
82
Sacramento Mountains
White Sands Missile Range (WSMR)
Jornada Experimental Range (JER)
Robledo Mountains
25
WSTF
Doña Ana Mountains
70
54
Las Cruces
Organ Mountains
10
New Mexico
10
Franklin Mountains
Texas
180
El Paso
Mexico
bing
WSTF Location Map
WSMR Boundary
WSTF Boundary
WSTF Industrial Area
Jornada Experimental Range (JER)
N
W
E
S
Miles
0
10
20
February 2022

Figure 1.2 **WSTF Well Location Map**

(SEE NEXT PAGE)



WSTF Well Location Map

- Multiport
- Conventional Well
- Perched Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Fault
- WSTF Boundary
- WSTF Industrial Area

0 2,500 5,000 7,500 Feet

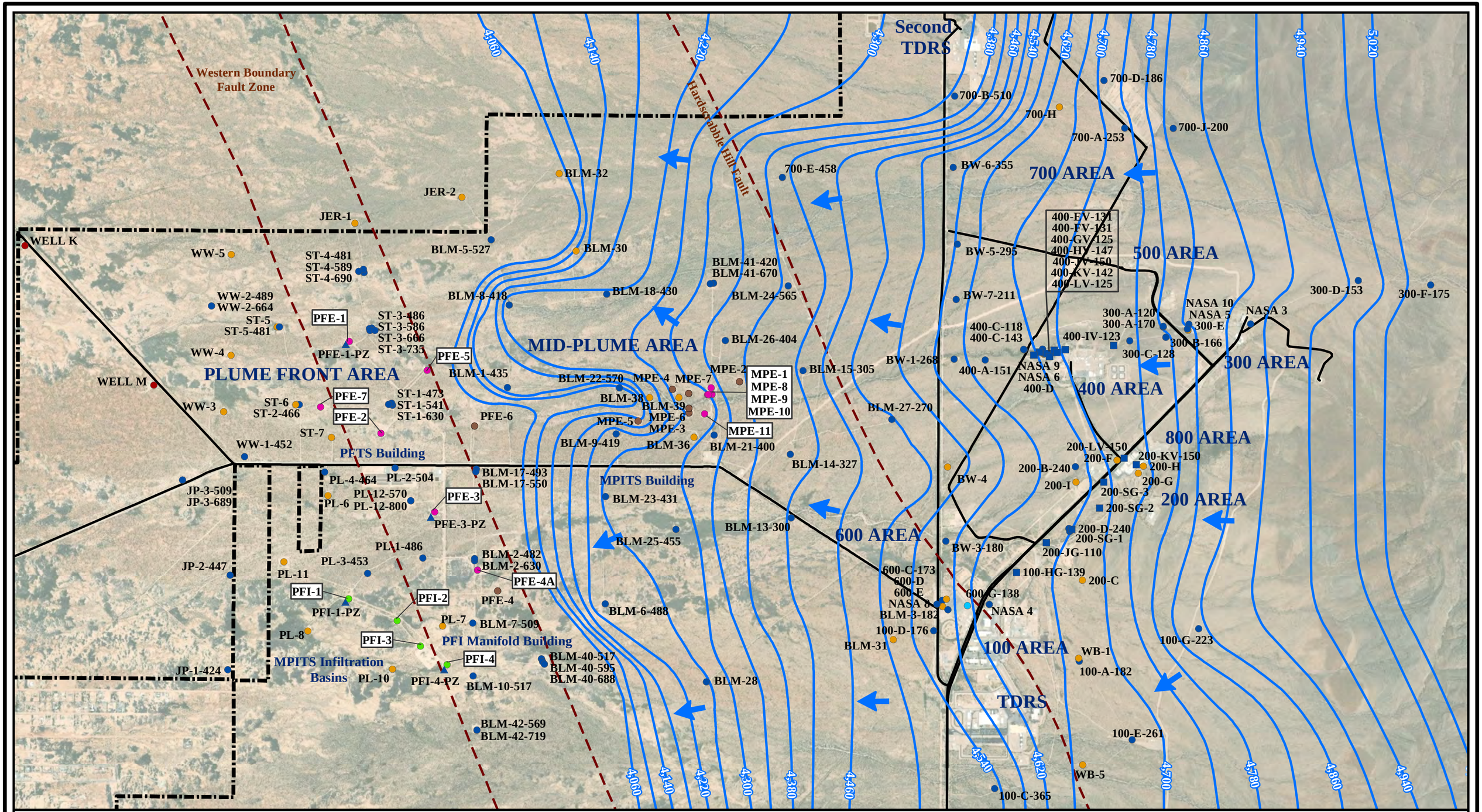
0 0.5 1 1.5 Miles

N W E S

February 2022

Figure 4.1 Groundwater Elevations and Generalized Flow Directions for the Reporting Period

(SEE NEXT PAGE)



Site-Wide Groundwater Elevations for Fourth Quarter 2021

- 4064 Groundwater Elevation Contour (feet)
- Groundwater Flow Direction
- Multiport
- Conventional Well
- Perched Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Main Road
- WSTF Boundary
- Faults

0 2,000 4,000 6,000 Feet

Contour Interval = 40 Feet

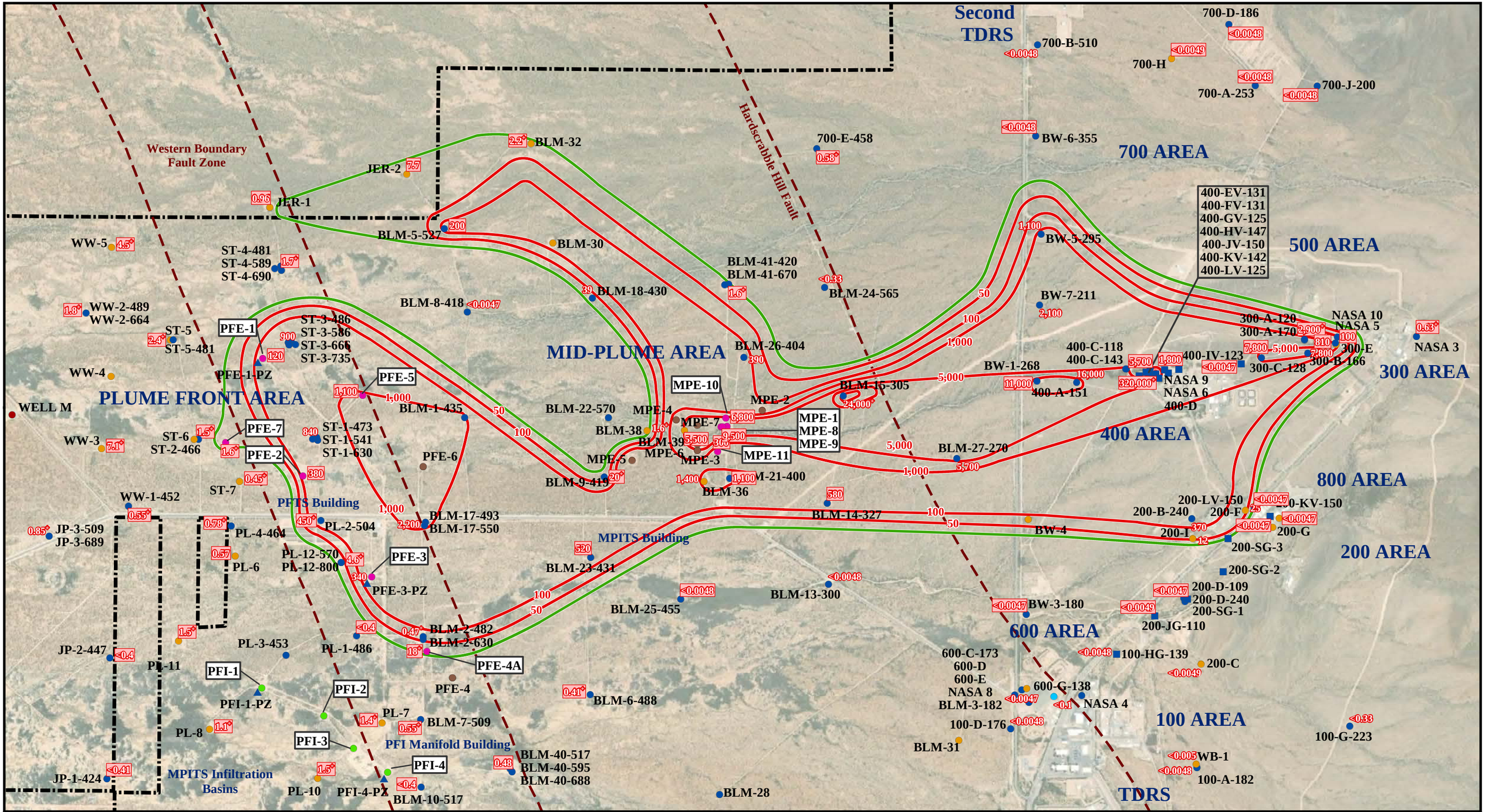
N W E S

February 2022

Figure 4.2 Site-Wide N-Nitrosodimethylamine (NDMA) Concentrations for the Reporting Period

(SEE NEXT PAGE)

NDMA Maximum Concentrations in Groundwater for Fourth Quarter 2021



Note:
Method 607 NDMA results corrected for extraction efficiency.
* - The analytical batch LCS_01MAR21 laboratory control sample recoveries of NDMA (1.4%) were outside laboratory control limits; corrected detections were excluded for 3Q2021.
\+ - Data value has a QA flag. See Appendix A.2 for specific flags.
50 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- Non-detect values displayed "<Detection Limit"
- No value indicates the well has not been sampled in the last year.

February 2022

Figure 4.3 Site-Wide Trichloroethene (TCE) Concentrations for the Reporting Period

(SEE NEXT PAGE)

TCE Maximum Concentrations in Groundwater for Fourth Quarter 2021

Western Boundary Fault Zone

Hardscrabble Hill Fault

Second TDRS

700 AREA

500 AREA

300 AREA

400 AREA

800 AREA

200 AREA

600 AREA

100 AREA

TDRS

PLUME FRONT AREA

MID-PLUME AREA

PFTS Building

MPITS Building

PFI Manifold Building

MPITS Infiltration Basins

WELL M

WW-3 <0.2

WW-4

WW-5 <0.2

WW-2-489 <0.2

WW-2-664

WW-1-452 <0.2

JP-3-509 <0.2

JP-3-689

JP-2-447 <0.2

JP-1-424 <0.2

JER-1 <0.2

JER-2 <0.2

ST-4-481

ST-4-589 <0.2

ST-4-690

ST-5 <0.2

ST-1-5-481

ST-6 0.39+

ST-2-466

ST-7 0.76

PL-4-464 0.40+

PL-6 <0.2

PL-8 <0.2

PL-10 <0.2

PL-11 <0.2

PL-12-570 13

PL-12-800

PL-1-486

PL-2-504 72

PL-3-453

PL-7 <0.2

BLM-32 <0.2

BLM-5-527 25

BLM-30

BLM-8-418 <0.2

BLM-18-430 3.9

BLM-41-420

BLM-41-670 <0.2

BLM-24-565 <0.2

BLM-26-404 20

BLM-15-305 1.7

BLM-1-435

BLM-22-570 <0.2

BLM-38 <0.2

BLM-39 180

BLM-9-419 2.1

BLM-17-493 75

BLM-17-550

BLM-23-431 53+

BLM-25-455 <0.2

BLM-13-300 <0.2

BLM-14-327 75

BLM-21-400 48

BLM-36 65

BLM-27-270 1.1

BLM-40-517

BLM-40-595

BLM-40-688

BLM-10-517

BLM-28

BLM-6-488 2.2

BLM-2-482 0.26+

BLM-2-630 1.2

PFE-1 5.9

PFE-1-PZ

PFE-2 67

PFE-3 44

PFE-3-PZ

PFE-4

PFE-4A

PFE-5 74

PFE-6

PFE-7 4.9

PFI-1

PFI-1-PZ

PFI-2

PFI-3

PFI-4

PFI-4-PZ <0.2

ST-3-486

ST-3-586

ST-3-666 24

ST-3-735

ST-1-473 190

ST-1-541

ST-1-630

MPE-10

MPE-4 61

MPE-7 87

MPE-5

MPE-6 100

MPE-3

MPE-2

MPE-1

MPE-8

MPE-9

MPE-11

700-B-510 <0.2

700-H <0.2

700-D-186 0.34+

700-A-253 <0.2

700-J-200 <0.2

700-E-458 <0.2

BW-6-355 <0.2

BW-5-295 0.36+

BW-7-211 1.3

400-EV-131

400-FV-131

400-GV-125

400-HV-147

400-JV-150

400-KV-142

400-LV-125

BW-1-268 1.1

400-A-151

400-C-118

400-C-143 1.2

400-IV-123 1.0

NASA 9

NASA 6

400-D

300-A-120

300-A-170 0.34+

300-E <0.2

300-B-166 <0.2

300-C-128 2.1

NASA 10

NASA 5

NASA 3 <0.2

BW-4

200-B-240

200-F 61

200-I 26

200-LV-150 24

200-KV-150 2.9

200-H

200-G <0.2

200-SG-3

200-SG-2

200-D-109

200-D-240 110

200-SG-1

200-JG-110 24

BW-3-180 <0.2

600-C-173

600-D

600-E

NASA 8

BLM-3-182

100-D-176 2.5

600-G-138 2.8

NASA 4 0.33+

100-HG-139 <0.2

200-C 2.6

BLM-31

100-G-223 <0.2

WB-1 0.63+

100-A-182 <0.2

TCE Maximum Concentrations in Groundwater for Fourth Quarter 2021

10 Equiconcentration Line (ug/L)

TCE Cleanup Level (4.9 ug/L)

Multiport Well

Conventional Well

Perched Well

MSVGM Well

Extraction Well

Injection Well

Piezometer

Exploration Well

Production Well

Fault

WSTF Boundary

0 4,000 8,000 Feet

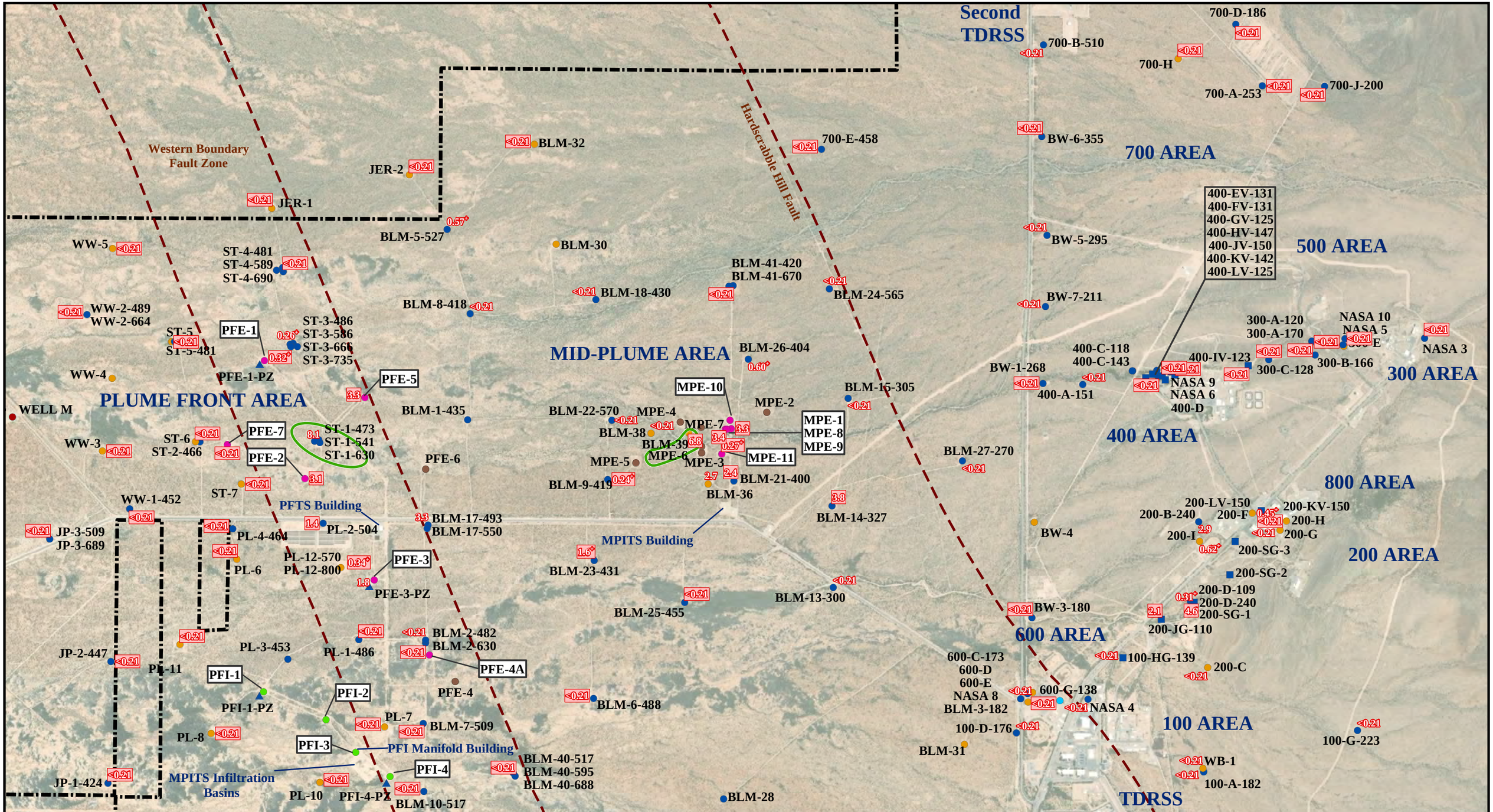
N W E S

Note:
+ - Data value has a QA flag. See Appendix A.2 for specific flags.
50 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- Non-detect values displayed "<Detection Limit"
- No value indicates the well has not been sampled in the last year.

February 2022

Figure 4.4 Site-Wide Tetrachloroethene (PCE) Concentrations for the Reporting Period

(SEE NEXT PAGE)



PCE Maximum Concentrations in Groundwater for Fourth Quarter 2021

PCE Cleanup Level (5 ug/L)

Multiport Well

Conventional Well

Perched Well

MSVGM Well

Extraction Well

Injection Well

Piezometer

Exploration Well

Production Well

Fault

WSTF Boundary

0 4,000 8,000 Feet

Note:
+ - Data value has a QA flag. See Appendix A.2 for specific flags.
ND - Non-detect values <0.21 ug/L
3.0 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- No value indicates the well has not been sampled in the last year.

N W E S

February 2022

Figure 4.5 Site-Wide Freon 11 Concentrations for the Reporting Period

(SEE NEXT PAGE)

Freon 11 Maximum Concentrations in Groundwater for Fourth Quarter 2021

Multiport Well
Conventional Well
Perched Well
MSVGM Well
Extraction Well
Injection Well
Piezometer
Exploration Well
Production Well
Fault
WSTF Boundary
Equiconcentration Line (ug/L)

0 4,000 8,000 Feet

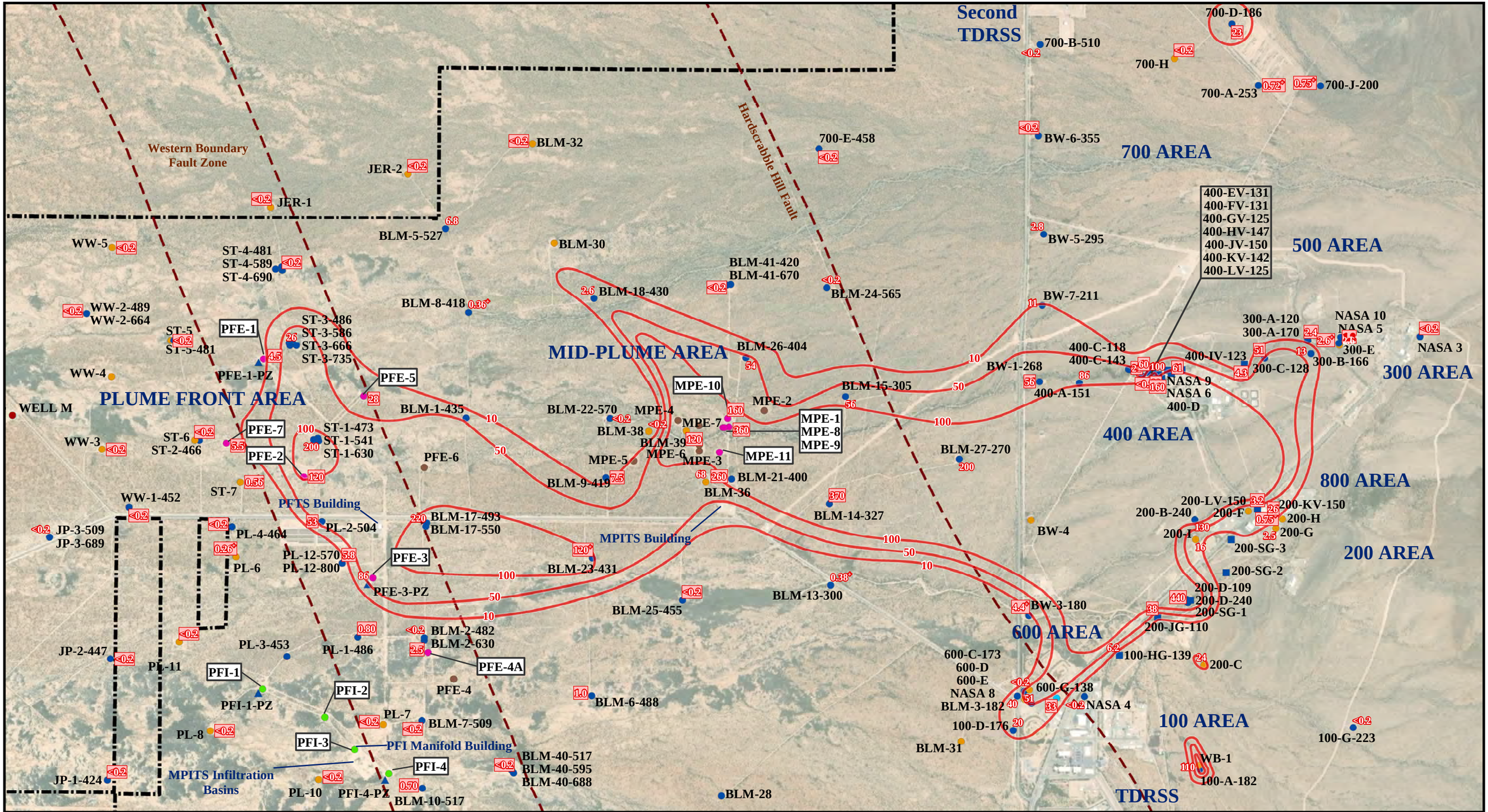
Note:
Freon 11 concentations are below the EPA RSL (5,200 ug/L).
+ - Data value has a QA flag. See Appendix A.2 for specific flags.
ND - Non-detect values <0.24 ug/L
8.0 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- No value indicates the well has not been sampled in the last year.

N W E S

February 2022

Figure 4.6 Site-Wide Freon 113 Concentrations for the Reporting Period

(SEE NEXT PAGE



Freon 113 Maximum Concentrations in Groundwater for Fourth Quarter 2021

Multiport
Conventional Well
Perched Well
MSVGM Well
Extraction Well
Injection Well
Piezometer
Exploration Well
Production Well
Fault
WSTF Boundary
10 Equiconcentration Line (ug/L)

0 4,000 8,000 Feet

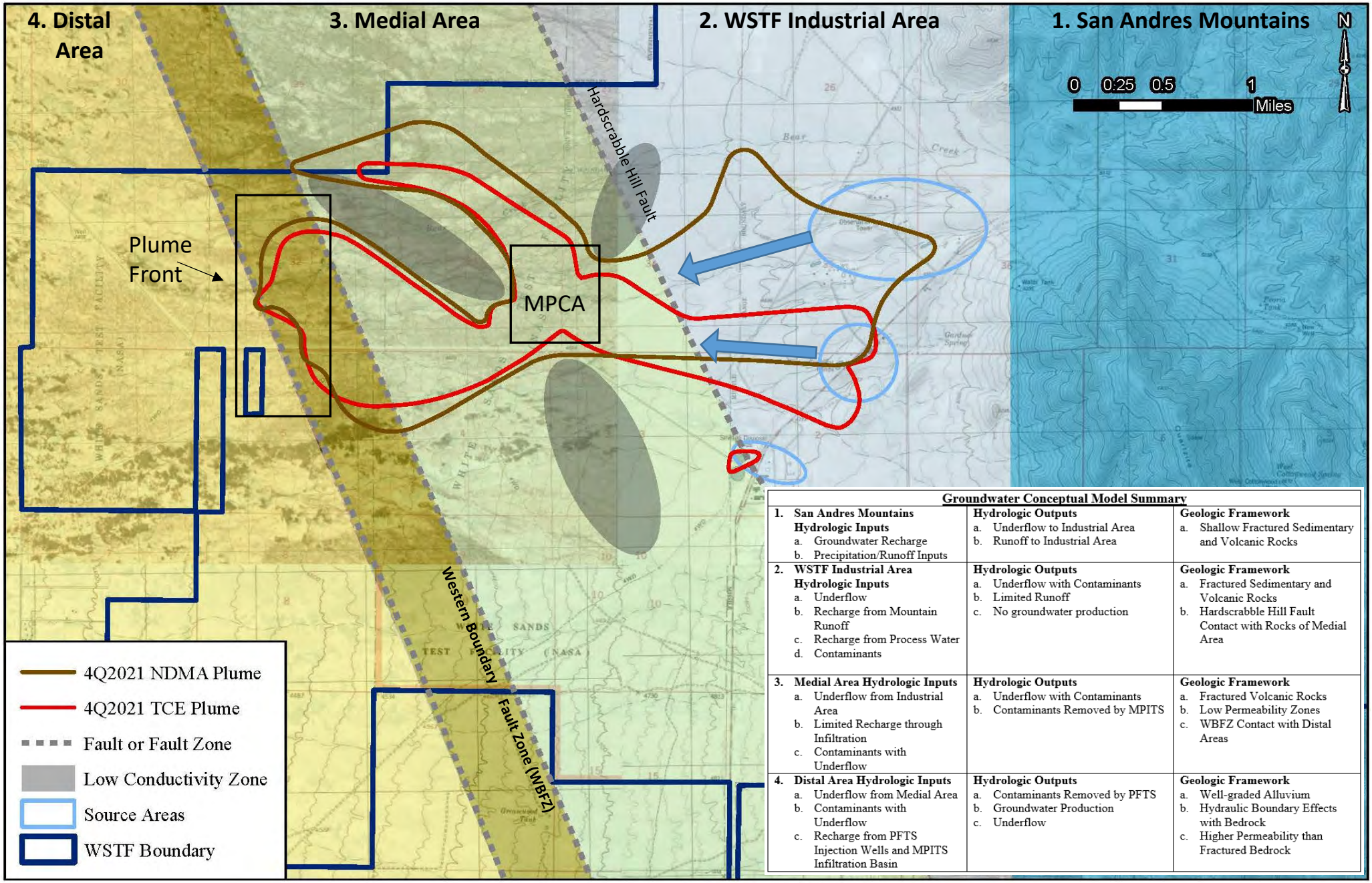
N W E S

Note:
Freon 113 concentations are below the EPA RSL (10,000 ug/L).
+ Data value has a QA flag. See Appendix A.2 for specific flags.
ND Non-detect values <0.20 ug/L
80 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- No value indicates the well has not been sampled in the last year.

February 2022

Figure 7.1 **WSTF Conceptual Model**

(SEE NEXT PAGE)



Groundwater Conceptual Model Summary

1. San Andres Mountains **Hydrologic Inputs** a. Groundwater Recharge b. Precipitation/Runoff Inputs	**Hydrologic Outputs** a. Underflow to Industrial Area b. Runoff to Industrial Area	**Geologic Framework** a. Shallow Fractured Sedimentary and Volcanic Rocks
2. WSTF Industrial Area **Hydrologic Inputs** a. Underflow b. Recharge from Mountain Runoff c. Recharge from Process Water d. Contaminants	**Hydrologic Outputs** a. Underflow with Contaminants b. Limited Runoff c. No groundwater production	**Geologic Framework** a. Fractured Sedimentary and Volcanic Rocks b. Hardscrabble Hill Fault Contact with Rocks of Medial Area
3. Medial Area Hydrologic Inputs a. Underflow from Industrial Area b. Limited Recharge through Infiltration c. Contaminants with Underflow	**Hydrologic Outputs** a. Underflow with Contaminants b. Contaminants Removed by MPITS	**Geologic Framework** a. Fractured Volcanic Rocks b. Low Permeability Zones c. WBFZ Contact with Distal Areas
4. Distal Area Hydrologic Inputs a. Underflow from Medial Area b. Contaminants with Underflow c. Recharge from PFTS Injection Wells and MPITS Infiltration Basin	**Hydrologic Outputs** a. Contaminants Removed by PFTS b. Groundwater Production c. Underflow	**Geologic Framework** a. Well-graded Alluvium b. Hydraulic Boundary Effects with Bedrock c. Higher Permeability than Fractured Bedrock

February 2022

Figure 7.2 **PFTS Target Capture Zone**

(SEE NEXT PAGE)

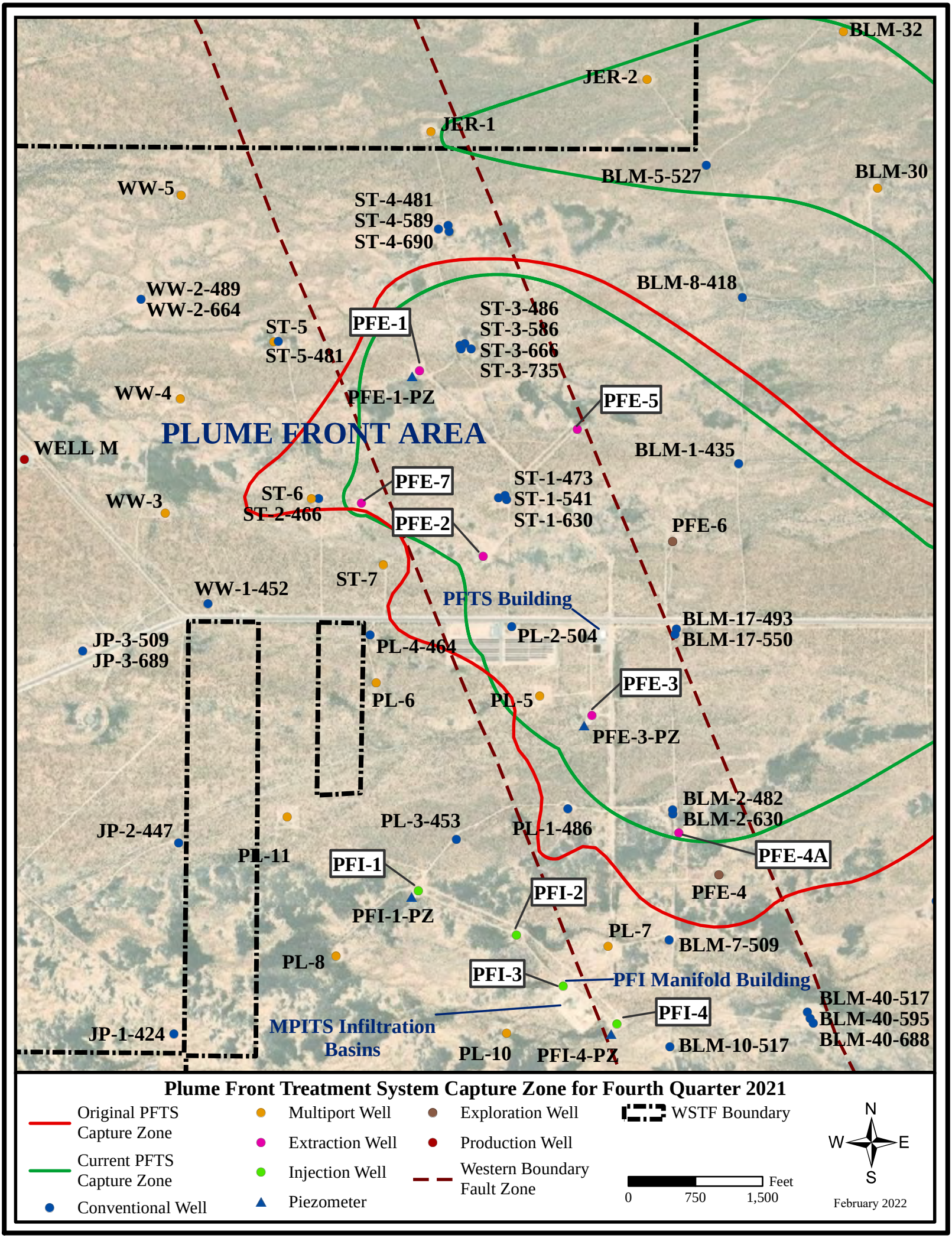
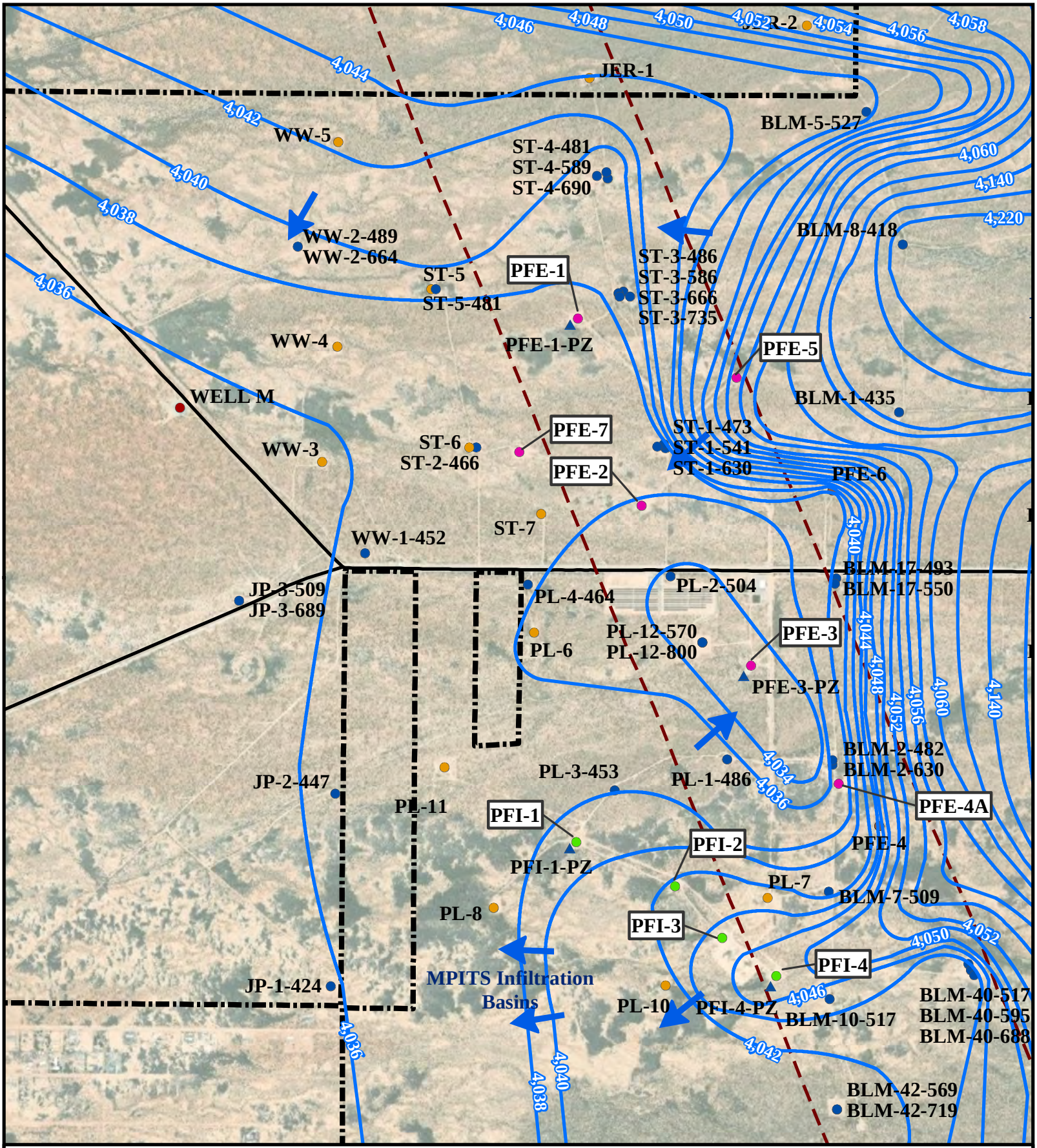

BLM-32
JER-2
JER-1
BLM-5-527
BLM-30
WW-5
ST-4-481
ST-4-589
ST-4-690
WW-2-489
WW-2-664
BLM-8-418
ST-5
ST-5-481
PFE-1
ST-3-486
ST-3-586
ST-3-666
ST-3-735
WW-4
PFE-1-PZ
PFE-5
PLUME FRONT AREA
WELL M
BLM-1-435
PFE-7
ST-6
ST-2-466
WW-3
ST-1-473
ST-1-541
ST-1-630
PFE-2
PFE-6
ST-7
WW-1-452
PFTS Building
BLM-17-493
BLM-17-550
PL-2-504
JP-3-509
JP-3-689
PL-4-464
PL-6
PL-5
PFE-3
PFE-3-PZ
BLM-2-482
BLM-2-630
JP-2-447
PL-3-453
PL-1-486
PL-11
PFI-1
PFE-4A
PFE-4
PFI-2
PFI-1-PZ
PL-7
BLM-7-509
PL-8
PFI-3
PFI Manifold Building
BLM-40-517
BLM-40-595
BLM-40-688
PFI-4
JP-1-424
MPITS Infiltration Basins
PL-10
PFI-4-PZ
BLM-10-517
Plume Front Treatment System Capture Zone for Fourth Quarter 2021
Original PFTS Capture Zone
Current PFTS Capture Zone
Conventional Well
Multiport Well
Extraction Well
Injection Well
Piezometer
Exploration Well
Production Well
Western Boundary Fault Zone
WSTF Boundary
Feet
0
750
1,500
N
W
E
S
February 2022

Figure 7.3 Plume Front Groundwater Elevations for the Reporting Period

(SEE NEXT PAGE)



Plume Front Groundwater Elevations for Fourth Quarter 2021

Groundwater Elevation Contour (feet) — 4060

Groundwater Flow Direction

Multiport
Conventional Well
Extraction Well
Injection Well

Piezometer
Exploration Well
Production Well

Western Boundary Fault Zone
WSTF Boundary

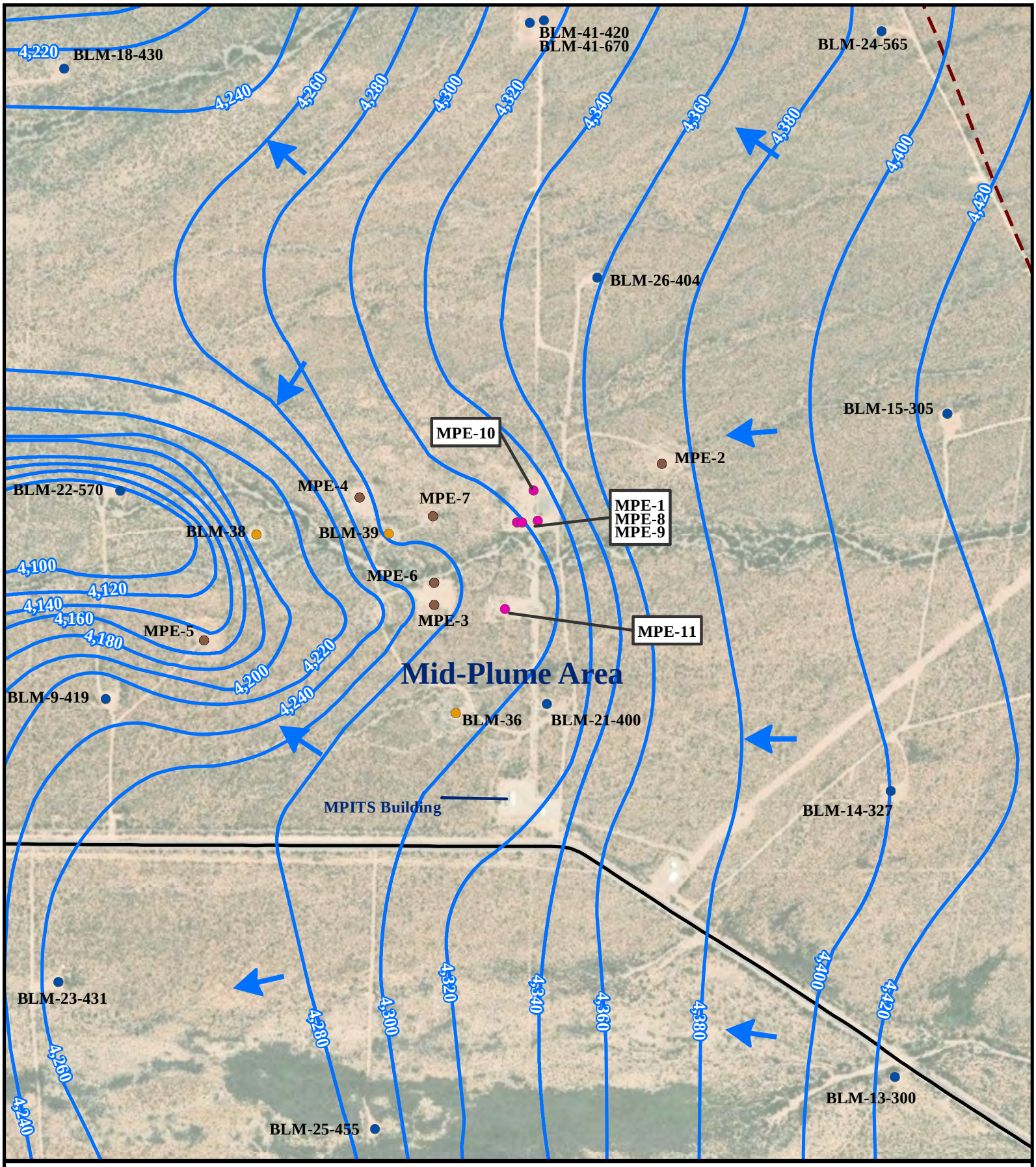
N
W
E
S

0 500 1,000 2,000 Feet

February 2022

Figure 7.4 Mid-plume Groundwater Elevations for the Reporting Period

(SEE NEXT PAGE)



Mid-plume Groundwater Elevations for Fourth Quarter 2021

- 4,300 Groundwater Elevation Contour (feet)
- Groundwater Flow Direction
- Conventional Well
- Multiport Well
- Extraction Well
- Exploration Well
- Faults

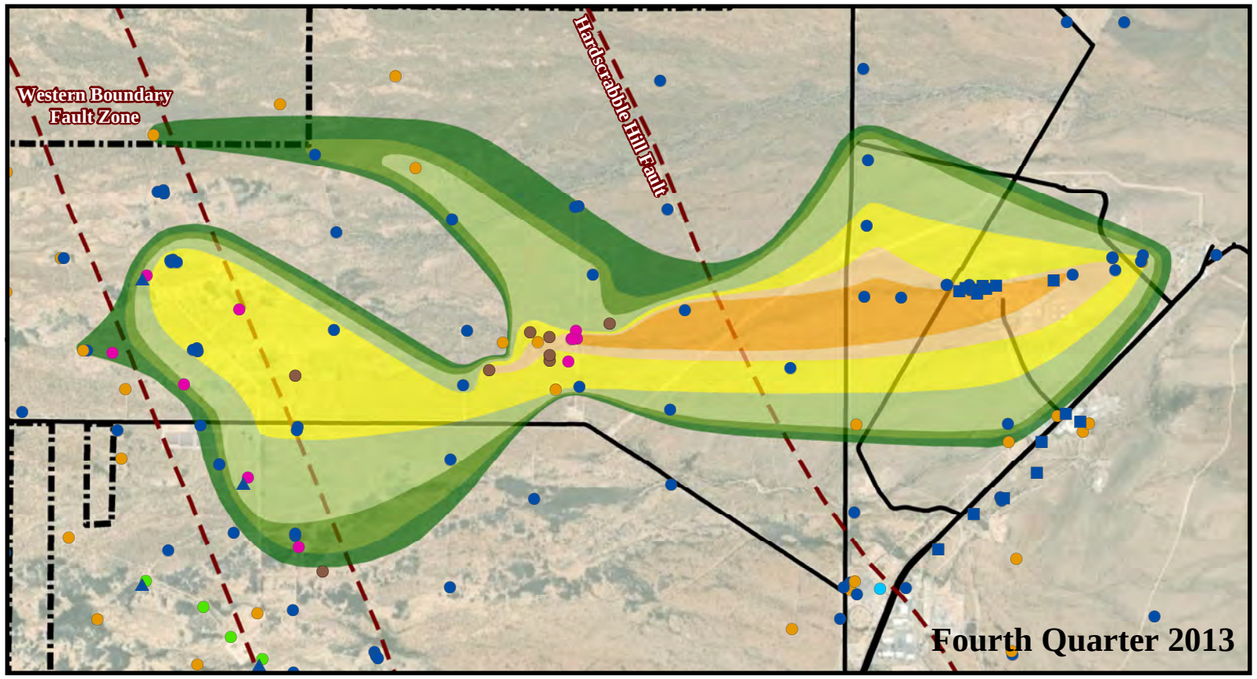
N W E S

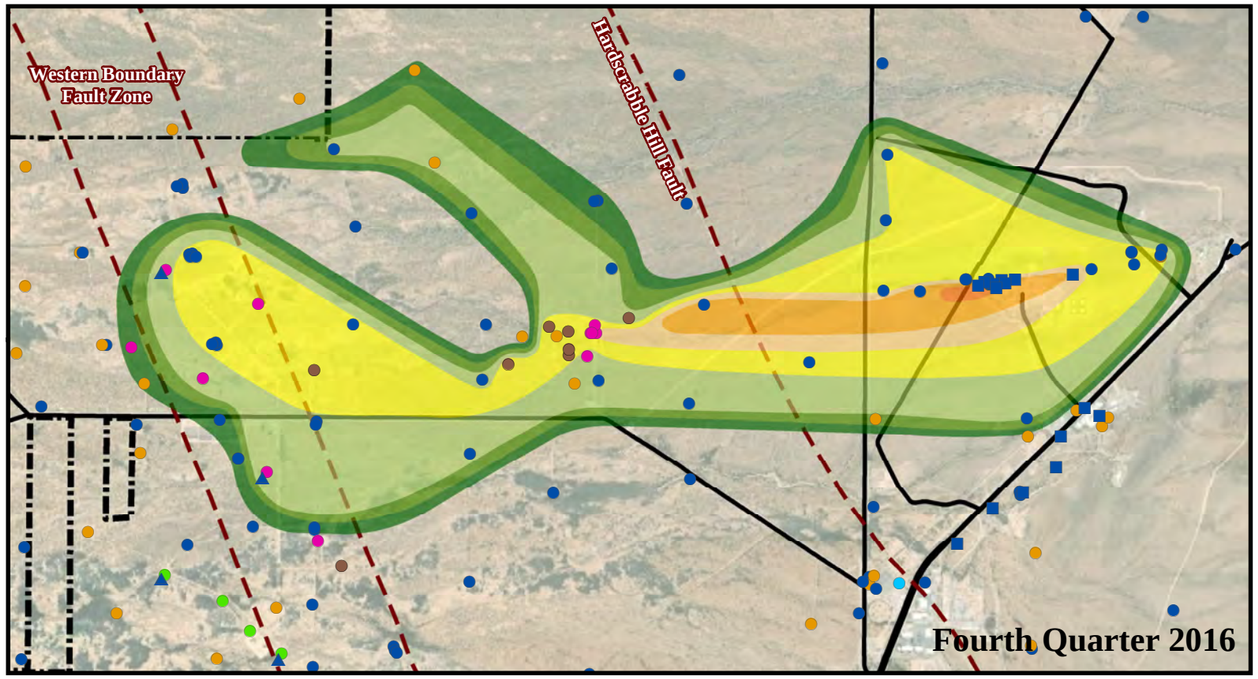
0 625 1,250 Feet

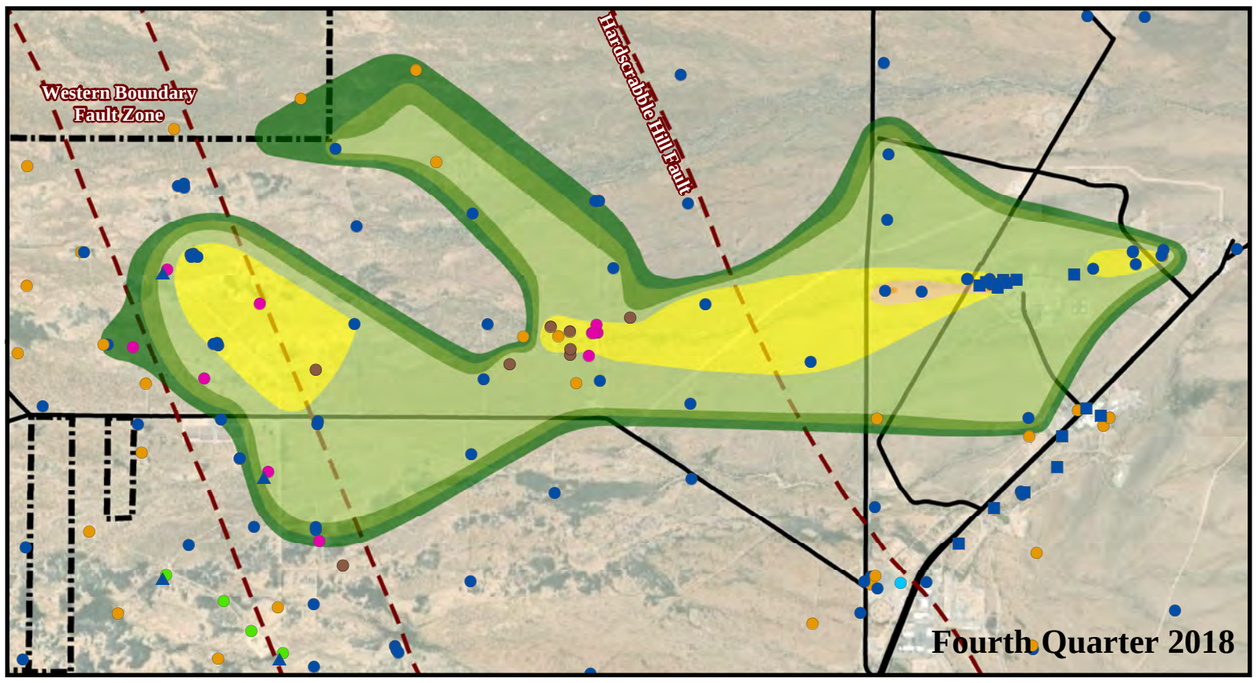
February 2022

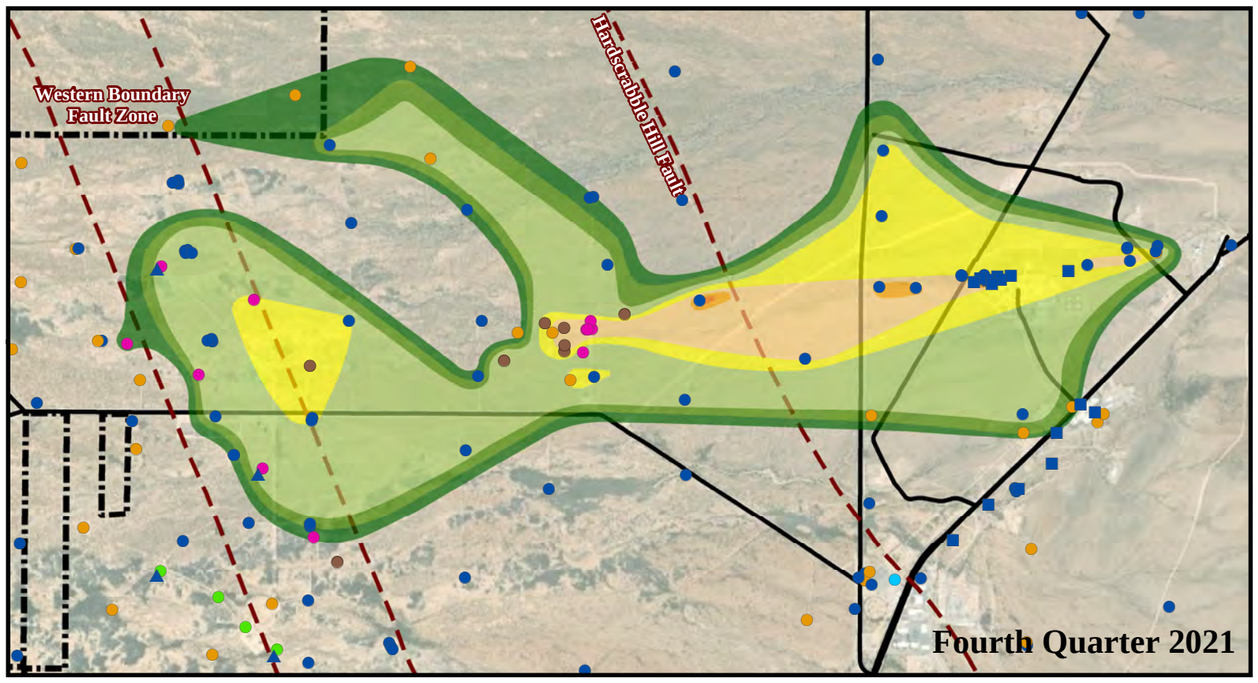
Figure 7.5 **NDMA Delineation in Groundwater**

(SEE NEXT PAGE)









NDMA Plume Delineation in Groundwater

- Multiport
- Conventional Well
- Perched Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Main Road
- Fault
- WSTF Boundary

NDMA Concentration (ng/L)

1.1 | 50 | 100 | 1,000 | 5,000 | 10,000 | 20,000 | 50,000

0 0.375 0.75 1.5 Miles

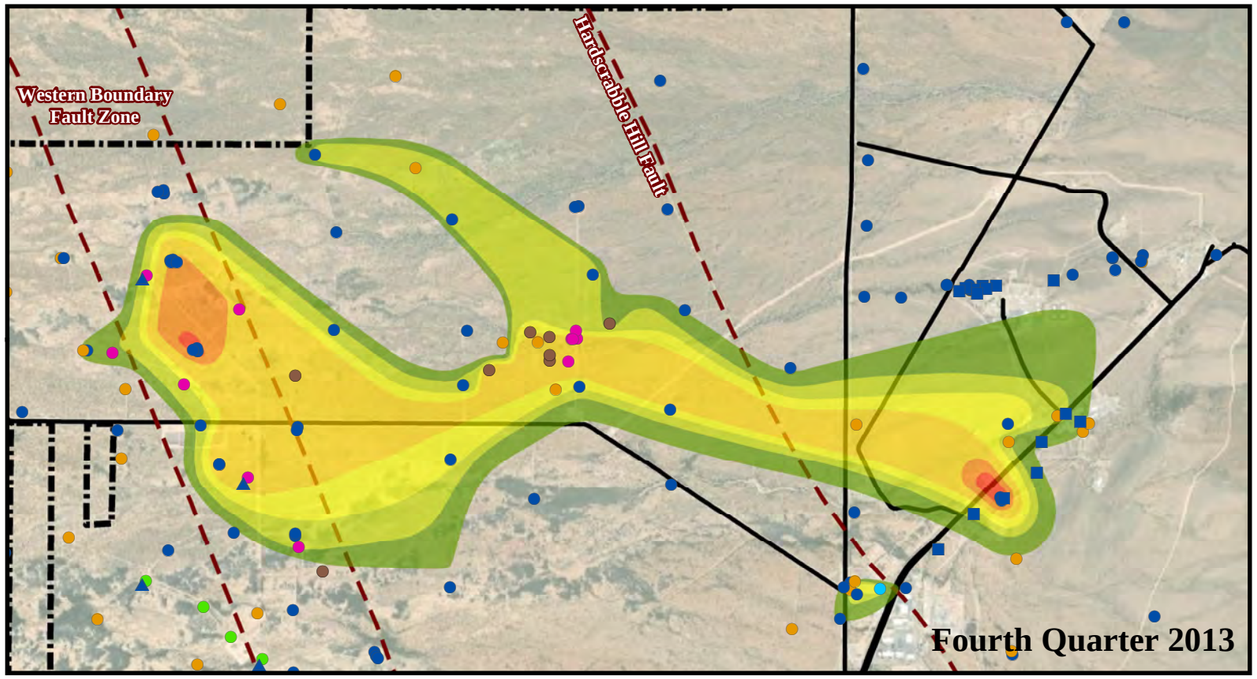
0 4,000 8,000 Feet

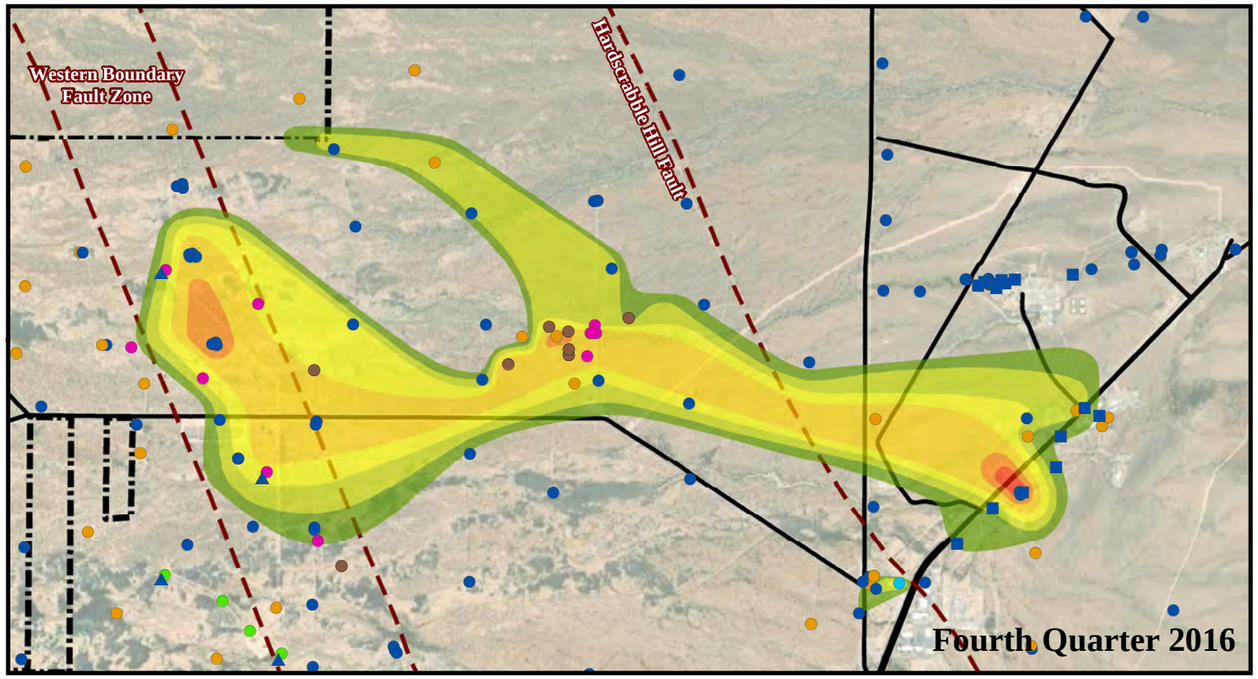
N W E S

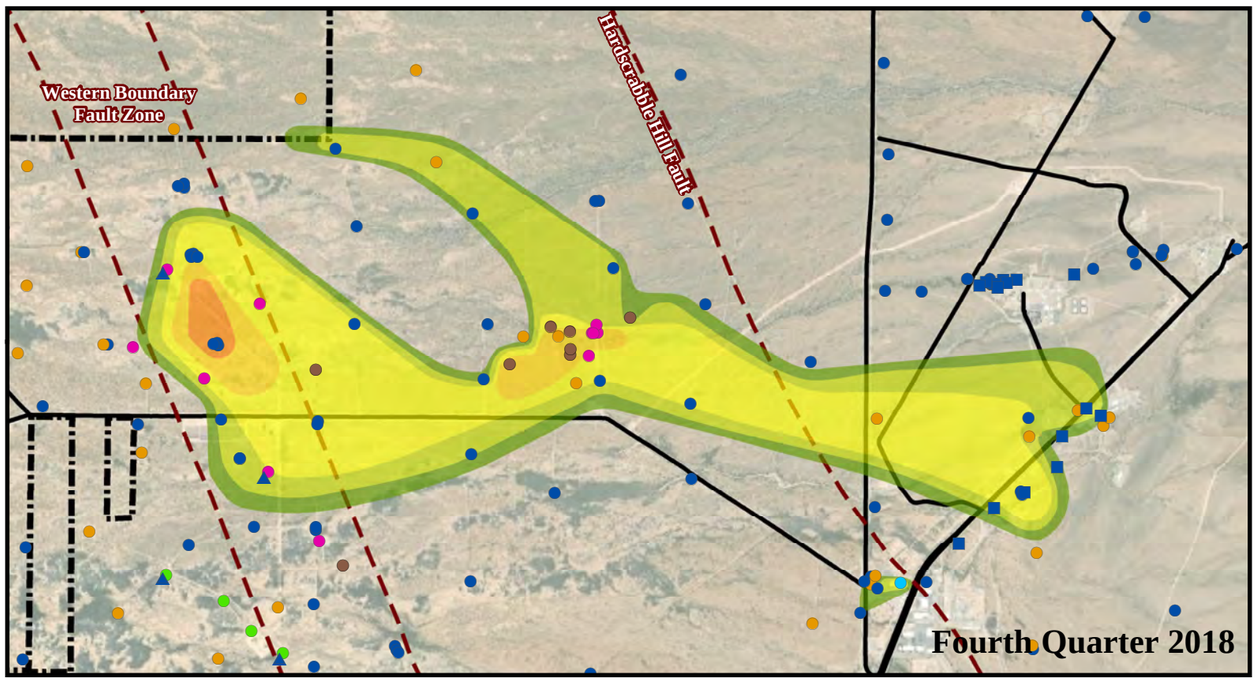
February 2022

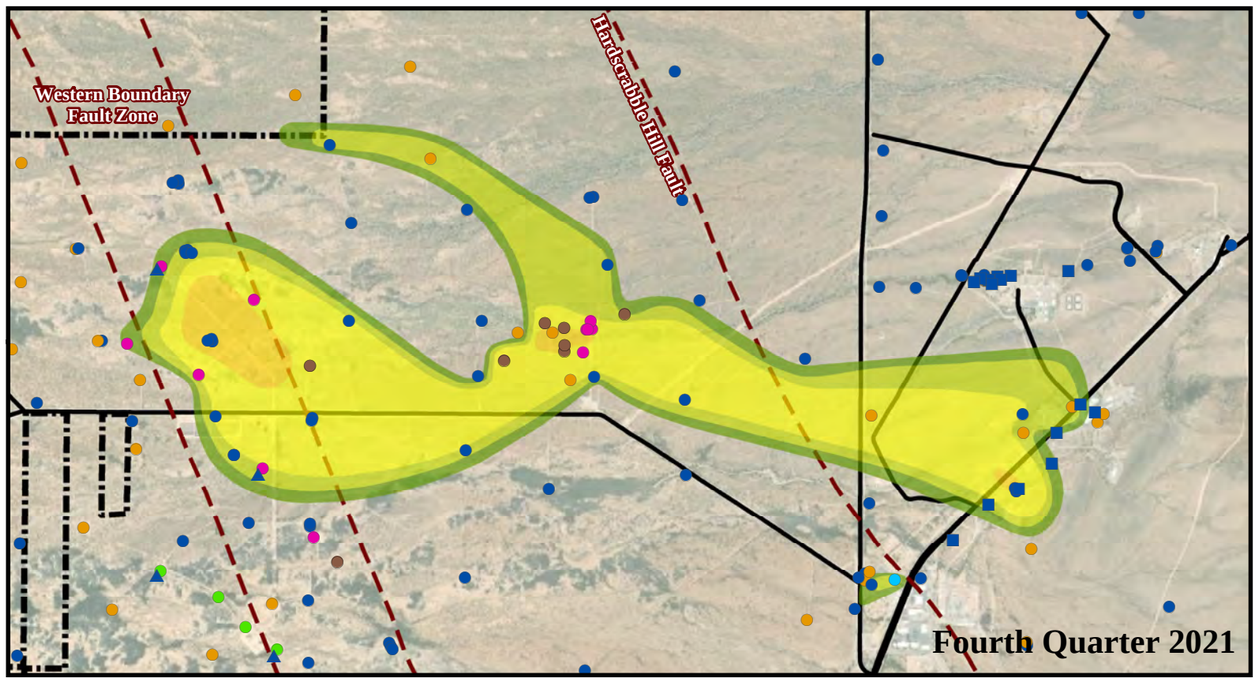
Figure 7.6 Trichloroethene (TCE) Delineation in Groundwater

(SEE NEXT PAGE)









TCE Plume Delineation in Groundwater

Multiport
Conventional Well
Perched Well
MSVGM Well
Extraction Well
Injection Well
Piezometer
Exploration Well
Production Well
Main Road
Fault
WSTF Boundary

TCE Concentration (ug/L)
4.9 10 50 100 200 300

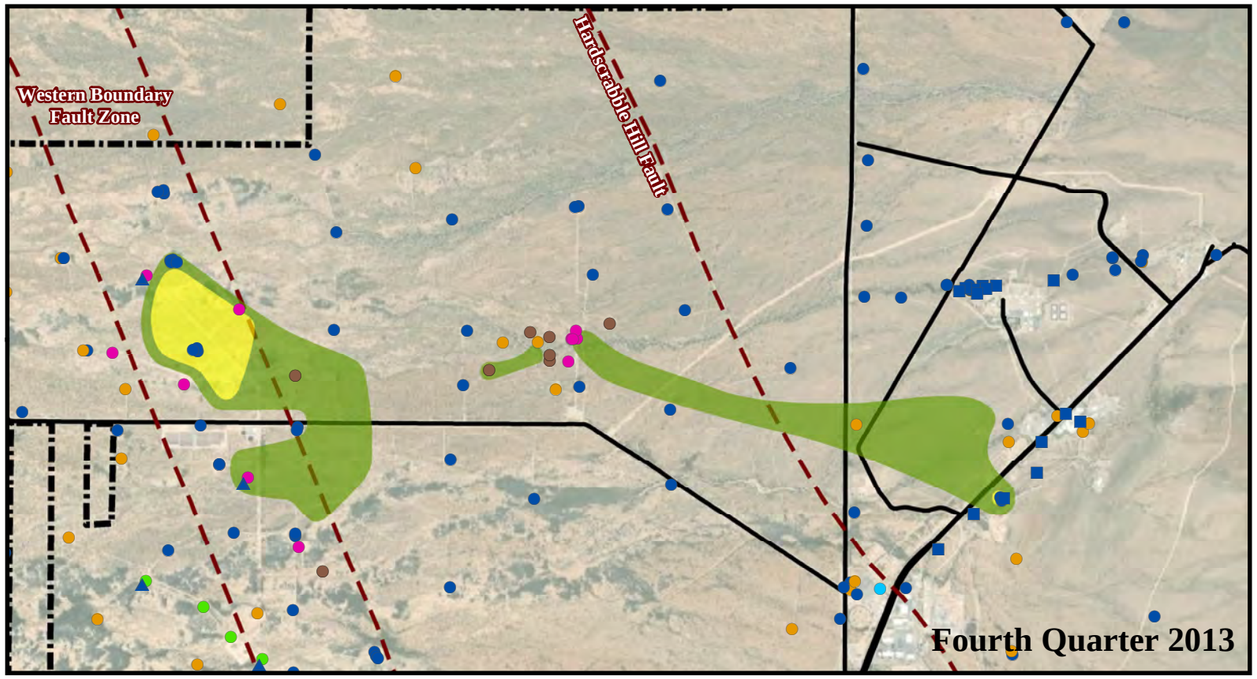
0 0.375 0.75 1.5 Miles
0 4,000 8,000 Feet

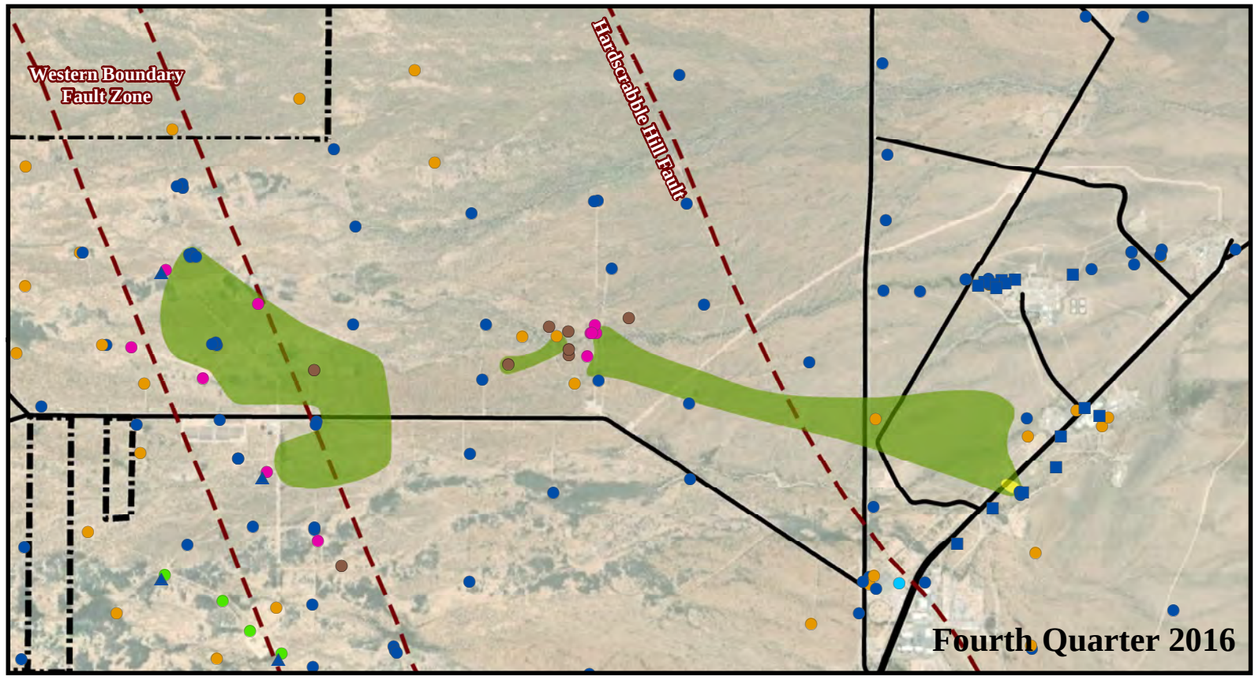
N
W E
S

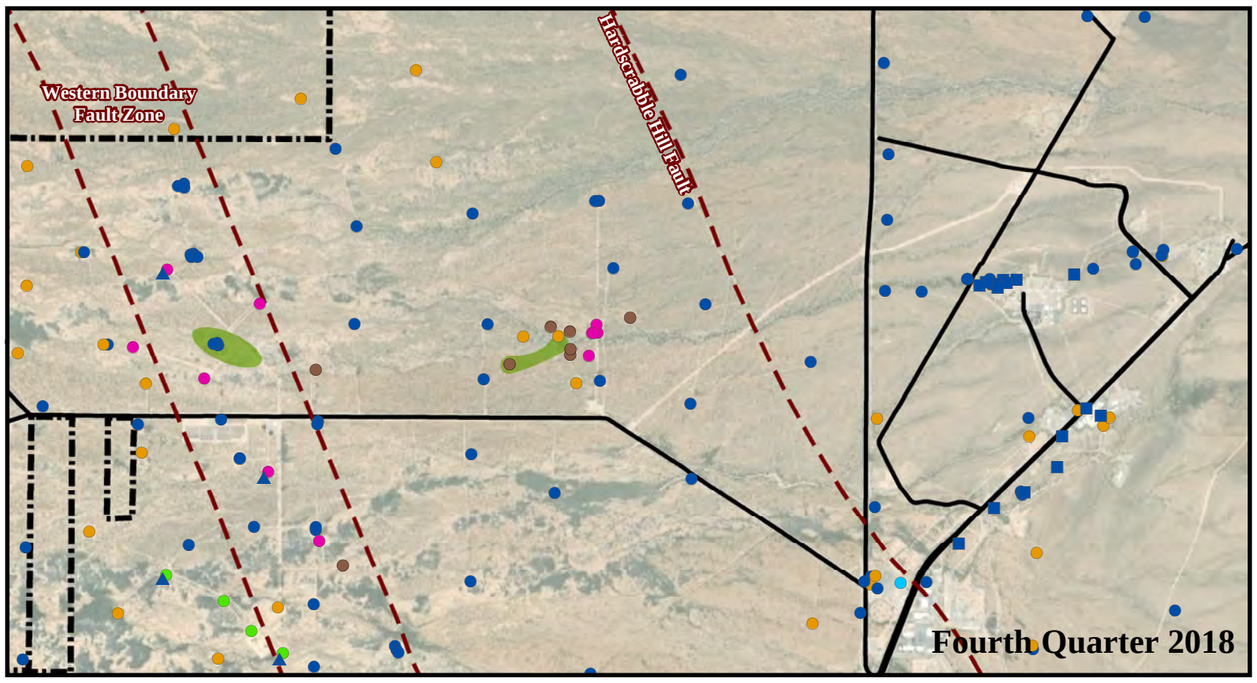
February 2022

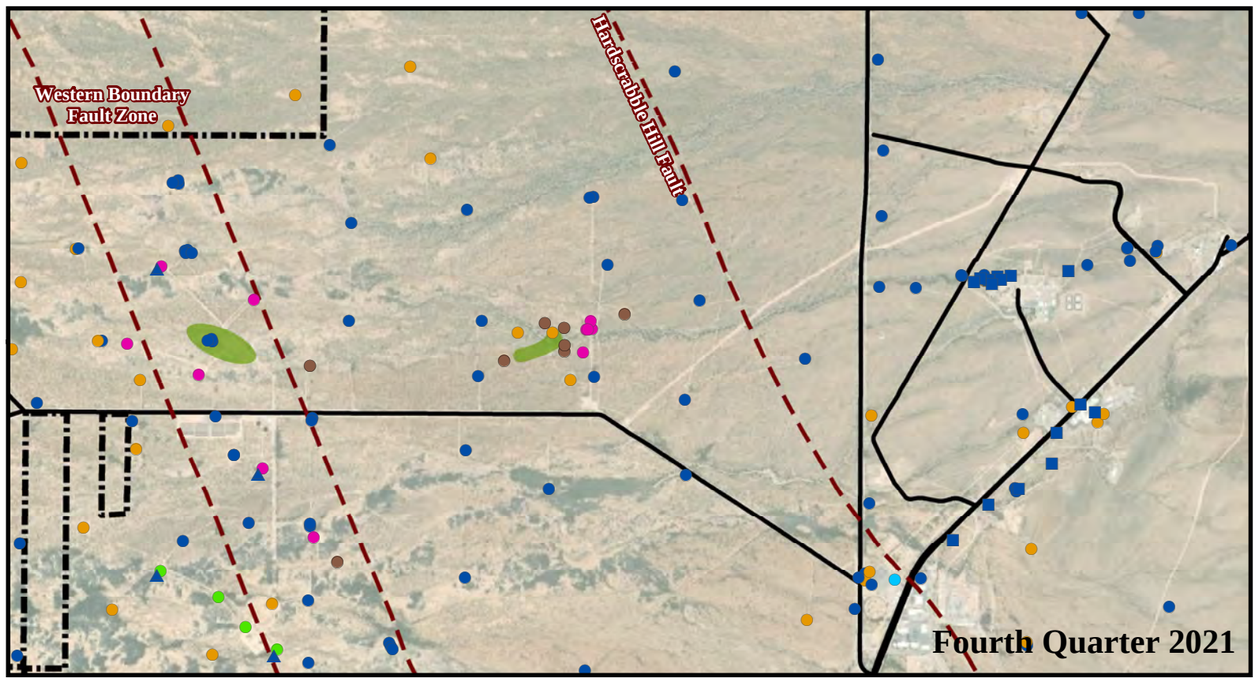
Figure 7.7 Tetrachloroethene (PCE) Delineation in Groundwater

(SEE NEXT PAGE)









PCE Plume Delineation in Groundwater

- Multiport
- Conventional Well
- Perched Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Main Road
- Fault
- WSTF Boundary

PCE Concentration (ug/L)

5 10

0 0.375 0.75 1.5 Miles

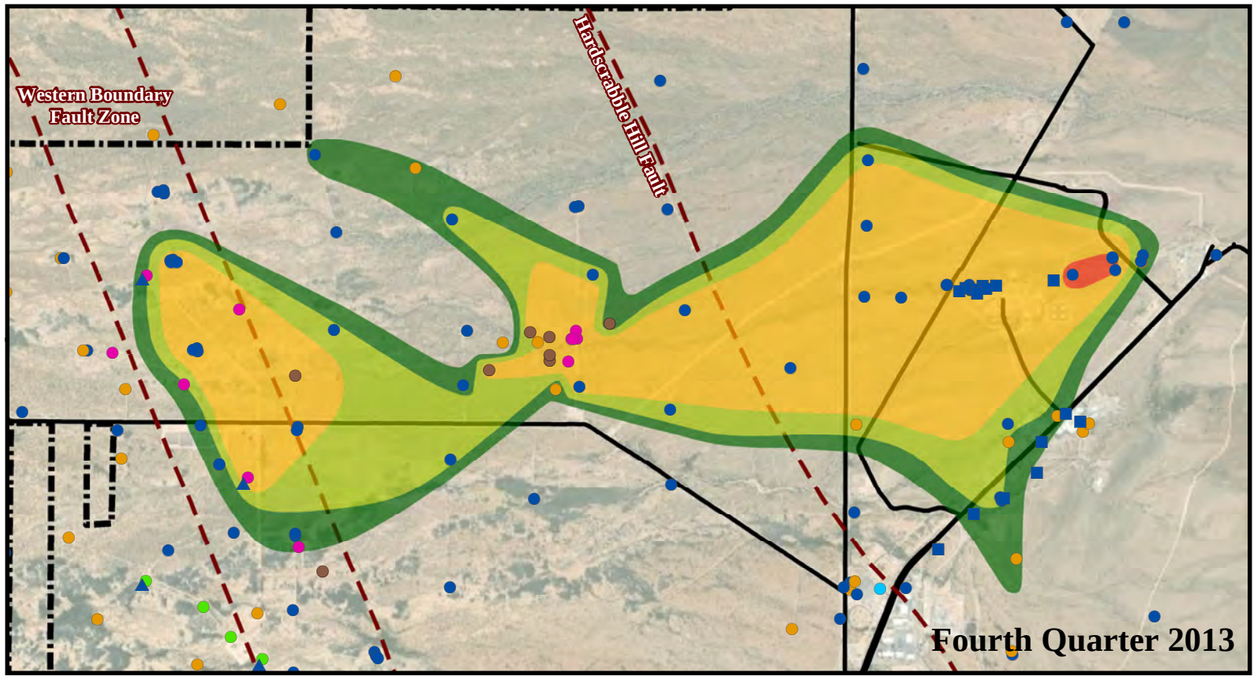
0 4,000 8,000 Feet

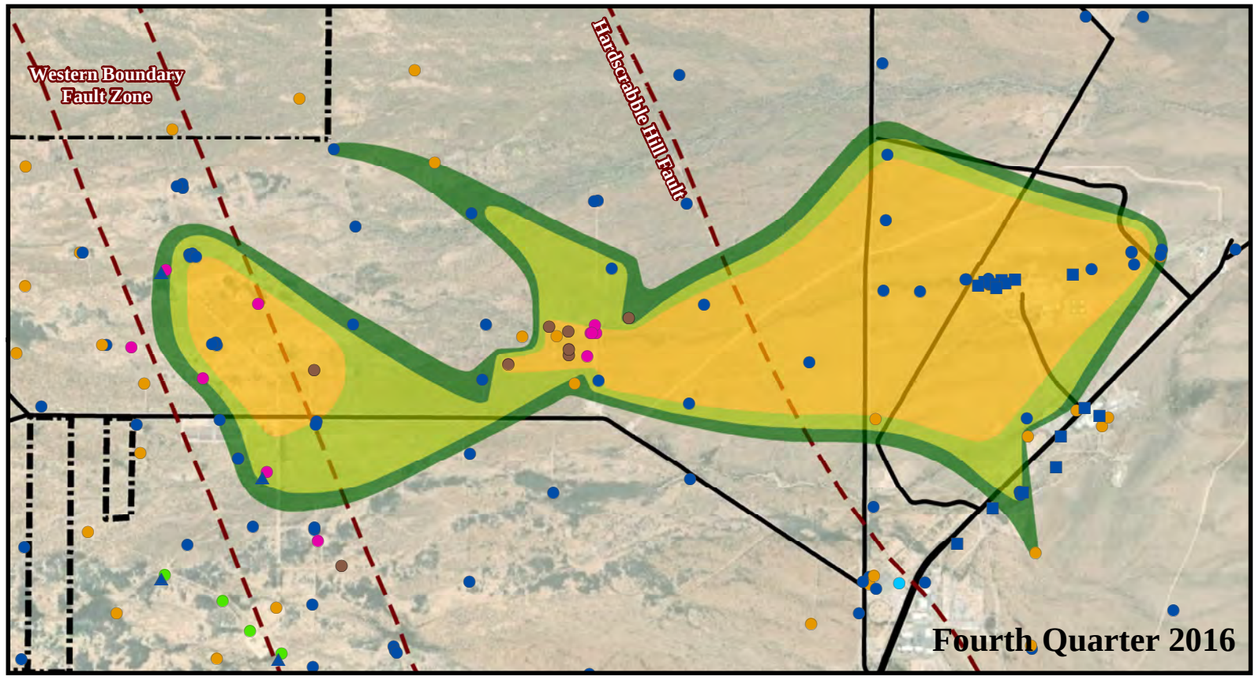
N W E S

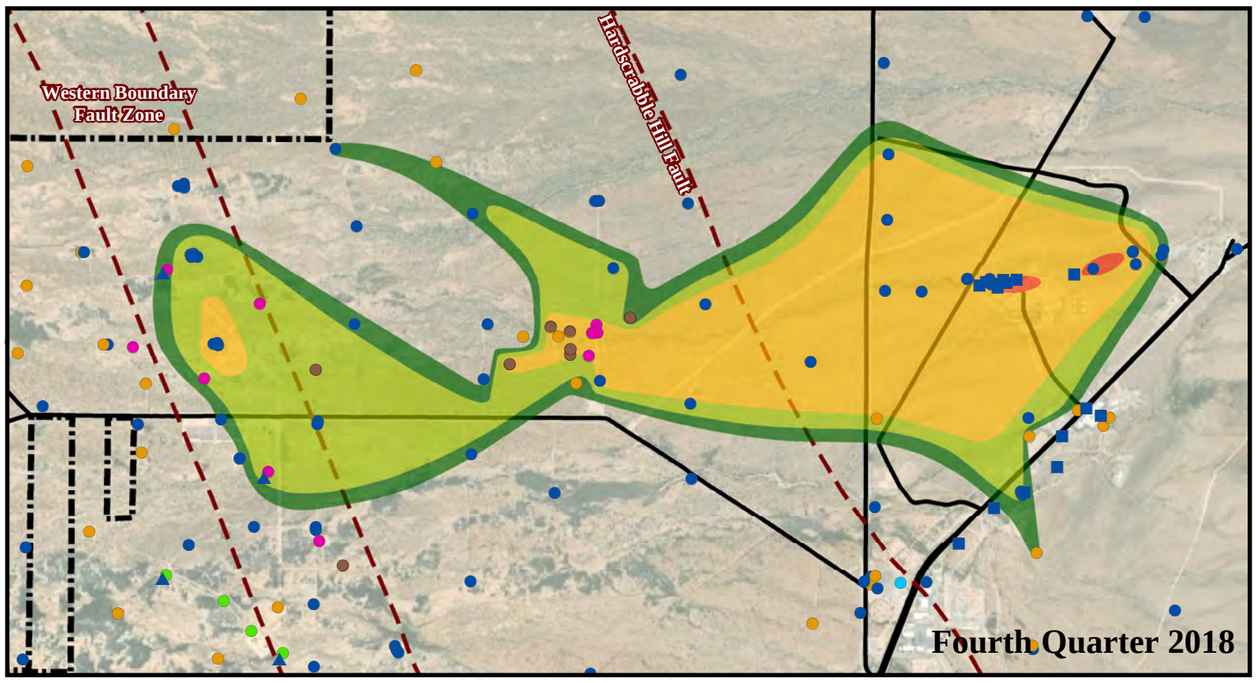
February 2022

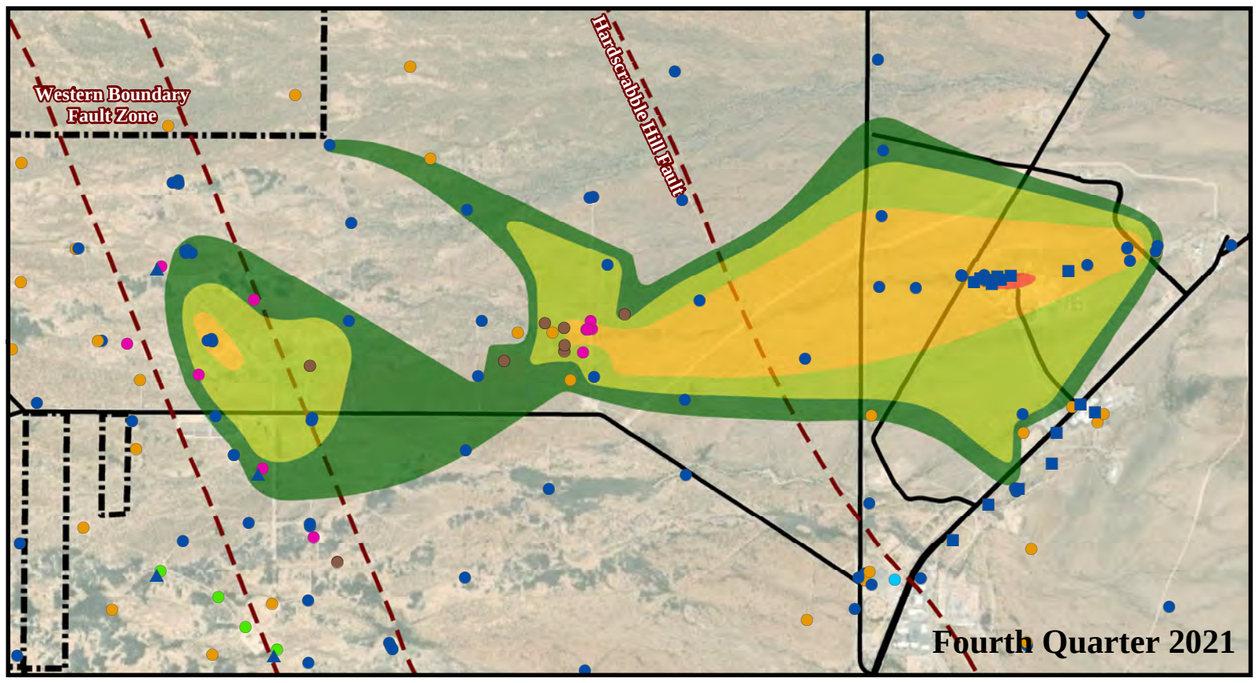
Figure 7.8 **Freon 11 Delineation in Groundwater**

(SEE NEXT PAGE)









Freon 11 Plume Delineation in Groundwater

- Multiport
- Conventional Well
- Perched Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Main Road
- Fault
- WSTF Boundary

Freon 11 Concentration (ug/L)

10 50 100 500

0 0.375 0.75 1.5 Miles

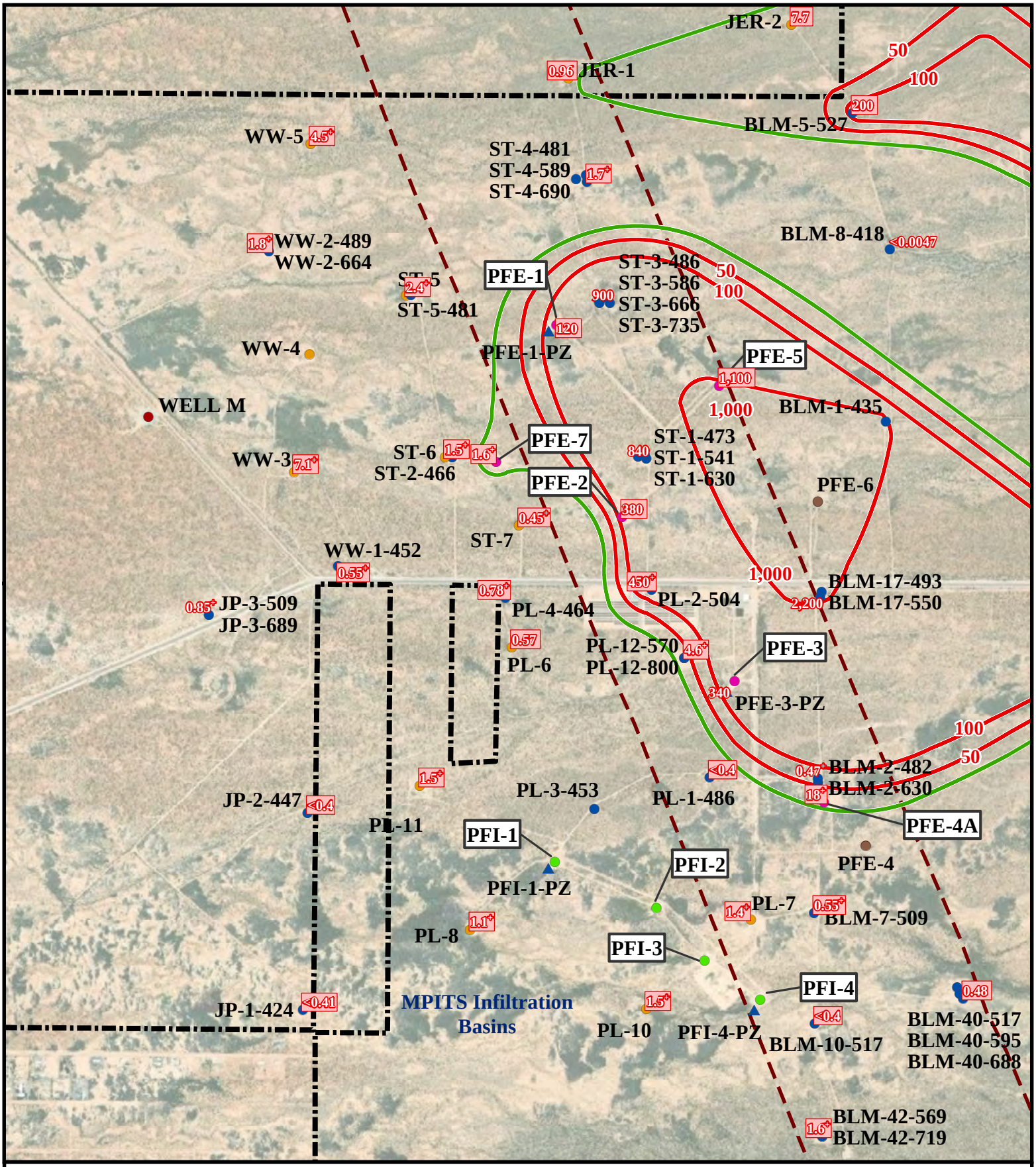
0 4,000 8,000 Feet

N W E S

February 2022

Figure 7.9 NDMA Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front NDMA Maximum Concentrations in Groundwater for Fourth Quarter 2021

- 50 — Equiconcentration Line (ng/L)
- NDMA Cleanup Level (1.1 ng/L)
- Multiport Well
- Conventional Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Western Boundary Fault Zone
- WSTF Boundary

Feet: 0 — 750 — 1,500

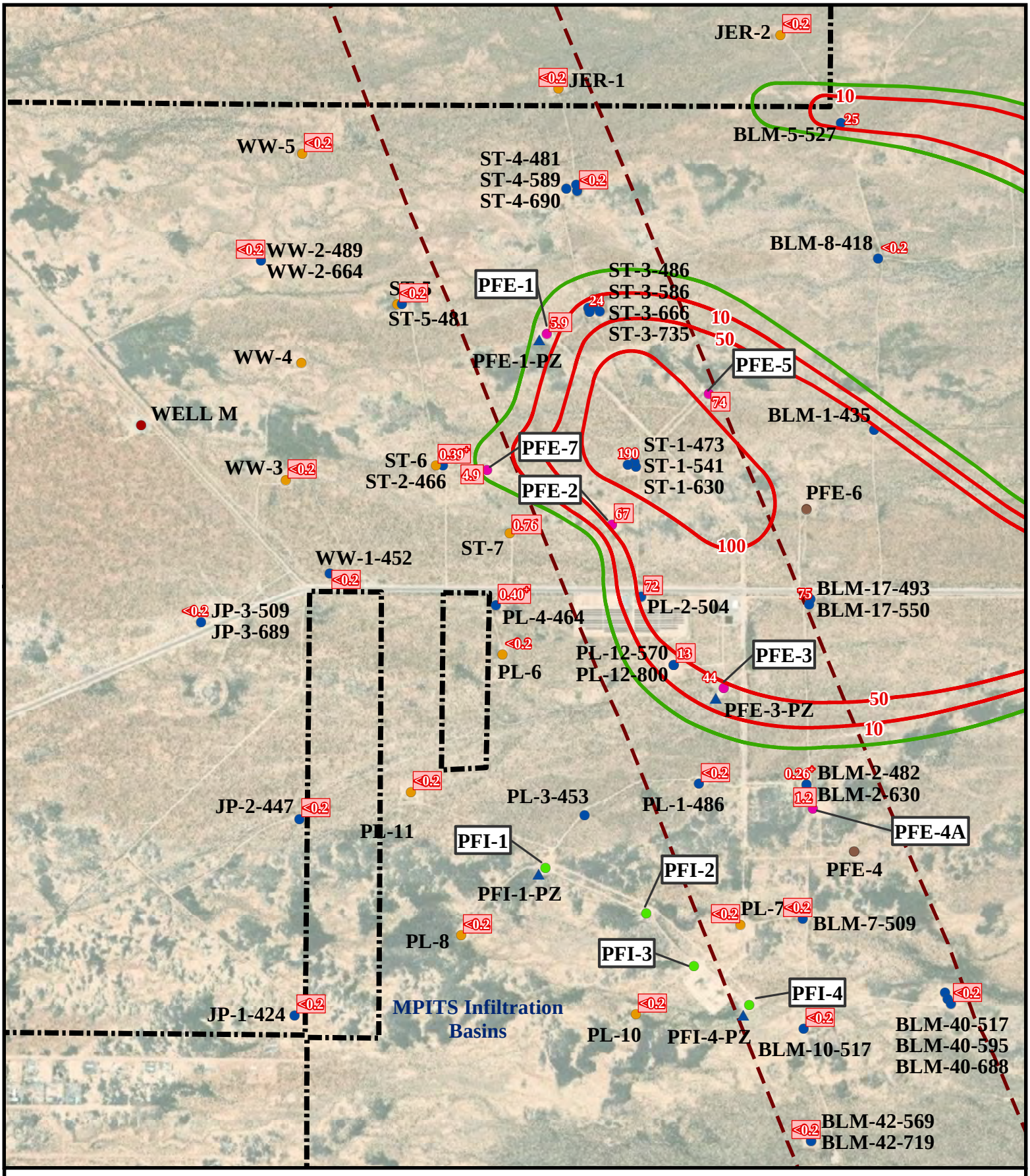
Note:
Method 607 NDMA results corrected for extraction efficiency.
\+ - Data value has a QA flag. See Appendix A.2 for specific flags.
50 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- Non-detect values displayed "<Detection Limit"
- No value indicates the well has not been sampled in the last year.

N W E S

February 2022

Figure 7.10 TCE Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front TCE Maximum Concentrations in Groundwater for Fourth Quarter 2021

10 Equiconcentration Line (ug/L)

TCE Cleanup Level (4.9 ug/L)

Multiport Well

Conventional Well

Extraction Well

Injection Well

Piezometer

Exploration Well

Production Well

Western Boundary Fault Zone

WSTF Boundary

Feet

0 750 1,500

Note:

\+ - Data value has a QA flag. See Appendix A.2 for specific flags.

50 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.

- Non-detect values displayed "<Detection Limit"

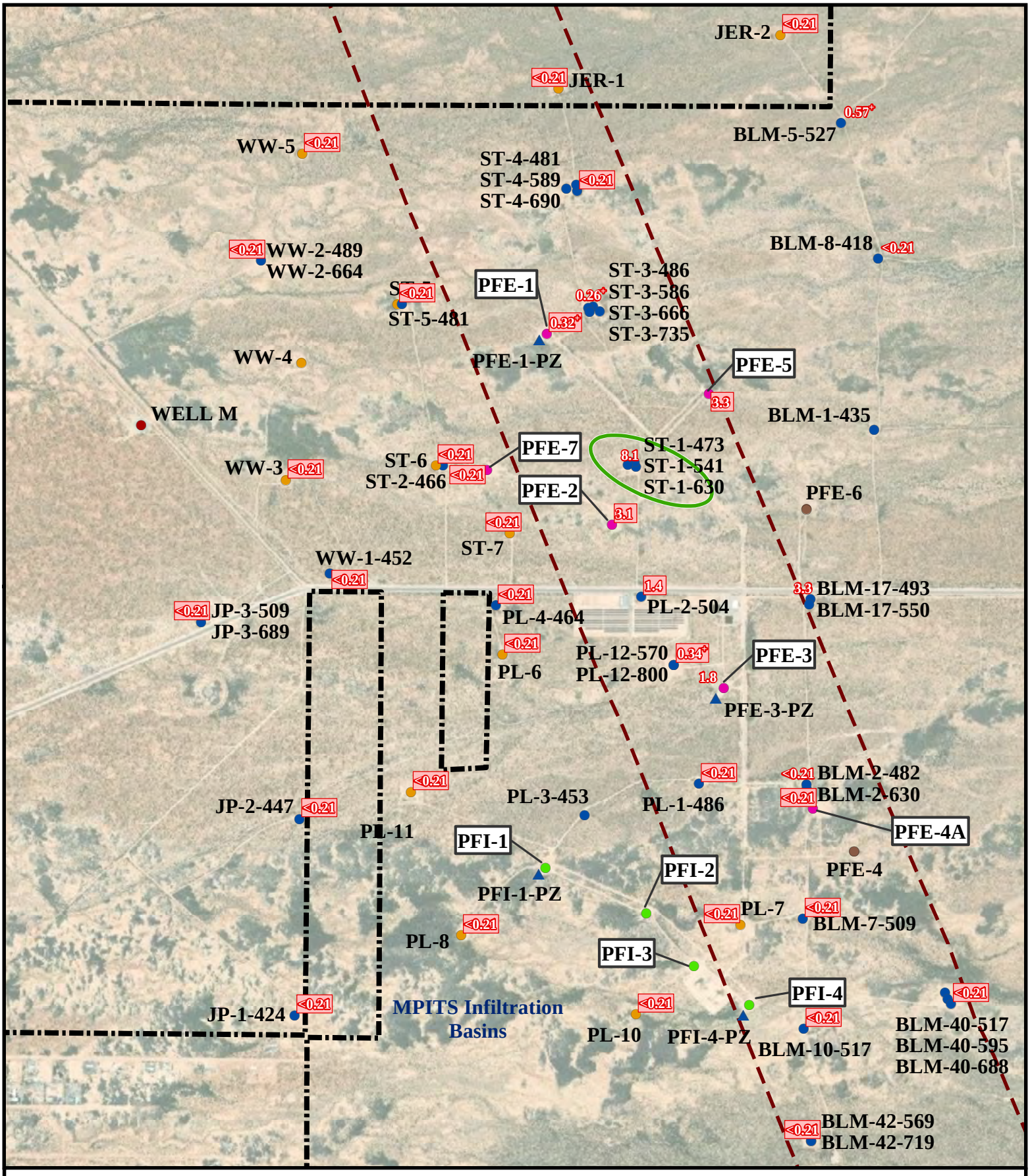
- No value indicates the well has not been sampled in the last year.

N W E S

February 2022

Figure 7.11 PCE Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front PCE Maximum Concentrations in Groundwater for Fourth Quarter 2021

PCE Cleanup Level (5 ug/L)

Multiport Well

Conventional Well

Extraction Well

Injection Well

Piezometer

Exploration Well

Production Well

Western Boundary Fault Zone

WSTF Boundary

N

W E

S

Feet

0 750 1,500

Note:

\+ - Data value has a QA flag. See Appendix A.2 for specific flags.

ND - Non-detect values <0.21 ug/L

8.0 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.

- No value indicates the well has not been sampled in the last year.

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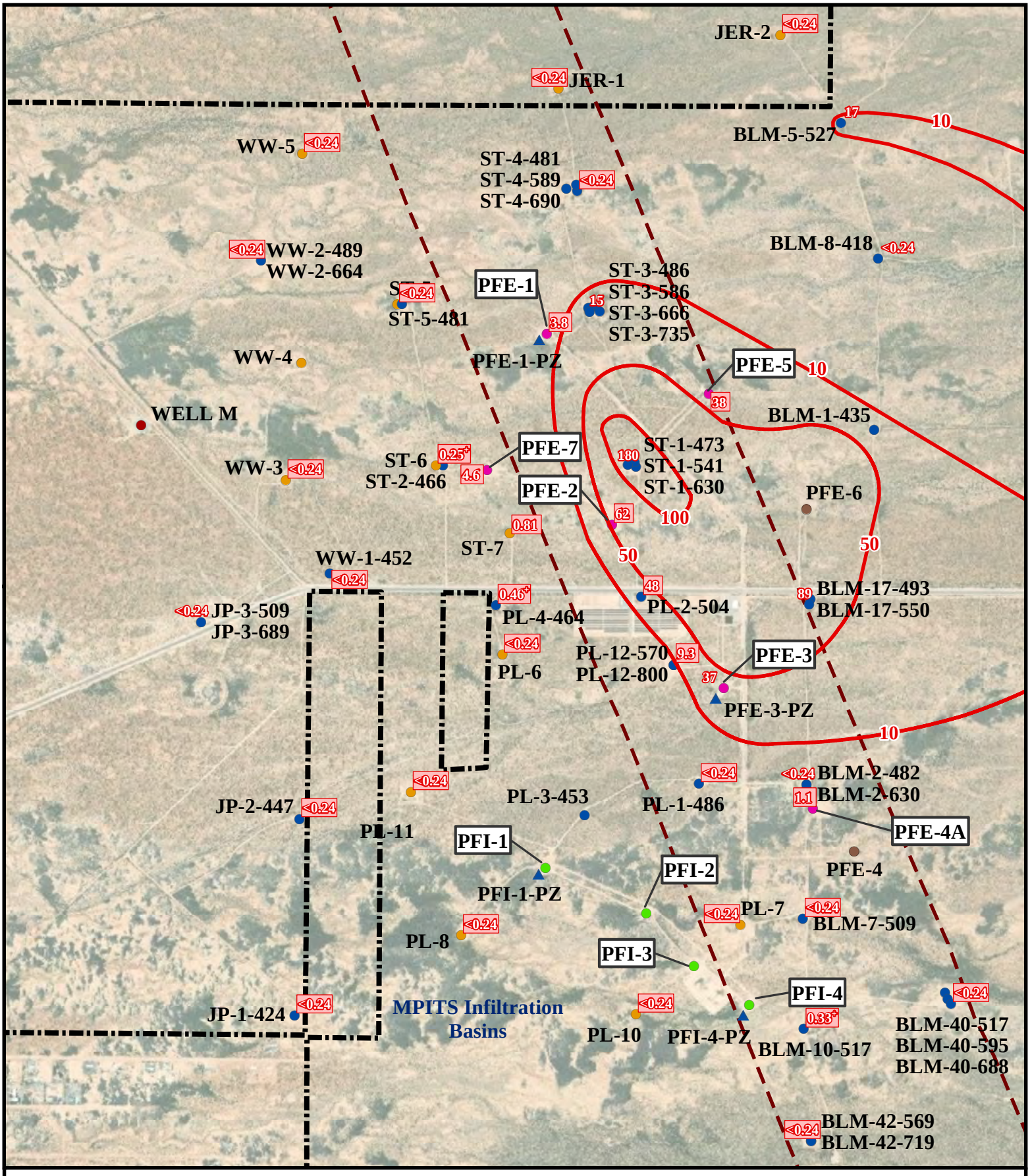
Figure 7.12 Freon 11 Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front Freon 11 Maximum Concentrations in Groundwater for Fourth Quarter 2021

Equiconcentration Line (ug/L)

Multiport Well

Conventional Well

Extraction Well

Injection Well

Piezometer

Exploration Well

Production Well

Western Boundary Fault Zone

WSTF Boundary

N

W E

S

Feet

0 750 1,500

Note:
Freon 11 concentations are below the EPA RSL (5,200 ug/L).
+ Data value has a QA flag. See Appendix A.2 for specific flags.
ND Non-detect values <0.24 ug/L

50 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- No value indicates the well has not been sampled in the last year.

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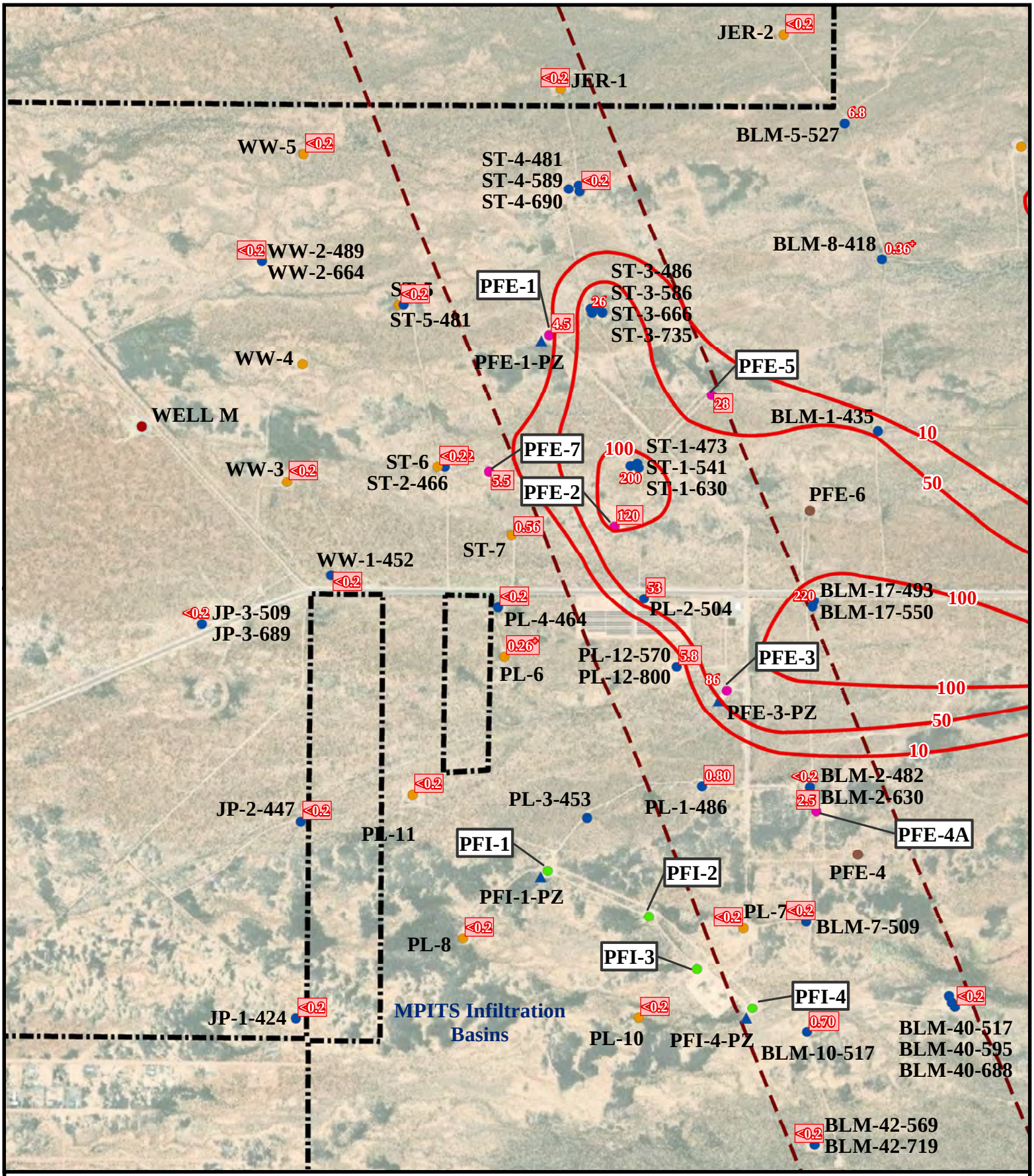
Figure 7.13 Freon 113 Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front Freon 113 Maximum Concentrations in Groundwater for Fourth Quarter 2021

Equiconcentration Line (ug/L)
Multiport Well
Conventional Well
Extraction Well
Injection Well
Piezometer
Exploration Well
Production Well
Western Boundary Fault Zone
WSTF Boundary

N
W E
S

0 750 1,500 Feet

Note:
Freon 113 concentations are below the EPA RSL (10,000 ug/L).
+ Data value has a QA flag. See Appendix A.2 for specific flags.
ND Non-detect values <0.20 ug/L

50 - Sample event result was within the quarterly date range. No outline indicates an earlier sample event.
- No value indicates the well has not been sampled in the last year.

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Figure 7.14 Plume Front Groundwater Elevations and Trichloroethene Concentrations for the Reporting Period

(SEE NEXT PAGE)

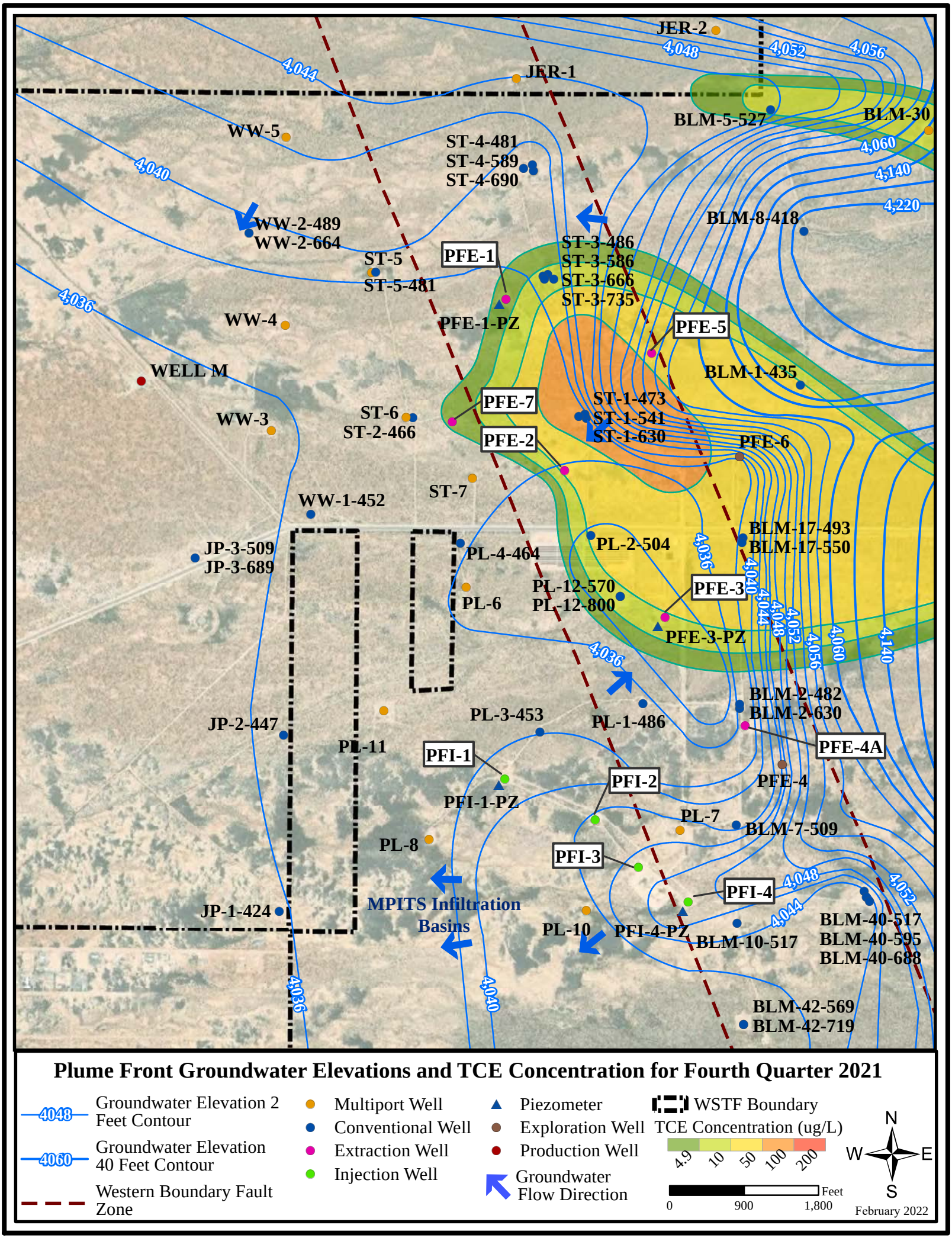
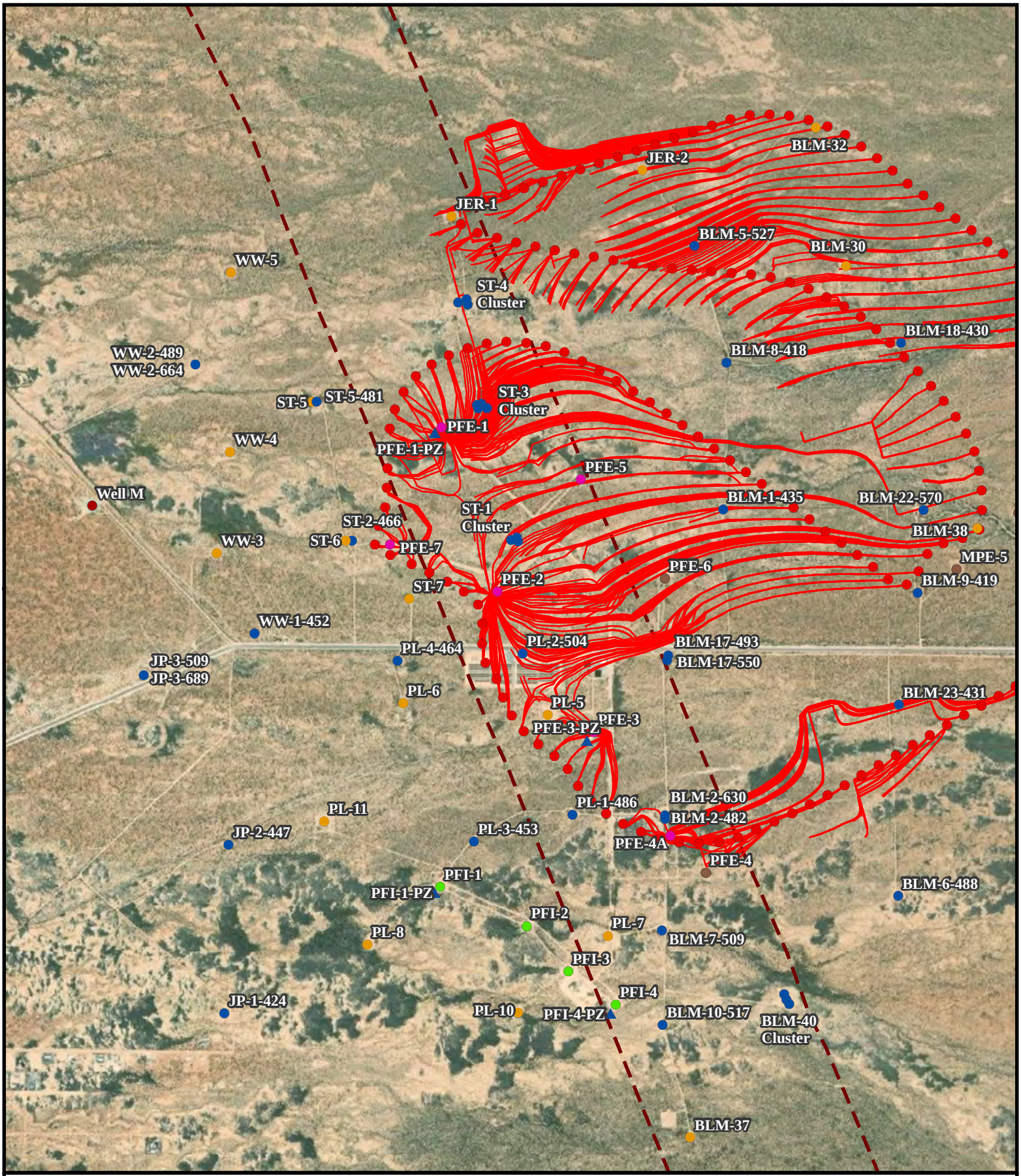

JER-2
JER-1
BLM-5-527
BLM-30
WW-5
ST-4-481
ST-4-589
ST-4-690
WW-2-489
WW-2-664
ST-5
ST-5-481
PFE-1
ST-3-486
ST-3-586
ST-3-666
ST-3-735
BLM-8-418
WW-4
PFE-1-PZ
PFE-5
WELL M
BLM-1-435
PFE-7
ST-1-473
ST-1-541
ST-1-630
WW-3
ST-6
ST-2-466
PFE-2
PFE-6
ST-7
WW-1-452
BLM-17-493
BLM-17-550
JP-3-509
JP-3-689
PL-4-464
PL-2-504
PL-12-570
PL-12-800
PL-6
PFE-3
PFE-3-PZ
BLM-2-482
BLM-2-630
JP-2-447
PL-3-453
PL-1-486
PL-11
PFI-1
PFE-4A
PFI-2
PFE-4
PFI-1-PZ
PL-7
BLM-7-509
PL-8
PFI-3
PFI-4
MPITS Infiltration Basins
JP-1-424
PL-10
PFI-4-PZ
BLM-10-517
BLM-40-517
BLM-40-595
BLM-40-688
BLM-42-569
BLM-42-719
4,036
4,040
4,044
4,048
4,052
4,056
4,060
4,140
4,220
Plume Front Groundwater Elevations and TCE Concentration for Fourth Quarter 2021
4048 Groundwater Elevation 2 Feet Contour
4060 Groundwater Elevation 40 Feet Contour
Western Boundary Fault Zone
Multiport Well
Conventional Well
Extraction Well
Injection Well
Piezometer
Exploration Well
Production Well
Groundwater Flow Direction
WSTF Boundary
TCE Concentration (ug/L)
4.9
10
50
100
200
0
900
1,800
Feet
N
W
E
S
February 2022

Figure 7.15 MODPATH Particle Tracking Simulation at the Plume Front (Ending 12/31/2061)

(SEE NEXT PAGE)



MODPATH Particle Tracking Simulation for Fourth Quarter 2021 (Through 2061)

- Multiport Well
- Conventional Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Western Boundary Fault Zone

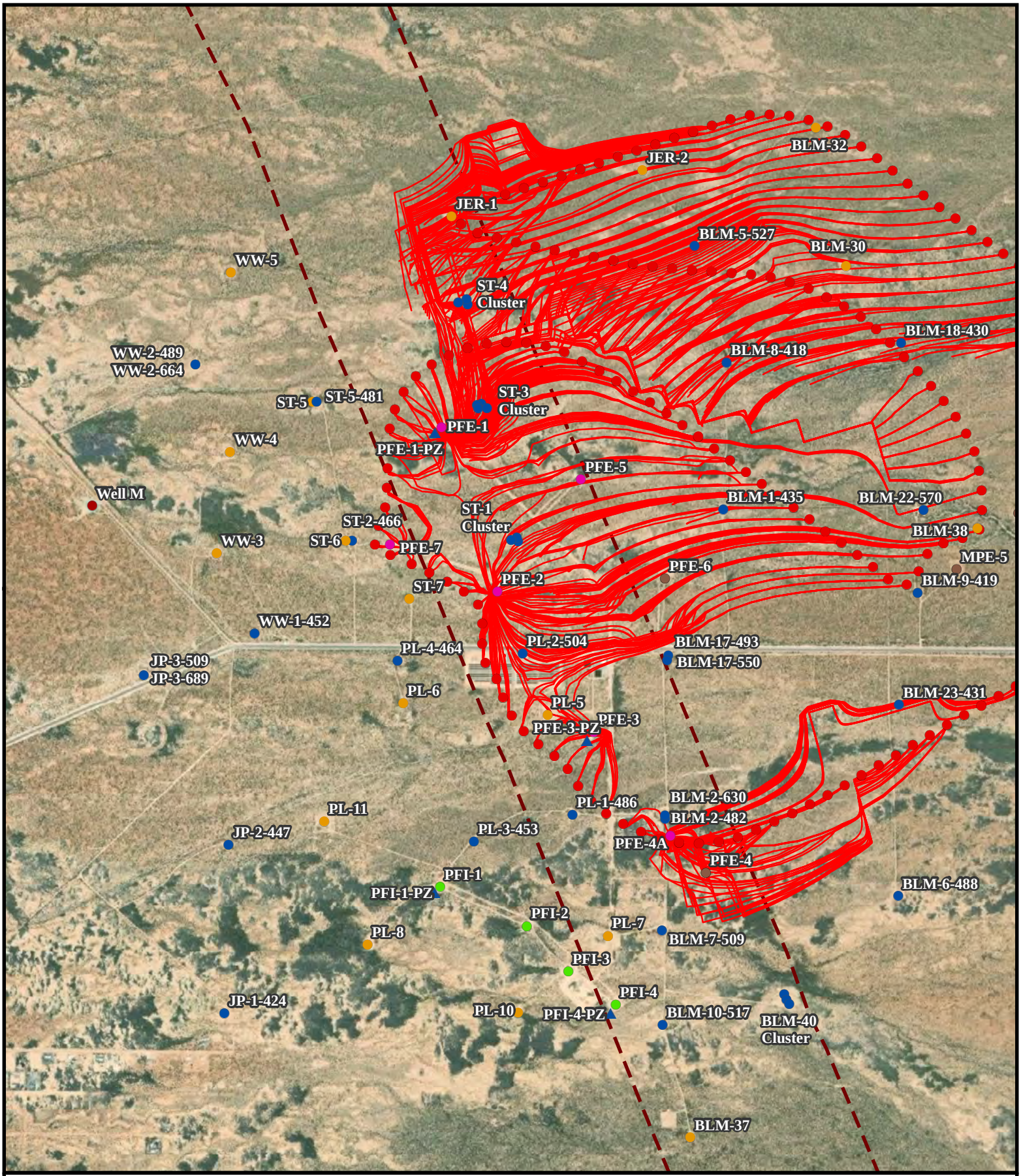
N
W E
S

0 750 1,500 Feet

February 2022

Figure 7.16 MODPATH Particle Tracking Simulation at the Plume Front (Ending 12/31/2110)

(SEE NEXT PAGE)



MODPATH Particle Tracking Simulation for Fourth Quarter 2021 (Through 2110)

- Multiport Well
- Conventional Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Western Boundary Fault Zone

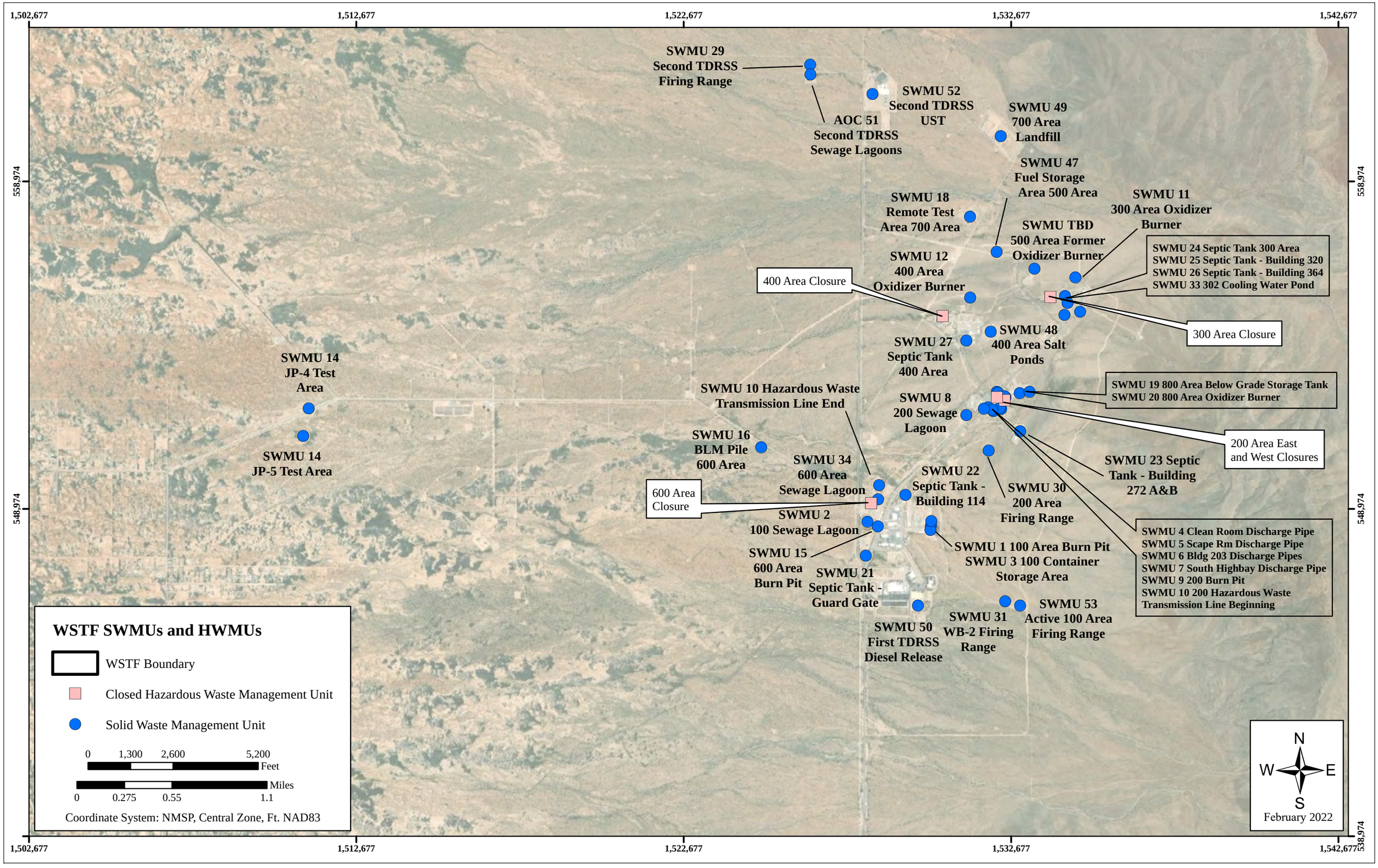
N
W E
S

0 750 1,500 Feet

February 2022

Figure 7.17 WSTF SWMUs and HWMUs

(SEE NEXT PAGE)


1,502,677
1,512,677
1,522,677
1,532,677
1,542,677
558,974
548,974
538,974
SWMU 29
Second TDRSS
Firing Range
AOC 51
Second TDRSS
Sewage Lagoons
SWMU 52
Second TDRSS
UST
SWMU 49
700 Area
Landfill
SWMU 47
Fuel Storage
Area 500 Area
SWMU 18
Remote Test
Area 700 Area
SWMU 11
300 Area Oxidizer
Burner
SWMU TBD
500 Area Former
Oxidizer Burner
SWMU 24 Septic Tank 300 Area
SWMU 25 Septic Tank - Building 320
SWMU 26 Septic Tank - Building 364
SWMU 33 302 Cooling Water Pond
SWMU 12
400 Area
Oxidizer Burner
400 Area Closure
300 Area Closure
SWMU 48
400 Area Salt
Ponds
SWMU 27
Septic Tank
400 Area
SWMU 14
JP-4 Test
Area
SWMU 14
JP-5 Test Area
SWMU 10 Hazardous Waste
Transmission Line End
SWMU 19 800 Area Below Grade Storage Tank
SWMU 20 800 Area Oxidizer Burner
SWMU 8
200 Sewage
Lagoon
200 Area East
and West Closures
SWMU 16
BLM Pile
600 Area
SWMU 34
600 Area
Sewage Lagoon
SWMU 22
Septic Tank -
Building 114
SWMU 23 Septic
Tank - Building
272 A&B
SWMU 30
200 Area
Firing Range
600 Area
Closure
SWMU 2
100 Sewage Lagoon
SWMU 4 Clean Room Discharge Pipe
SWMU 5 Scape Rm Discharge Pipe
SWMU 6 Bldg 203 Discharge Pipes
SWMU 7 South Highbay Discharge Pipe
SWMU 9 200 Burn Pit
SWMU 10 200 Hazardous Waste
Transmission Line Beginning
SWMU 15
600 Area
Burn Pit
SWMU 21
Septic Tank -
Guard Gate
SWMU 1 100 Area Burn Pit
SWMU 3 100 Container
Storage Area
SWMU 50
First TDRSS
Diesel Release
SWMU 31
WB-2 Firing
Range
SWMU 53
Active 100 Area
Firing Range
WSTF SWMUs and HWMUs
WSTF Boundary
Closed Hazardous Waste Management Unit
Solid Waste Management Unit
0 1,300 2,600 5,200
Feet
Miles
0 0.275 0.55 1.1
Coordinate System: NMSP, Central Zone, Ft. NAD83
N
W
E
S
February 2022

Tables

Table 3.1 DP-1255 Discharge Standards and Groundwater Cleanup Levels for WSTF COC

Contaminant	Chemical Abstract Number	DP-1255 Standard (µg/L)	Cleanup Level (µg/L)
Carcinogens			
NDMA	62-75-9	0.0049	0.0011[1]
TCE	79-01-6	2.59	4.9[1]
PCE	127-18-4	40.3	5.0[2]
Chloroform	67-66-3	2.29	2.2[1]

Notes:

[1] Cleanup Level based on EPA RSL equivalent to the most conservative value equivalent to 1E-05 risk for carcinogens or H=1 for non-carcinogens as updated in the 2021 GMP update (NASA, 2021a).

[2] Cleanup Level based on Maximum Contaminant Levels found in 40 Code of Federal Regulations Parts 141: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=a4752225928ed82c597f05b633d21806&mc=true&n=pt40.25.141&r=PART&ty=HTML

Table 3.2 Accepted New Detections for This Reporting Period

Well ID	CAS Number	Analyte
BLM-32-571	7440-50-8	Copper, Total
ST-6-970	7439-96-5	Manganese, Total
700-E-458	7440-02-0	Nickel, Total

Table 3.3 Unconfirmed New Detections – Resolution Pending

Well ID	CAS Number	Analyte	Scheduled Resample Date
BLM-2-630	7440-02-0	Nickel, Total	11/9/21
ST-1-541	7440-47-3	Chromium, Total	11/11/21
200-I-795	314-40-9	Bromacil	11/18/21
200-I-795	62-75-9	N-Nitrosodimethylamine	11/18/21
PL-6-1195	7440-47-3	Chromium, Total	1/6/22
PL-6-1335	4164-28-7	N-Nitrodimethylamine	1/7/22
100-F-358	12672-29-6	Aroclor 1248	1/20/22
100-F-358	314-40-9	Bromacil	1/20/22
ST-2-466	314-40-9	Bromacil	2/2/22
BLM-13-300	314-40-9	Bromacil	3/4/22
BLM-42-709	117-81-7	Bis(2-ethylhexyl) Phthalate	3/13/22
WW-4-948	314-40-9	Bromacil	3/18/22
BLM-40-517	314-40-9	Bromacil	4/1/22
BLM-40-517	62-75-9	N-Nitrosodimethylamine	4/4/22
BLM-14-327	7429-90-5	Aluminum, Total	4/15/22
BLM-8-418	314-40-9	Bromacil	5/6/22
BLM-38-480	314-40-9	Bromacil	5/11/22
WB-1-200	75-15-0	Carbon Disulfide	5/18/22
ST-6-568	117-81-7	Bis(2-ethylhexyl) Phthalate	9/15/22
ST-6-678	314-40-9	Bromacil	9/16/22
PL-3-453	314-40-9	Bromacil	10/4/22
ST-7-779	7440-50-8	Copper, Total	10/6/22
JER-2-584	7440-66-6	Zinc, Total	10/13/22
JER-1-483	314-40-9	Bromacil	10/14/22
BLM-41-420	314-40-9	Bromacil	10/18/22
WW-5-459	117-81-7	Bis(2-ethylhexyl) Phthalate	10/19/22
WW-5-809	117-81-7	Bis(2-ethylhexyl) Phthalate	10/20/22
BLM-40-595	14797-73-0	Perchlorate	4/12/23
PL-10-484	314-40-9	Bromacil	10/6/23

Table 3.4 Unconfirmed Detections Resolved This Reporting Period

Well ID	CAS Number	Analyte	Scheduled Resample Date	Resolution
BLM-32-632	314-40-9	Bromacil	8/6/21	Unconfirmed
ST-4-589	314-40-9	Bromacil	8/13/21	Unconfirmed
200-H-331	314-40-9	Bromacil	8/18/21	Unconfirmed
BW-1-268	7429-90-5	Aluminum, Total	9/9/21	Unconfirmed
PL-8-605	314-40-9	Bromacil	9/9/21	Unconfirmed
PL-11-470	314-40-9	Bromacil	9/15/21	Unconfirmed
PL-11-980	314-40-9	Bromacil	9/17/21	Unconfirmed
700-D-186	314-40-9	Bromacil	9/23/21	Unconfirmed
PL-10-484	123-91-1	1,4-Dioxane	10/6/21	Unconfirmed
PL-10-592	123-91-1	1,4-Dioxane	10/6/21	Unconfirmed
JER-1-563	75-15-0	Carbon Disulfide	10/15/21	Unconfirmed
WW-5-909	117-81-7	Bis(2-ethylhexyl) Phthalate	10/22/21	Unconfirmed

Table 4.1 Groundwater Monitoring Wells/Zones Analyzed for the Reporting Period

Well Name	Event Date	Well Group
200-H-225	08/12/21	200
200-H-331	08/11/21	200
200-H-433	08/11/21	200
200-JG-110	09/20/21	200
200-KV-150	09/14/21	200
200-LV-150	10/20/21	200
200-SG-1	09/07/21	200
300-A-120	09/13/21	300/400
300-C-128	10/19/21	300/400
300-D-153	09/16/21	300/400
400-D-195	08/16/21	300/400
400-D-275	08/16/21	300/400
400-D-355	08/12/21	300/400
400-EV-131	08/02/21	300/400
400-FV-131	10/18/21	300/400
400-GV-125	08/03/21	300/400
400-HV-147	10/18/21	300/400
400-IV-123	10/19/21	300/400
400-JV-150	08/02/21	300/400
600-G-138	10/21/21	100/600
700-A-253	09/29/21	N. Boundary
700-D-186	09/28/21	N. Boundary
700-E-458	08/18/21	N. Boundary
700-H-350	09/28/21	N. Boundary
700-H-535	09/29/21	N. Boundary
700-H-670	09/29/21	N. Boundary
700-J-200	09/28/21	N. Boundary
BLM-10-517	10/05/21	Plume Front
BLM-14-327	10/18/21	Mid-plume
BLM-21-400	08/05/21	Mid-plume
BLM-23-431	08/03/21	Mid-plume
BLM-25-455	08/03/21	S. Boundary
BLM-32-543	08/09/21	N. Boundary
BLM-32-571	08/09/21	N. Boundary
BLM-32-632	08/09/21	N. Boundary
BLM-39-385	10/07/21	Mid-plume
BLM-39-560	10/07/21	Mid-plume
BLM-40-517	10/04/21	S. Boundary
BLM-40-595	10/04/21	S. Boundary
BLM-40-688	10/05/21	S. Boundary
BLM-41-420	10/18/21	N. Boundary
BLM-41-670	10/19/21	N. Boundary
BLM-42-569	09/07/21	Sentinel
BLM-42-709	09/07/21	Sentinel
BLM-5-527	09/20/21	Mid-plume
BLM-6-488	10/15/21	S. Boundary
BLM-7-509	09/01/21	Plume Front
BLM-9-419	09/02/21	Mid-plume
BW-1-268	09/09/21	300/400
BW-3-180	10/19/21	100/600
BW-6-355	09/20/21	N. Boundary
JER-1-483	10/14/21	N. Boundary
JER-1-563	10/15/21	N. Boundary
JER-1-683	10/15/21	N. Boundary
JER-2-504	10/07/21	N. Boundary
JER-2-584	10/13/21	N. Boundary
JER-2-684	10/13/21	N. Boundary
JP-1-424	10/06/21	Sentinel
JP-2-447	10/21/21	Sentinel
JP-3-689	10/07/21	Sentinel
NASA 10	09/15/21	300/400
NASA 3	08/09/21	Upgradient
NASA 5	09/15/21	300/400
PL-10-484	10/06/21	Sentinel
PL-10-592	10/06/21	Sentinel
PL-11-470	09/13/21	Sentinel
PL-11-530	09/13/21	Sentinel
PL-11-710	09/14/21	Sentinel
PL-11-820	09/14/21	Sentinel
PL-11-980	09/14/21	Sentinel
PL-12-570	08/04/21	In Plume
PL-12-800	08/03/21	In Plume
PL-1-486	10/14/21	In Plume
PL-2-504	09/14/21	In Plume
PL-4-464	09/14/21	Plume Front
PL-6-545	10/13/21	Plume Front
PL-6-725	10/12/21	Plume Front
PL-7-480	08/10/21	Plume Front
PL-7-560	08/05/21	Plume Front
PL-8-455	09/02/21	Sentinel
PL-8-605	09/02/21	Sentinel
ST-4-481	09/02/21	Plume Front
ST-4-589	08/02/21	Plume Front
ST-4-690	09/02/21	Plume Front
ST-5-1175	08/04/21	Plume Front
ST-5-485	08/04/21	Plume Front
ST-5-655	08/02/21	Plume Front

Well Name	Event Date	Well Group
ST-5-815	08/03/21	Plume Front
ST-5-985	08/02/21	Plume Front
ST-6-528	09/15/21	Plume Front
ST-6-568	09/15/21	Plume Front
ST-6-678	09/16/21	Plume Front
ST-6-824	09/16/21	Plume Front
ST-6-970	09/16/21	Plume Front
ST-7-453	10/04/21	Plume Front

Well Name	Event Date	Well Group
ST-7-544	10/04/21	Plume Front
ST-7-779	10/06/21	Plume Front
ST-7-970	10/06/21	Plume Front
WB-14-520	08/23/21	S. Boundary
WB-5-250	08/19/21	S. Boundary
WB-5-280	08/18/21	S. Boundary
WB-5-345	08/17/21	S. Boundary
WW-1-452	09/01/21	Plume Front

Well Name	Event Date	Well Group
WW-2-489	09/08/21	Sentinel
WW-2-664	09/08/21	Sentinel
WW-3-469	09/01/21	Sentinel
WW-3-569	09/01/21	Sentinel
WW-5-459	10/19/21	Sentinel
WW-5-579	10/19/21	Sentinel
WW-5-809	10/20/21	Sentinel
WW-5-909	10/20/21	Sentinel

Plume Front	
Well Name	Event Date
B650-EFF-1	08/12/21
B650-EFF-1	09/27/21
B650-EFF-1	10/13/21
B650-INF-1	08/12/21
B650-INF-1	09/27/21
B650-INF-1	10/13/21
PFE-1	09/30/21

Plume Front	
Well Name	Event Date
PFE-1	10/18/21
PFE-2	10/18/21
PFE-4A	10/20/21
PFE-5	10/20/21
PFE-7	10/20/21

Mid-plume	
Well Name	Event Date
B655-EFF-2	08/12/21
B655-EFF-2	09/13/21
B655-EFF-2	10/19/21
B655-INF-2	08/12/21
B655-INF-2	09/13/21
B655-INF-2	10/19/21
MPE-1	08/16/21

Mid-plume	
Well Name	Event Date
MPE-10	08/16/21
MPE-11	08/16/21
MPE-8	08/16/21
MPE-9	08/16/21

Drinking Water	
Well Name	Event Date
WELL K	11/13/20
WELL K	12/03/20
WELL K	01/08/21
WELL K	02/05/21
WELL K	03/01/21
WELL K	04/02/21

Drinking Water	
Well Name	Event Date
WELL K	05/03/21
WELL K	06/02/21
WELL K	07/06/21
WELL K	08/09/21
WELL K	09/13/21
WELL K	10/12/21

Drinking Water	
Well Name	Event Date
WELL M	11/10/20
WELL M	12/01/20
WELL M	01/13/21
WELL M	02/23/21
WELL M	03/02/21
WELL M	04/06/21

Drinking Water	
Well Name	Event Date
WELL M	05/04/21
WELL M	06/01/21
WELL M	07/07/21
WELL M	08/10/21
WELL M	09/14/21
WELL M	10/19/21

Table 4.2 Groundwater Elevation Data

Well Name	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Groundwater Elevation (ft amsl)	Measurement Date
100-A-182	198	182	192	4,669.69	11/29/21
100-C-365	391	365	386	4,535.06	11/29/21
100-D-176	201	176	196	4,568.79	11/29/21
100-E-261	277	261	271	4,681.96	11/29/21
100-F-358	378	358	368	4,713.07	11/29/21
100-G-223	238	223	233	4,851.26	11/29/21
100-HG-139	165	139	159	4,647.21	11/29/21
200-B-240	255	240	250	4,647.00	11/29/21
200-C(170)[i]	290	N/A	N/A	4,680.80	11/24/21
200-D-240	280	240	250	4,661.89	11/29/21
200-F(370)[i]	590	N/A	N/A	4,715.01	11/24/21
200-G(220)[i]	515	N/A	N/A	4,722.98	11/24/21
200-H(331)[i]	458	N/A	N/A	4,734.06	11/24/21
200-I(300)[i]	815	N/A	N/A	4,651.95	11/24/21
200-JG-110	150	110	130	4,655.35	11/29/21
200-KV-150	175	150	170	4,726.03	11/29/21
200-LV-150	175	150	170	4,727.86	11/29/21
200-SG-1	138	123	138	4,652.16	11/29/21
300-A-120	151	120	146	4,785.43	11/29/21
300-B-166	181	165	176	4,773.22	11/29/21
300-C-128	160	128	154	4,739.78	11/29/21
300-D-153	179	153	174	4,949.42	11/29/21
300-E(138)[i]	395	N/A	N/A	4,805.40	11/24/21
300-F-175	195	175	185	5,043.80	11/29/21
400-A-151	187	151	176	4,636.53	11/29/21
400-C-143	159	143	153	4,669.24	11/29/21
400-D(275)[i]	380	N/A	N/A	4,663.73	11/24/21
600-E(280)[i]	690	N/A	N/A	4,559.00	11/24/21
700-A-253	269	253	263	4,723.73	11/29/21
700-B-510	550	510	531	4,341.58	11/29/21
700-D-186	202	186	196	4,720.45	11/29/21
700-H(350)[i]	695	N/A	N/A	4,636.90	11/24/21
700-J-200	230	200	220	4,834.07	11/29/21
BLM-10-517	532	517	527	4,045.95	11/29/21
BLM-13-300	316	300	310	4,421.92	11/29/21
BLM-1-435	451	435	446	4,145.52	11/29/21
BLM-14-327	343	327	337	4,400.19	11/29/21
BLM-15-305	321	305	315	4,423.02	11/29/21
BLM-17-493	519	493	513	4,041.53	11/29/21

Well Name	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Groundwater Elevation (ft amsl)	Measurement Date
BLM-18-430	456	430	451	4,226.22	11/29/21
BLM-21-400	413	400	410	4,312.85	11/29/21
BLM-22-570	597	570	592	4,095.55	11/29/21
BLM-23-431	447	431	441	4,261.06	11/29/21
BLM-24-565	590	565	585	4,385.44	11/29/21
BLM-25-455	470	455	465	4,283.40	11/29/21
BLM-2-630	498	482	493	4,037.36	11/29/21
BLM-26-404	420	404	414	4,358.22	11/29/21
BLM-27-270	286	270	280	4,498.03	11/29/21
BLM-28 (Borehole)[i]	555	N/A	N/A	4,257.99	11/29/21
BLM-3-182	208	182	203	4,568.73	11/29/21
BLM-36(350)[ii]	905	604	614	4,334.88	11/24/21
BLM-38(480)[ii]	641	475	485	4,207.47	11/24/21
BLM-39(385)[ii]	595	379	389	4,282.31	11/24/21
BLM-40-517	532	517	527	4,043.46	11/29/21
BLM-41-420	435	420	430	4,317.81	11/29/21
BLM-5-527	560	527	538	4,045.90	11/29/21
BLM-6-488	503	488	498	4,231.32	11/29/21
BLM-7-509	525	509	520	4,041.99	11/29/21
BLM-8-418	434	418	428	4,223.67	11/29/21
BLM-9-419	445	419	440	4,226.99	11/29/21
BW-1-268	294	268	289	4,606.70	11/29/21
BW-3-180	205	180	200	4,565.24	11/29/21
BW-5-295	311	295	305	4,581.65	11/29/21
BW-6-355	381	355	376	4,573.22	11/29/21
BW-7-211	225	211	222	4,606.91	11/29/21
JP-1-424	440	424	434	4,035.57	11/29/21
JP-2-447	462	446	457	4,036.75	11/29/21
MPE-2	600	400	580	4,372.21	11/29/21
MPE-5	590	450	570	4,145.22	11/29/21
MPE-6	603	383	602	4,269.62	11/29/21
MPE-7	600	401	600	4,231.24	11/29/21
NASA 10	135	110	130	4,823.11	11/29/21
NASA 3	144	119	139	4,889.30	11/29/21
NASA 4	171	146	166	4,637.64	11/29/21
NASA 5	135	110	130	4,792.49	11/29/21
NASA 6	153	128	148	4,690.09	11/29/21
NASA 8	197	172	192	4,568.49	11/29/21
PFE-1-PZ	609	588	598	4,037.48	11/29/21

Well Name	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Groundwater Elevation (ft amsl)	Measurement Date
PFE-3-PZ	620	590	600	4,032.07	11/29/21
PFE-4	877	397	876	4,042.78	11/29/21
PFE-6	539	434	534	4,038.21	11/29/21
PFI-1-PZ	619	589	599	4,034.43	11/29/21
PFI-4-PZ	600	398	600	4,047.18	11/29/21
PL-10(484)[ii]	1000	479	489	4,041.23	11/24/21
PL-1-486	502	486	496	4,037.14	11/29/21
PL-2-504	520	504	514	4,033.83	11/29/21
PL-3-453	469	453	464	4,037.98	11/29/21
PL-4-464	480	464	474	4,036.01	11/29/21
PL-6(545)[ii]	1860	540	550	4,034.66	11/24/21
PL-7(480)[ii]	655	475	485	4,042.81	11/24/21
PL-8(455)[ii]	1000	448	458	4,036.76	11/24/21
ST-1-473	488	473	483	4,034.63	11/29/21
ST-2-466	481	466	476	4,035.91	11/29/21
ST-3-486	502	486	496	4,038.03	11/29/21
ST-4-481	497	481	491	4,038.97	11/29/21
ST-5-481	497	481	491	4,038.33	11/29/21
WB-14(520)[i]	545	N/A	N/A	4,432.71	11/24/21
WB-5(250)[i]	400	N/A	N/A	4,667.13	11/24/21
WW-1-452	468	452	462	4,036.58	11/29/21
WW-3(469)[ii]	1014	464	474	4,035.94	11/24/21

Notes:

[i] Depth to top and bottom of screen are indicated as not applicable (N/A) for multiport Westbay wells that are completed in an open borehole. The depth of the Westbay monitoring port used to calculate the piezometric surface is provided in parenthesis with the well name. Depth to water and groundwater elevation were calculated from the formation pressure at the indicated port depth.

[ii] The screen depths listed for retrofit multiport wells indicate the top and bottom of the screen in the outer casing of the well that corresponds to the measurement port used at that location. The depth of the monitoring port used to calculate the piezometric surface is provided in parenthesis with the well name. Depth to water and groundwater elevation for Westbay multiport monitoring wells were calculated from the formation pressure at the indicated port depth. Depth to water and groundwater elevation for FLUTe multiport monitoring wells were calculated from pressure transducer readings collected on the measurement date.

Table 5.1 PFTS and MPITS Operational Status for the Reporting Period

Month	Plume Front Treatment System			Mid-plume Treatment System		
	Days Operated	Average Flow Rate (gpm)	Groundwater Treated (acre-ft)	Days Operated	Average Flow Rate (gpm)	Groundwater Treated (acre-ft)
Aug-21	31 of 31	669	92.5	31 of 31	8.8	1.14
Sep-21	7 of 30	772	28.6	30 of 30	9.0	1.17
Oct-21	27 of 31	776	84.0	12 of 31	8.7	0.61

Table 5.2 PFTS and MPITS System Shutdowns for the Reporting Period

Shutdown Date	Restart Date	Type of Shutdown	Description
Plume Front Treatment System Shutdowns			
8/6/21	8/6/21	Unplanned	The system shut down automatically because of a disruption in the power supply caused by a thunderstorm.
8/12/21	8/12/21	Unplanned	The system shut down automatically because of a disruption in the power supply caused by a thunderstorm.
8/23/21	8/23/21	Unplanned	The system shut down automatically because of a disruption in the power supply caused by an equipment failure.
8/30/21	9/22/21	Planned	NASA shut down the system for scheduled rehabilitation and repair work at wells PFE-1, PFE-4A, PFI-2, PFI-3, and PFI-4.
9/30/21	9/30/21	Planned	NASA shut down the system to replace the UV lamps in the photolysis reactor.
10/2/21	10/4/21	Unplanned	The system shut down automatically because of a false leak detection alarm thought to have been cause by condensate in the dual wall piping serving PFE-2.
10/4/21	10/4/21	Unplanned	The system shut down automatically because of a submonitor undercurrent fault at well PFE-4A.
10/8/21	10/12/21	Unplanned	The system shut down automatically because of a communication error at well PFI-4.
Mid-plume Interception and Treatment System Shutdowns			
8/6/21	8/6/21	Unplanned	The system shut down automatically because of a disruption in the electrical power supply caused by a thunderstorm.
8/12/21	8/12/21	Unplanned	The system shut down automatically because of a disruption in the electrical power supply caused by a thunderstorm.
8/27/21	8/27/21	Unplanned	The system shut down automatically because of a disruption in the electrical power supply caused by a thunderstorm.
9/9/21	9/9/21	Unplanned	The system shut down automatically because of a false low-level alarm associated with the surge tank.
10/1/21	10/19/21	Planned	NASA shut the system down while awaiting delivery of replacement UV lamps that had been delayed in U.S. Customs.
10/19/21	10/21/21	Unplanned	NASA activated the system on 10/19/21 to collect required influent and effluent samples. The system was returned to inactive status pending receipt of replacement UV lamps.

Table 5.3 PFTS Air Stripper and UV Reactor Performance for the Reporting Period

	Analyte	Unit	Design	Aug-21	Sept-21	Oct-21
Air Stripper Influent Concentrations	TCE	µg/L	130	35	13	2.7
	PCE	µg/L	0.66	1.6	0.57 J	< 0.21[2]
	Freon 11	µg/L	860	36	8.3	1.7
	Chloroform	µg/L	NA[1]	< 0.24[2]	< 0.24[2]	< 0.24[2]
Air Stripper Effluent Concentrations	TCE	µg/L	5.0	<0.20[2]	< 0.20[2]	< 0.20[2]
	PCE	µg/L	5.0	< 0.21[2]	< 0.21[2]	< 0.21[2]
	Freon 11	µg/L	100	< 0.24[2]	< 0.24[2]	< 0.24[2]
	Chloroform	µg/L	NA[1]	< 0.24[2]	< 0.24[2]	< 0.24[2]
UV Reactor Influent Concentrations	NDMA[3]	ng/L	2,000	202[a]	111[b]	57[c]
UV Reactor Effluent Concentrations	NDMA[4]	ng/L	< 2.0	0.71 RB A FB	0.69 RB A FB	<0.4[2]

A = The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
FB = The analyte was detected in the field blank.J = The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NS = Not sampled during the reporting period.
RB = The analyte was detected in the method blank.

1 Chloroform was not included as an analyte in the system design criteria; not applicable (NA).

2 Analytical result for the constituent was below the method detection limit (MDL; provided).

3 Reported NDMA concentration is corrected for extraction efficiency. Modified EPA Method 607 batch-specific laboratory control sample recovery of NDMA: 43%[a], 61%[b], 58%[c]

4 Analytical results from the low-level NDMA analytical method. NDMA was not detected by modified Method 607.

Table 5.4 PFTS Extraction and Injection Well Flow Rates for the Reporting Period

	Well Name	Design Flow Rate (gpm)	Operational Average Flow Rate[1] (gpm)	Overall Average Flow Rate[2] (gpm)	Operational Percent of Well Design	Overall Percent of Well Design
Extraction Wells (gpm)	**PFE-1**	288	247	189	86%	66%
	PFE-2	224	230	160	103%	72%
	PFE-3	213	223	10	105%	5%
	PFE-4A	200	166	125	83%	63%
	PFE-5	5.5	3.5	2.4	63%	44%
	PFE-7	125	144	110	115%	88%
Injection Wells (gpm)	**PFI-1**	269	N/O	N/O	N/O	N/O
	PFI-2	269	282	191	105%	71%
	PFI-3	344	335	227	98%	66%
	PFI-4	194	264	179	136%	92%

[1] Operational averages are averages based on when a well was in operating status. Backwashing and downtime events are not included.

[2] Overall averages are averages based on the overall status of the well and include backwashing and downtime events.

N/O - The well was not operating during the reporting period.

Table 5.5 Comparison of Specific Capacities for the Plume Front Wells

Well Name	Specific Capacity at Installation	Specific Capacity Jan-21	Specific Capacity Apr-21	Specific Capacity Jul-21	Specific Capacity Oct-21
PFE-1	8.3	NA[1]	NA[1]	NA[1]	6.6
PFE-2	5.7	NA[1]	6.4	6.5	6.6
PFE-3	19.4	11.6	10.6	10.0	10.5
PFE-4A	3.1	2.3	2.3	2.7	2.4
PFE-5	0.14	<0.1	<0.1	NA[1]	0.1
PFE-7	6	6.3	5.9	6.0	5.8
Well Name	**Specific Capacity at Installation (Ideal Range)**	**Specific Capacity Jan-21**	**Specific Capacity Apr-21**	**Specific Capacity Jul-21**	**Specific Capacity Oct-21**
PFI-1	2.8–5	NA[1]	NA[1]	NA[1]	NA[1]
PFI-2	2.8–7	2.9	2.3	2.2	1.6
PFI-3	2–4	2.4	2.3	1.9	2.0
PFI-4	2.3–3.5	2.0	2.3	1.6	1.5

Notes: Specific capacities are used to measure well performances and have units of gallons per minute per foot of drawdown.
NA[1] – Not Applicable due to well being inoperative during reporting period.

Table 5.6 Plume Front Mass Removal[1]

Date	TCE (kg)	Freon 11 (kg)	Chloroform(g)	PCE (g)	NDMA (g)
Nov-20	<0.1	<0.1	ND	<0.1	<0.1
Dec-20	1.5	1.1	ND	38	14
Jan-21	1.7	1.5	ND	57	18
Feb-21	1.4	0.91	ND	23	16
Mar-21	1.5	1.4	ND	57	15
Apr-21	1.4	1.3	ND	36	8.5
May-21	3.7	3.9	ND	115	27
Jun-21	3.3	3.4	ND	99	24
Jul-21	4.4	3.7	ND	172	28
Aug-21	4.0	4.1	ND	159	23
Sep-21	0.45	0.28	ND	13	3.9
Oct-21	0.26	0.15	ND	ND	5.9
Total[2]	**23.6**	**21.7**	**ND**	**769**	**183**

Notes:

1) Mass removed calculated as:
(*Influent concentration - Effluent concentration) * volume of water extracted*

2) Total mass removed during the period covered by this table.

Table 5.7 MPITS Air Stripper and UV Reactor Performance for the Reporting Period

	Analyte	Unit	Design Parameter	Aug-21	Sep-21	Oct-21
Air Stripper Influent Concentrations (MPE Wells)	TCE	µg/L	140	72	40	39
	PCE	µg/L	6.4	3.4	2	2.2
	Freon 11	µg/L	240	140	89	79
	Chloroform	µg/L	NA[2]	<0.24[1]	<0.24[1]	<0.24[1]
Air Stripper Influent Concentrations (Well 600-G-138)	TCE	µg/L	140	NS	NS	32
	PCE	µg/L	6.4	NS	NS	<0.21[1]
	Freon 11	µg/L	240	NS	NS	0.84 J
	Chloroform	µg/L	NA[2]	NS	NS	0.52 J
Air Stripper Effluent Concentrations	TCE	µg/L	1.0	2.2	<0.20[1]	<0.20[1]
	PCE	µg/L	1.0	<0.21[1]	<0.21[1]	<0.21[1]
	Freon 11	µg/L	50	7.5	<0.24[1]	<0.24[1]
	Chloroform	µg/L	NA[2]	<0.24[1]	<0.24[1]	<0.24[1]
UV Reactor Influent Concentrations (MPE Wells)	NDMA[3]	ng/L	25,500	6,000[a]	2,800[b]	2,600[c]
UV Reactor Influent Concentrations (Well 600-G-138)	NDMA	ng/L	25,500	NS	NS	NS
UV Reactor Effluent Concentrations[4]	NDMA[4]	ng/L	< 2.0	1.4 RB A FB	0.51 RB FB	0.66

Notes:

* = For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (179%) in the laboratory fortified blank (LFB21A28CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.

A = The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.

FB = The analyte was detected in the field blank.J = The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.

NS = Not sampled during the reporting period. Well 600-G-138 is sampled annually for NDMA in accordance with the GMP (NASA, 2021a). Analytical data are provided in this table when available.

RB = The analyte was detected in the method blank.

1 Analytical result for the constituent was below the MDL (provided).

2 Chloroform was not included in the design analyte list; not applicable (NA).

3 Reported NDMA concentration is corrected for extraction efficiency. Modified EPA Method 607 batch-specific laboratory control sample recovery of NDMA: 43%[a], 58%[b], 50%[c].

4 Analytical results from low-level analytical method and was below the MDL (provided). Results for Method 607 were ND.

Table 5.8 Mid-plume Mass Removal[1]

Date	TCE (g)	F11 (g)	Chloroform (g)	PCE (g)	NDMA (g)
Nov-20	69	130	ND	3.2	9.4
Dec-20	72	140	ND	3.4	9.8
Jan-21	66	130	ND	3.1	9.0
Feb-21	94	190	0.01	4.0	11
Mar-21	120	190	0.01	5.2	14
Apr-21	100	210	0.01	4.4	12
May-21	69	150	ND	3.1	6.2
Jun-21	83	179	ND	3.6	7.3
Jul-21	70	151	ND	3.1	6.2
Aug-21	65	113	ND	2.8	6.0
Sep-21	62	121	ND	2.5	5.3
Oct-21	35	70	ND	1.4	3.0
Total[2]	905	1774	0.03	40	99

Notes:

1) Mass calculation: volume of water extracted at each well * (*contaminant concentration at each well – MPITS effluent concentration*)
2) Total mass removed during the period covered by this table.

Table 5.9 Groundwater Treatment System Operation Costs ($ / 1,000 gals)

Date	Gallons[1] Treated	ECO Labor + Materials	TEST Labor + Materials	L+M cost per 1,000 gal	Energy Cost	Energy Cost per 1,000 gal	Total Cost	Total Cost per 1,000 gal treated
Nov-20	378,947	$60,571	$86,828	$388.97	$5,714	$15.08	$153,113	$404.05
Dec-20	13,448,852	$60,571	$69,775	$9.69	$10,076	$0.75	$140,422	$10.44
Jan-21	25,292,665	$60,571	$66,177	$5.01	$26,323	$1.04	$153,071	$6.05
Feb-21	22,918,654	$60,571	$62,487	$5.37	$23,938	$1.04	$146,996	$6.41
Mar-21	24,723,395	$60,571	$89,304	$6.06	$21,923	$0.89	$171,798	$6.95
Apr-21	26,173,206	$48,457	$56,956	$4.03	$24,106	$0.92	$129,519	$4.95
May-21	28,802,957	$60,547	$53,940	$3.97	$23,373	$0.81	$137,860	$4.79
Jun-21	26,672,390	$118,079	$66,298	$6.91	$29,110[2]	$1.09	$213,487	$8.00
Jul-21	28,005,674	$65,147	$49,923	$4.11	$38,421[2]	$1.37	$153,491	$5.48
Aug-21	33,533,267	$101,792	$49,614	$4.52	$40,390[2]	$1.20	$191,796	$5.72
Sep-21	9,661,806	$122,151	$55,846	$18.42	$20,021[2]	$2.07	$198,017	$20.49
Oct-21	24,289,224	$81,434	$45,431	$5.22	$26,150[2]	$0.82	$153,015	$6.05
12-Month Total	263,901,037	$900,462	$752,579	$6.26	$289,545	$1.10	$1,942,585	$7.36

Notes:
1 Gallons treated reflects amount of water extracted during power reporting period.
2 Includes Peak Demand Rates.

Table 7.1 Status of Wells with Sampling Issues

Well	Date of Discovery	Description	Scheduled for Sampling this Qtr? / Est. Next Sampling Date per GMP	Description of Future Plan or Resolution
New Occurrences this Quarter				
JP-3-509	Oct-21	Sampling system not operational	Yes / Jan-22 (quarterly for NDMA, VOC; annual for others)	Troubleshoot and repair.
Unresolved Issues				
BLM-1-435	Apr-20	Sampling failed, as there was not enough water in the screen to fill the sample bottles. Failed again, in April 2021 and October 2021.	Yes / Apr-22 (semiannually)	Well is a poor producer. It is typically purged dry the first day, then sampled the following day. The condition of the well is being evaluated.
400-C-118	Nov-20	Unable to collect groundwater sample because the water level in the well was insufficient for sampling. Insufficient recharge.	Yes / Oct-22 (annually)	Monitor the water level in this well and sample if the water level recovers enough to obtain a representative sample.
400-C-143	Apr-21	Unable to collect groundwater sample because the water level in the well was insufficient for sampling.	No / Apr-22 (annually)	Monitor the water level in this well and sample if the water level recovers enough to obtain a representative sample.
PL-3-453	Dec-20	Unable to collect groundwater sample because the water level in the well was insufficient for sampling. Insufficient recharge.	Yes / Jan-22 (quarterly for NDMA, VOC; annual for others)	Monitor the water level in this well and sample if the water level recovers enough to obtain a representative sample.
WW-4	Jul-19 (FLUTe removal)	Water FLUTe sampling system removed Data Representativeness Phase 1: Water FLUTe Well Evaluation.	No / TBD (quarterly)	FLUTe system is scheduled to be reinstalled and sampled in first quarter 2022.

Well	Date of Discovery	Description	Scheduled for Sampling this Qtr? / Est. Next Sampling Date per GMP	Description of Future Plan or Resolution
NASA 9	Oct-20	Could not be sampled - intrusion of roots into the well casing and screen.	Yes / Oct-22 (annually)	A work plan for abandonment and possible replacement of the monitoring well will be submitted to NMED for approval no later than April 29, 2022.
Issues Resolved this Quarter (will not appear in future Periodic Monitoring Reports)				
400-IV-123	Nov-20	Unable to collect groundwater sample because the water level in the well was insufficient for sampling. Insufficient recharge.	Yes / Feb-22 (quarterly for VOC; annually for others)	Based on water level measurement in September 2021, NASA sampled the well successfully in October 2021.
300-C-128	Aug-20	Could not be sampled - the water level in the well has dropped below the bottom of the screened interval.	Yes / Oct-22 (annually)	Based on water level measurement in September 2021, NASA sampled the well successfully in October 2021.
200-LV-150	Nov-19	Insufficient recharge - Sampled on February 13, 2020 and May 12, 2020 using an unapproved sample method.	Yes / Oct-22 (annually)	NASA evaluated the well and replaced the sampling system in September 2021. Testing indicated that the well might recharge enough for sample collection. Sampling in October 2021 was successful.

Table 7.2 Plume Front Vertical Gradients for the Reporting Period

Well	Type of Well	Screen Midpoint (ft bgs)	Sample Date	Water Level (ft amsl)	Water Level Difference (ft)[1]	Screen Depth Difference (ft)[1]	Vertical Gradient[1,2] (ft/ft)
ST-5-485	Westbay	485.05	5/3/21	4,038.16			
ST-5-655	Westbay	655.05	5/3/21	4,037.08	-1.080	170	-0.006
ST-5-815	Westbay	815	5/3/21	4,036.38	-0.700	159.95	-0.004
ST-5-985	Westbay	984.9	5/3/21	4,032.42	-3.960	169.9	-0.023
ST-5-1175	Westbay	1,175.1	5/3/21	4,034.49	2.070	190.2	0.011
PL-7-480	Westbay	480	5/3/21	4,041.3			
PL-7-560	Westbay	560	5/3/21	4,044.32	3.020	80	0.038
PL-10-484	Westbay	484.3	5/3/21	4,040.87			
PL-10-592	Westbay	594.3	5/3/21	4,040.75	-0.120	110	-0.001
PL-10-813	Westbay	814.3	5/3/21	4,048.78	8.030	220	0.037
PL-10-962	Westbay	964.4	5/3/21	4,063.11	14.330	150.1	0.096
BLM-17-493	Conventional	503.18	4/26/21	4,039.31			
BLM-17-550	Conventional	555.65	4/26/21	4,033.39	-5.92	52.47	-0.113

Notes:
[1] Relative to well screen directly above.
[2] Negative = Downwards

Appendix A
Indicator Parameters and Analytical Data

Appendix A.1: Monitor Well Indicator Parameters
Appendix A.2: Monitor Well Analytical Data
Appendix A.3: PFTS Indicator Parameters
Appendix A.4: PFTS Analytical Data
Appendix A.5: MPITS Indicator Parameters
Appendix A.6: MPITS Analytical Data
Appendix A.7: Drinking Water Sampling Events
Appendix A.8: Detections for Drinking Water Sampling Events

Appendix A.1
Monitor Well Indicator Parameters

Summary of Water Quality Parameters
for the Sampling Events in this Reporting Period

Well ID 200-H-225 **Event Date** 8/12/2021

Sample	Parameter	Result	Units
2108120935Y	Conductivity	1119	µS/cm
2108120935Y	DTW	79.12	ft
2108120935Y	Formation Pressure	41.77	psia
2108120935Y	pH	7.02	NA
2108120935Y	Temperature	22.8	ºC
2108120935Y	Turbidity	0.86	NTU
2108121042Y	Conductivity	1278	µS/cm
2108121042Y	DTW	79.30	ft
2108121042Y	pH	7.55	NA
2108121042Y	Temperature	27.4	ºC
2108121042Y	Turbidity	0.56	NTU

Well ID 200-H-331 **Event Date** 8/11/2021

Sample	Parameter	Result	Units
2108110905Y	Atmospheric Pressure	12.57	psia
2108110905Y	Conductivity	2310	µS/cm
2108110905Y	Formation Pressure	100.19	psia
2108110905Y	pH	7.85	NA
2108110905Y	Temperature	22.3	ºC
2108110905Y	Turbidity	1.04	NTU
2108111022Y	Atmospheric Pressure	12.56	psia
2108111022Y	Conductivity	2430	µS/cm
2108111022Y	pH	7.80	NA
2108111022Y	Temperature	22.4	ºC
2108111022Y	Turbidity	1.01	NTU

Well ID 200-H-433 **Event Date** 8/11/2021

Sample	Parameter	Result	Units
2108111450Y	Atmospheric Pressure	12.56	psia
2108111450Y	Conductivity	2330	µS/cm
2108111450Y	Formation Pressure	187.06	psia
2108111450Y	pH	7.29	NA
2108111450Y	Temperature	24.3	ºC
2108111450Y	Turbidity	0.61	NTU

Well ID 200-JG-110 **Event Date** 9/20/2021

Sample	Parameter	Result	Units
2109200845A	Conductivity	1304	µS/cm
2109200845A	DTW	120.97	ft
2109200845A	pH	8.24	NA
2109200845A	Temperature	22.2	ºC
2109200845A	Turbidity	1.24	NTU
2109200848A	Conductivity	1309	µS/cm
2109200848A	DTW	121.18	ft
2109200848A	pH	8.21	NA
2109200848A	Temperature	22.1	ºC
2109200848A	Turbidity	1.06	NTU
2109200851A	Conductivity	1311	µS/cm
2109200851A	DTW	121.18	ft
2109200851A	pH	8.18	NA
2109200851A	Temperature	22.4	ºC
2109200851A	Turbidity	1.03	NTU

Well ID 200-KV-150 **Event Date** 9/14/2021

Sample	Parameter	Result	Units
2109140855C	Conductivity	1780	µS/cm
2109140855C	DTW	158.86	ft
2109140855C	pH	8.36	NA
2109140855C	Temperature	22.0	ºC
2109140855C	Turbidity	4.78	NTU
2109140915C	Conductivity	1738	µS/cm
2109140915C	DTW	162.39	ft
2109140915C	pH	8.16	NA
2109140915C	Temperature	22.5	ºC
2109140915C	Turbidity	3.87	NTU

Well ID 200-LV-150 **Event Date** 10/20/2021

Sample	Parameter	Result	Units
2110200920A	Conductivity	1319	µS/cm
2110200920A	DO	1.65	mg/L
2110200920A	DTW	156.83	ft
2110200920A	ORP	-160	mV
2110200920A	pH	7.54	NA
2110200920A	Temperature	20.77	ºC
2110200920A	Turbidity	3.55	NTU
2110200922A	Conductivity	1337	µS/cm
2110200922A	DO	1.67	mg/L
2110200922A	DTW	157.60	ft
2110200922A	ORP	-157	mV
2110200922A	pH	7.50	NA
2110200922A	Temperature	20.83	ºC
2110200922A	Turbidity	3.06	NTU
2110200924A	Conductivity	1321	µS/cm
2110200924A	DO	1.70	mg/L
2110200924A	DTW	157.60	ft
2110200924A	ORP	-156	mV
2110200924A	pH	7.47	NA
2110200924A	Temperature	20.80	ºC
2110200924A	Turbidity	3.63	NTU

Well ID 200-SG-1 **Event Date** 9/7/2021

Sample	Parameter	Result	Units
2109071025B	Conductivity	1243	µS/cm
2109071025B	DTW	133.75	ft
2109071025B	pH	7.36	NA
2109071025B	Temperature	22.9	ºC
2109071025B	Turbidity	3.02	NTU
2109071045B	Conductivity	1248	µS/cm
2109071045B	DTW	134.25	ft
2109071045B	pH	7.27	NA
2109071045B	Temperature	23.2	ºC
2109071045B	Turbidity	2.47	NTU
2109071330B	Conductivity	1233	µS/cm
2109071330B	DTW	134.60	ft
2109071330B	pH	7.40	NA
2109071330B	Temperature	23.7	ºC
2109071330B	Turbidity	1.89	NTU

Well ID	300-A-120	Event Date	9/13/2021	
Sample	**Parameter**		**Result**	**Units**
2109130950A	Conductivity		800	µS/cm
2109130950A	DO		1.05	mg/L
2109130950A	DTW		127.95	ft
2109130950A	ORP		47	mV
2109130950A	pH		8.47	NA
2109130950A	Temperature		21.43	ºC
2109130950A	Turbidity		2.09	NTU
2109130952A	Conductivity		816	µS/cm
2109130952A	DO		1.11	mg/L
2109130952A	DTW		128.25	ft
2109130952A	ORP		69	mV
2109130952A	pH		8.11	NA
2109130952A	Temperature		21.47	ºC
2109130952A	Turbidity		3.25	NTU
2109130954A	Conductivity		803	µS/cm
2109130954A	DO		0.94	mg/L
2109130954A	DTW		128.25	ft
2109130954A	ORP		70	mV
2109130954A	pH		8.27	NA
2109130954A	Temperature		21.44	ºC
2109130954A	Turbidity		2.84	NTU

Well ID 300-C-128 **Event Date** 10/19/2021

Sample	Parameter	Result	Units
2110191400A	Conductivity	1036	µS/cm
2110191400A	DO	6.70	mg/L
2110191400A	DTW	142.75	ft
2110191400A	ORP	119	mV
2110191400A	pH	7.08	NA
2110191400A	Temperature	22.95	ºC
2110191400A	Turbidity	2.33	NTU
2110191402A	Conductivity	1045	µS/cm
2110191402A	DO	6.24	mg/L
2110191402A	DTW	142.80	ft
2110191402A	ORP	118	mV
2110191402A	pH	7.03	NA
2110191402A	Temperature	22.66	ºC
2110191402A	Turbidity	0.91	NTU
2110191404A	Conductivity	1026	µS/cm
2110191404A	DO	6.52	mg/L
2110191404A	DTW	142.80	ft
2110191404A	ORP	118	mV
2110191404A	pH	7.05	NA
2110191404A	Temperature	22.78	ºC
2110191404A	Turbidity	1.11	NTU

Well ID 300-D-153 **Event Date** 9/16/2021

Sample	Parameter	Result	Units
2109161330C	Conductivity	1254	µS/cm
2109161330C	DTW	160.70	ft
2109161330C	pH	7.53	NA
2109161330C	Temperature	22.9	ºC
2109161330C	Turbidity	1.68	NTU
2109161440C	Conductivity	1271	µS/cm
2109161440C	DTW	162.63	ft
2109161440C	pH	7.42	NA
2109161440C	Temperature	22.8	ºC
2109161440C	Turbidity	1.35	NTU
2109161450C	Conductivity	1268	µS/cm
2109161450C	DTW	162.70	ft
2109161450C	pH	7.38	NA
2109161450C	Temperature	23.4	ºC
2109161450C	Turbidity	1.21	NTU

Well ID 400-D-195 **Event Date** 8/16/2021

Sample	Parameter	Result	Units
2108161550Y	Atmospheric Pressure	12.52	psia
2108161550Y	Conductivity	412	µS/cm
2108161550Y	DTW	205.80	ft
2108161550Y	Formation Pressure	31.11	psia
2108161550Y	pH	7.97	NA
2108161550Y	Temperature	24.9	ºC
2108161550Y	Turbidity	0.86	NTU
2108171050Y	Atmospheric Pressure	12.64	psia
2108171050Y	Conductivity	453	µS/cm
2108171050Y	DTW	205.90	ft
2108171050Y	pH	8.14	NA
2108171050Y	Temperature	25.3	ºC
2108171050Y	Turbidity	1.04	NTU

Well ID 400-D-275 **Event Date** 8/16/2021

Sample	Parameter	Result	Units
2108161020Y	Atmospheric Pressure	12.50	psia
2108161020Y	Conductivity	718	µS/cm
2108161020Y	DTW	205.53	ft
2108161020Y	Formation Pressure	61.57	psia
2108161020Y	pH	8.24	NA
2108161020Y	Temperature	25.0	ºC
2108161020Y	Turbidity	0.71	NTU
2108161410Y	Atmospheric Pressure	12.52	psia
2108161410Y	Conductivity	735	µS/cm
2108161410Y	DTW	205.80	ft
2108161410Y	pH	7.58	NA
2108161410Y	Temperature	25.7	ºC
2108161410Y	Turbidity	0.53	NTU

Well ID 400-D-355 **Event Date** 8/12/2021

Sample	Parameter	Result	Units
2108121500Y	Conductivity	689	µS/cm
2108121500Y	DTW	205.15	ft
2108121500Y	Formation Pressure	96.22	psia
2108121500Y	pH	8.30	NA
2108121500Y	Temperature	24.4	ºC
2108121500Y	Turbidity	1.40	NTU
2108121550Y	Conductivity	764	µS/cm
2108121550Y	DTW	205.53	ft
2108121550Y	pH	8.19	NA
2108121550Y	Temperature	24.9	ºC
2108121550Y	Turbidity	1.97	NTU

Well ID	400-EV-131	Event Date	8/2/2021	
Sample	**Parameter**		**Result**	**Units**
2108020950C	Conductivity		1490	µS/cm
2108020950C	DO		5.68	mg/L
2108020950C	DTW		142.80	ft
2108020950C	ORP		25	mV
2108020950C	pH		8.45	NA
2108020950C	Temperature		28.07	ºC
2108020950C	Turbidity		2.32	NTU
2108020953C	Conductivity		1486	µS/cm
2108020953C	DO		5.66	mg/L
2108020953C	ORP		23	mV
2108020953C	pH		8.41	NA
2108020953C	Temperature		28.09	ºC
2108020953C	Turbidity		2.20	NTU
2108020955C	Conductivity		1489	µS/cm
2108020955C	DO		5.68	mg/L
2108020955C	DTW		143.17	ft
2108020955C	ORP		25	mV
2108020955C	pH		8.39	NA
2108020955C	Temperature		28.13	ºC
2108020955C	Turbidity		2.23	NTU

Well ID	400-FV-131	Event Date	10/18/2021	
Sample	**Parameter**		**Result**	**Units**
2110180950A	Conductivity		1343	µS/cm
2110180950A	DO		2.36	mg/L
2110180950A	DTW		128.65	ft
2110180950A	ORP		96	mV
2110180950A	pH		7.53	NA
2110180950A	Temperature		22.71	ºC
2110180950A	Turbidity		2.73	NTU
2110180952A	Conductivity		1333	µS/cm
2110180952A	DO		2.32	mg/L
2110180952A	DTW		129.20	ft
2110180952A	ORP		94	mV
2110180952A	pH		7.56	NA
2110180952A	Temperature		22.19	ºC
2110180952A	Turbidity		2.68	NTU
2110180954A	Conductivity		1346	µS/cm
2110180954A	DO		2.20	mg/L
2110180954A	DTW		129.90	ft
2110180954A	ORP		93	mV
2110180954A	pH		7.57	NA
2110180954A	Temperature		21.90	ºC
2110180954A	Turbidity		2.88	NTU

Well ID	400-GV-125	Event Date	8/3/2021	
Sample	**Parameter**		**Result**	**Units**
2108030855C	Conductivity		1510	µS/cm
2108030855C	DO		5.94	mg/L
2108030855C	DTW		131.58	ft
2108030855C	ORP		26	mV
2108030855C	pH		8.29	NA
2108030855C	Temperature		22.57	ºC
2108030855C	Turbidity		1.69	NTU
2108030857C	Conductivity		1630	µS/cm
2108030857C	DO		5.90	mg/L
2108030857C	ORP		25	mV
2108030857C	pH		8.22	NA
2108030857C	Temperature		22.54	ºC
2108030857C	Turbidity		1.73	NTU
2108030859C	Conductivity		1580	µS/cm
2108030859C	DO		5.91	mg/L
2108030859C	DTW		131.90	ft
2108030859C	ORP		25	mV
2108030859C	pH		8.26	NA
2108030859C	Temperature		22.55	ºC
2108030859C	Turbidity		1.70	NTU

Well ID	400-HV-147	Event Date	10/18/2021	
Sample	**Parameter**		**Result**	**Units**
2110181400A	Conductivity		1870	µS/cm
2110181400A	DO		4.76	mg/L
2110181400A	DTW		138.50	ft
2110181400A	ORP		99	mV
2110181400A	pH		7.60	NA
2110181400A	Temperature		23.20	ºC
2110181400A	Turbidity		1.21	NTU
2110181402A	Conductivity		1860	µS/cm
2110181402A	DO		4.05	mg/L
2110181402A	DTW		138.90	ft
2110181402A	ORP		99	mV
2110181402A	pH		7.62	NA
2110181402A	Temperature		23.17	ºC
2110181402A	Turbidity		0.78	NTU
2110181404A	Conductivity		1870	µS/cm
2110181404A	DO		3.41	mg/L
2110181404A	DTW		138.90	ft
2110181404A	ORP		98	mV
2110181404A	pH		7.64	NA
2110181404A	Temperature		23.24	ºC
2110181404A	Turbidity		0.71	NTU

Well ID 400-IV-123 **Event Date** 10/19/2021

Sample	Parameter	Result	Units
2110190950A	Conductivity	393	µS/cm
2110190950A	DO	6.17	mg/L
2110190950A	DTW	129.90	ft
2110190950A	ORP	101	mV
2110190950A	pH	7.03	NA
2110190950A	Temperature	22.17	ºC
2110190950A	Turbidity	1.27	NTU
2110190952A	Conductivity	391	µS/cm
2110190952A	DO	6.30	mg/L
2110190952A	DTW	131.85	ft
2110190952A	ORP	99	mV
2110190952A	pH	7.28	NA
2110190952A	Temperature	22.20	ºC
2110190952A	Turbidity	1.44	NTU
2110190954A	Conductivity	390	µS/cm
2110190954A	DO	6.21	mg/L
2110190954A	DTW	131.85	ft
2110190954A	ORP	99	mV
2110190954A	pH	7.33	NA
2110190954A	Temperature	22.18	ºC
2110190954A	Turbidity	1.35	NTU

Well ID 400-JV-150 **Event Date** 8/2/2021

Sample	Parameter	Result	Units
2108021408C	Conductivity	2250	µS/cm
2108021408C	DO	3.07	mg/L
2108021408C	DTW	146.50	ft
2108021408C	ORP	9	mV
2108021408C	pH	8.26	NA
2108021408C	Temperature	24.67	ºC
2108021408C	Turbidity	3.82	NTU
2108021410C	Conductivity	2200	µS/cm
2108021410C	DO	3.10	mg/L
2108021410C	ORP	11	mV
2108021410C	pH	8.25	NA
2108021410C	Temperature	24.63	ºC
2108021410C	Turbidity	3.76	NTU
2108021412C	Conductivity	2260	µS/cm
2108021412C	DO	3.10	mg/L
2108021412C	DTW	147.10	ft
2108021412C	ORP	11	mV
2108021412C	pH	8.28	NA
2108021412C	Temperature	24.66	ºC
2108021412C	Turbidity	3.80	NTU

Well ID 600-G-138 **Event Date** 10/21/2021

Sample	Parameter	Result	Units
2110211100A	Conductivity	1699	µS/cm
2110211100A	DTW	145.00	ft
2110211100A	pH	7.85	NA
2110211100A	Temperature	18.6	ºC
2110211100A	Turbidity	1.71	NTU
2110211109A	Conductivity	1714	µS/cm
2110211109A	DTW	145.60	ft
2110211109A	pH	7.95	NA
2110211109A	Temperature	18.8	ºC
2110211109A	Turbidity	1.64	NTU

Well ID 700-A-253 **Event Date** 9/29/2021

Sample	Parameter	Result	Units
2109290855C	Conductivity	1129	µS/cm
2109290855C	pH	7.49	NA
2109290855C	Temperature	21.9	ºC
2109290855C	Turbidity	0.52	NTU
2109290945C	Conductivity	1143	µS/cm
2109290945C	pH	7.41	NA
2109290945C	Temperature	22.8	ºC
2109290945C	Turbidity	0.76	NTU

Well ID 700-D-186 **Event Date** 9/28/2021

Sample	Parameter	Result	Units
2109280855C	Conductivity	1384	µS/cm
2109280855C	pH	7.53	NA
2109280855C	Temperature	19.9	ºC
2109280855C	Turbidity	0.23	NTU
2109280940C	Conductivity	1377	µS/cm
2109280940C	pH	7.50	NA
2109280940C	Temperature	19.7	ºC
2109280940C	Turbidity	0.18	NTU

Well ID 700-E-458 **Event Date** 8/18/2021

Sample	Parameter	Result	Units
2108180915C	Conductivity	808	µS/cm
2108180915C	DO	4.51	mg/L
2108180915C	DTW	310.73	ft
2108180915C	ORP	-88	mV
2108180915C	pH	9.37	NA
2108180915C	Temperature	22.40	ºC
2108180915C	Turbidity	1.30	NTU
2108180918C	Conductivity	816	µS/cm
2108180918C	DO	4.44	mg/L
2108180918C	DTW	311.82	ft
2108180918C	ORP	-90	mV
2108180918C	pH	9.43	NA
2108180918C	Temperature	22.41	ºC
2108180918C	Turbidity	1.16	NTU
2108180921C	Conductivity	819	µS/cm
2108180921C	DO	4.29	mg/L
2108180921C	DTW	311.86	ft
2108180921C	ORP	-90	mV
2108180921C	pH	9.48	NA
2108180921C	Temperature	22.47	ºC
2108180921C	Turbidity	1.09	NTU

Well ID 700-H-350 **Event Date** 9/28/2021

Sample	Parameter	Result	Units
2109280920Y	Atmospheric Pressure	12.34	psia
2109280920Y	Conductivity	818	µS/cm
2109280920Y	DTW	260.80	ft
2109280920Y	Formation Pressure	64.59	psia
2109280920Y	pH	7.80	NA
2109280920Y	Temperature	17.8	ºC
2109280920Y	Turbidity	1.11	NTU
2109281546Y	Atmospheric Pressure	12.31	psia
2109281546Y	Conductivity	831	µS/cm
2109281546Y	DTW	261.07	ft
2109281546Y	pH	8.03	NA
2109281546Y	Temperature	19.0	ºC
2109281546Y	Turbidity	0.90	NTU

Well ID 700-H-535 **Event Date** 9/29/2021

Sample	Parameter	Result	Units
2109291550Y	Atmospheric Pressure	12.39	psia
2109291550Y	Conductivity	672	µS/cm
2109291550Y	DTW	261.33	ft
2109291550Y	Formation Pressure	150.85	psia
2109291550Y	pH	8.61	NA
2109291550Y	Temperature	20.2	ºC
2109291550Y	Turbidity	1.13	NTU
2109301055Y	Atmospheric Pressure	12.37	psia
2109301055Y	Conductivity	713	µS/cm
2109301055Y	DTW	261.85	ft
2109301055Y	pH	8.77	NA
2109301055Y	Temperature	18.5	ºC
2109301055Y	Turbidity	0.26	NTU

Well ID 700-H-670 **Event Date** 9/29/2021

Sample	Parameter	Result	Units
2109290823Y	Atmospheric Pressure	12.36	psia
2109290823Y	Conductivity	635	µS/cm
2109290823Y	DTW	261.07	ft
2109290823Y	Formation Pressure	202.60	psia
2109290823Y	pH	8.50	NA
2109290823Y	Temperature	18.0	ºC
2109290823Y	Turbidity	1.92	NTU
2109291120Y	Atmospheric Pressure	12.38	psia
2109291120Y	Conductivity	627	µS/cm
2109291120Y	DTW	261.33	ft
2109291120Y	pH	8.62	NA
2109291120Y	Temperature	18.5	ºC
2109291120Y	Turbidity	0.41	NTU

Well ID	700-J-200	Event Date	9/28/2021	
Sample	**Parameter**		**Result**	**Units**
2109280900A	Conductivity		1160	µS/cm
2109280900A	DO		1.54	mg/L
2109280900A	DTW		116.40	ft
2109280900A	ORP		181	mV
2109280900A	pH		7.44	NA
2109280900A	Temperature		21.66	ºC
2109280900A	Turbidity		5.81	NTU
2109280902A	Conductivity		1159	µS/cm
2109280902A	DO		1.23	mg/L
2109280902A	DTW		116.88	ft
2109280902A	ORP		181	mV
2109280902A	pH		7.52	NA
2109280902A	Temperature		21.65	ºC
2109280902A	Turbidity		6.11	NTU
2109280904A	Conductivity		1158	µS/cm
2109280904A	DO		1.13	mg/L
2109280904A	DTW		116.88	ft
2109280904A	ORP		181	mV
2109280904A	pH		7.45	NA
2109280904A	Temperature		21.65	ºC
2109280904A	Turbidity		7.17	NTU
2109290820A	Conductivity		1168	µS/cm
2109290820A	DO		3.34	mg/L
2109290820A	DTW		116.40	ft
2109290820A	ORP		169	mV
2109290820A	pH		7.38	NA
2109290820A	Temperature		21.76	ºC
2109290820A	Turbidity		6.05	NTU
2109290822A	Conductivity		1165	µS/cm
2109290822A	DO		2.98	mg/L
2109290822A	DTW		116.60	ft
2109290822A	ORP		168	mV
2109290822A	pH		7.40	NA
2109290822A	Temperature		21.79	ºC
2109290822A	Turbidity		5.08	NTU
2109290824A	Conductivity		1179	µS/cm
2109290824A	DO		2.92	mg/L
2109290824A	DTW		116.60	ft
2109290824A	ORP		167	mV
2109290824A	pH		7.41	NA
2109290824A	Temperature		21.77	ºC
2109290824A	Turbidity		5.19	NTU

Well ID	BLM-10-517	Event Date	10/5/2021	
Sample	**Parameter**		**Result**	**Units**
2110051430A	Conductivity		996	µS/cm
2110051430A	DO		6.18	mg/L
2110051430A	DTW		495.55	ft
2110051430A	ORP		149	mV
2110051430A	pH		6.68	NA
2110051430A	Temperature		21.72	ºC
2110051430A	Turbidity		0.33	NTU
2110051433A	Conductivity		1003	µS/cm
2110051433A	DO		6.40	mg/L
2110051433A	DTW		495.55	ft
2110051433A	ORP		148	mV
2110051433A	pH		6.73	NA
2110051433A	Temperature		21.80	ºC
2110051433A	Turbidity		0.24	NTU
2110051436A	Conductivity		1009	µS/cm
2110051436A	DO		6.62	mg/L
2110051436A	DTW		495.55	ft
2110051436A	ORP		145	mV
2110051436A	pH		6.74	NA
2110051436A	Temperature		21.83	ºC
2110051436A	Turbidity		0.25	NTU

Well ID	BLM-14-327	Event Date	10/18/2021	
Sample	**Parameter**		**Result**	**Units**
2110181400C	Conductivity		1301	µS/cm
2110181400C	DTW		278.43	ft
2110181400C	pH		7.45	NA
2110181400C	Temperature		20.13	ºC
2110181400C	Turbidity		1.52	NTU
2110181403C	Conductivity		1293	µS/cm
2110181403C	DTW		278.61	ft
2110181403C	pH		7.41	NA
2110181403C	Temperature		20.2	ºC
2110181403C	Turbidity		1.44	NTU
2110181406C	Conductivity		1290	µS/cm
2110181406C	DTW		278.61	ft
2110181406C	pH		7.39	NA
2110181406C	Temperature		20.0	ºC
2110181406C	Turbidity		1.27	NTU

Well ID	BLM-21-400	Event Date	8/5/2021	
Sample	**Parameter**		**Result**	**Units**
2108050850B	Conductivity		1133	µS/cm
2108050850B	DO		8.17	mg/L
2108050850B	DTW		338.64	ft
2108050850B	ORP		-24	mV
2108050850B	pH		8.40	NA
2108050850B	Temperature		21.76	ºC
2108050850B	Turbidity		2.20	NTU
2108050851B	Conductivity		1148	µS/cm
2108050851B	DO		7.83	mg/L
2108050851B	DTW		339.19	ft
2108050851B	ORP		-20	mV
2108050851B	pH		8.44	NA
2108050851B	Temperature		21.85	ºC
2108050851B	Turbidity		2.06	NTU
2108050852B	Conductivity		1157	µS/cm
2108050852B	DO		7.29	mg/L
2108050852B	DTW		339.27	ft
2108050852B	ORP		-18	mV
2108050852B	pH		8.45	NA
2108050852B	Temperature		21.98	ºC
2108050852B	Turbidity		1.75	NTU

Well ID	BLM-23-431	Event Date	8/3/2021	
Sample	**Parameter**		**Result**	**Units**
2108031410C	Conductivity		1381	µS/cm
2108031410C	DO		1.53	mg/L
2108031410C	DTW		331.80	ft
2108031410C	ORP		-2	mV
2108031410C	pH		8.58	NA
2108031410C	Temperature		22.46	ºC
2108031410C	Turbidity		1.33	NTU
2108031412C	Conductivity		1380	µS/cm
2108031412C	DO		1.57	mg/L
2108031412C	ORP		-2	mV
2108031412C	pH		8.53	NA
2108031412C	Temperature		22.42	ºC
2108031412C	Turbidity		1.36	NTU
2108031414C	Conductivity		1383	µS/cm
2108031414C	DO		1.54	mg/L
2108031414C	ORP		-3	mV
2108031414C	pH		8.50	NA
2108031414C	Temperature		22.43	ºC
2108031414C	Turbidity		1.31	NTU

Well ID	BLM-25-455	Event Date	8/3/2021	
Sample	**Parameter**		**Result**	**Units**
2108030950B	Conductivity		1028	µS/cm
2108030950B	DTW		339.00	ft
2108030950B	pH		7.49	NA
2108030950B	Temperature		23.1	ºC
2108030950B	Turbidity		0.73	NTU
2108030953B	Conductivity		1020	µS/cm
2108030953B	DTW		339.51	ft
2108030953B	pH		7.53	NA
2108030953B	Temperature		23.5	ºC
2108030953B	Turbidity		0.65	NTU
2108030956B	Conductivity		1017	µS/cm
2108030956B	DTW		336.58	ft
2108030956B	pH		7.57	NA
2108030956B	Temperature		23.6	ºC
2108030956B	Turbidity		0.62	NTU

Well ID	BLM-32-543	Event Date	8/9/2021	
Sample	**Parameter**		**Result**	**Units**
2108091300B	Conductivity		1009	µS/cm
2108091300B	pH		8.27	NA
2108091300B	Temperature		26.2	ºC
2108091300B	Turbidity		0.47	NTU
2108091659B	Conductivity		1021	µS/cm
2108091659B	pH		7.37	NA
2108091659B	Temperature		24.7	ºC
2108091659B	Turbidity		0.60	NTU

Well ID	BLM-32-571	Event Date	8/9/2021	
Sample	**Parameter**		**Result**	**Units**
2108091306B	Conductivity		947	µS/cm
2108091306B	pH		8.11	NA
2108091306B	Temperature		25.8	ºC
2108091306B	Turbidity		0.53	NTU
2108091559B	Conductivity		959	µS/cm
2108091559B	pH		7.95	NA
2108091559B	Temperature		24.9	ºC
2108091559B	Turbidity		0.54	NTU

Well ID	BLM-32-632	Event Date	8/9/2021	
Sample	**Parameter**		**Result**	**Units**
2108091315B	Conductivity		976	µS/cm
2108091315B	pH		8.04	NA
2108091315B	Temperature		25.5	ºC
2108091315B	Turbidity		0.45	NTU
2108091620B	Conductivity		989	µS/cm
2108091620B	pH		7.58	NA
2108091620B	Temperature		25.1	ºC
2108091620B	Turbidity		0.51	NTU

Well ID	BLM-39-385	Event Date	10/7/2021	
Sample	**Parameter**		**Result**	**Units**
2110071454Y	Atmospheric Pressure		12.54	psia
2110071454Y	Conductivity		1148	µS/cm
2110071454Y	Formation Pressure		25.41	psia
2110071454Y	pH		8.40	NA
2110071454Y	Temperature		20.1	ºC
2110071454Y	Turbidity		1.50	NTU
2110120905Y	Atmospheric Pressure		12.50	psia
2110120905Y	Conductivity		1130	µS/cm
2110120905Y	DTW		369.27	ft
2110120905Y	pH		8.32	NA
2110120905Y	Temperature		19.0	ºC
2110120905Y	Turbidity		1.12	NTU

Well ID	BLM-39-560	Event Date	10/7/2021	
Sample	**Parameter**		**Result**	**Units**
2110070948Y	Atmospheric Pressure		12.57	psia
2110070948Y	Conductivity		681	µS/cm
2110070948Y	Formation Pressure		99.54	psia
2110070948Y	pH		8.76	NA
2110070948Y	Temperature		19.0	ºC
2110070948Y	Turbidity		1.81	NTU
2110071348Y	Atmospheric Pressure		12.57	psia
2110071348Y	Conductivity		770	µS/cm
2110071348Y	pH		7.54	NA
2110071348Y	Temperature		21.2	ºC
2110071348Y	Turbidity		0.79	NTU

Well ID	BLM-40-517	Event Date	10/4/2021	
Sample	**Parameter**		**Result**	**Units**
2110041410A	Conductivity		826	µS/cm
2110041410A	DO		5.95	mg/L
2110041410A	DTW		523.67	ft
2110041410A	ORP		148	mV
2110041410A	pH		6.89	NA
2110041410A	Temperature		21.08	ºC
2110041410A	Turbidity		0.31	NTU
2110041413A	Conductivity		820	µS/cm
2110041413A	DO		5.61	mg/L
2110041413A	DTW		524.08	ft
2110041413A	ORP		146	mV
2110041413A	pH		6.90	NA
2110041413A	Temperature		21.14	ºC
2110041413A	Turbidity		0.23	NTU
2110041416A	Conductivity		816	µS/cm
2110041416A	DO		5.29	mg/L
2110041416A	DTW		524.10	ft
2110041416A	ORP		146	mV
2110041416A	pH		6.93	NA
2110041416A	Temperature		21.19	ºC
2110041416A	Turbidity		0.22	NTU

Well ID	BLM-40-595	Event Date	10/4/2021	
Sample	**Parameter**		**Result**	**Units**
2110040950A	Conductivity		572	µS/cm
2110040950A	DO		5.87	mg/L
2110040950A	DTW		522.50	ft
2110040950A	ORP		153	mV
2110040950A	pH		6.32	NA
2110040950A	Temperature		20.78	ºC
2110040950A	Turbidity		0.21	NTU
2110040953A	Conductivity		574	µS/cm
2110040953A	DO		5.98	mg/L
2110040953A	DTW		523.18	ft
2110040953A	ORP		153	mV
2110040953A	pH		6.31	NA
2110040953A	Temperature		20.83	ºC
2110040953A	Turbidity		0.20	NTU
2110040956A	Conductivity		577	µS/cm
2110040956A	DO		6.03	mg/L
2110040956A	DTW		523.18	ft
2110040956A	ORP		152	mV
2110040956A	pH		6.28	NA
2110040956A	Temperature		20.88	ºC
2110040956A	Turbidity		0.14	NTU

Well ID	BLM-40-688	Event Date	10/5/2021	
Sample	**Parameter**		**Result**	**Units**
2110050930A	Conductivity		747	µS/cm
2110050930A	DO		4.22	mg/L
2110050930A	ORP		169	mV
2110050930A	pH		6.43	NA
2110050930A	Temperature		20.78	ºC
2110050930A	Turbidity		0.27	NTU
2110050933A	Conductivity		740	µS/cm
2110050933A	DO		4.09	mg/L
2110050933A	ORP		168	mV
2110050933A	pH		6.45	NA
2110050933A	Temperature		20.86	ºC
2110050933A	Turbidity		0.29	NTU
2110050936A	Conductivity		737	µS/cm
2110050936A	DO		3.97	mg/L
2110050936A	ORP		165	mV
2110050936A	pH		6.48	NA
2110050936A	Temperature		20.88	ºC
2110050936A	Turbidity		0.22	NTU

Well ID	BLM-41-420	Event Date	10/18/2021	
Sample	**Parameter**		**Result**	**Units**
2110181005C	Conductivity		1113	µS/cm
2110181005C	DTW		353.13	ft
2110181005C	pH		7.72	NA
2110181005C	Temperature		18.6	ºC
2110181005C	Turbidity		1.07	NTU
2110181008C	Conductivity		1118	µS/cm
2110181008C	DTW		354.05	ft
2110181008C	pH		7.70	NA
2110181008C	Temperature		18.8	ºC
2110181008C	Turbidity		1.01	NTU
2110181011C	Conductivity		1110	µS/cm
2110181011C	DTW		354.05	ft
2110181011C	pH		7.64	NA
2110181011C	Temperature		19.1	ºC
2110181011C	Turbidity		0.89	NTU

Well ID	BLM-41-670	Event Date	10/19/2021	
Sample	**Parameter**		**Result**	**Units**
2110191425C	Conductivity		1063	µS/cm
2110191425C	DTW		391.43	ft
2110191425C	pH		7.65	NA
2110191425C	Temperature		19.3	ºC
2110191425C	Turbidity		1.44	NTU
2110191428C	Conductivity		1057	µS/cm
2110191428C	DTW		392.15	ft
2110191428C	pH		7.62	NA
2110191428C	Temperature		19.4	ºC
2110191428C	Turbidity		1.32	NTU
2110191431C	Conductivity		1055	µS/cm
2110191431C	DTW		392.15	ft
2110191431C	pH		7.59	NA
2110191431C	Temperature		19.6	ºC
2110191431C	Turbidity		1.16	NTU

Well ID	BLM-42-569	Event Date	9/7/2021	
Sample	**Parameter**		**Result**	**Units**
2109070900C	Conductivity		628	µS/cm
2109070900C	DO		4.92	mg/L
2109070900C	ORP		-74	mV
2109070900C	pH		8.52	NA
2109070900C	Temperature		26.63	ºC
2109070900C	Turbidity		0.96	NTU
2109070902C	Conductivity		627	µS/cm
2109070902C	DO		4.91	mg/L
2109070902C	ORP		-75	mV
2109070902C	pH		8.55	NA
2109070902C	Temperature		26.62	ºC
2109070902C	Turbidity		0.92	NTU
2109070904C	Conductivity		629	µS/cm
2109070904C	DO		4.92	mg/L
2109070904C	ORP		-74	mV
2109070904C	pH		8.53	NA
2109070904C	Temperature		26.64	ºC
2109070904C	Turbidity		0.97	NTU

Well ID	BLM-42-709	Event Date	9/7/2021	
Sample	**Parameter**		**Result**	**Units**
2109071445C	Conductivity		625	µS/cm
2109071445C	DO		4.86	mg/L
2109071445C	ORP		-93	mV
2109071445C	pH		8.41	NA
2109071445C	Temperature		23.32	ºC
2109071445C	Turbidity		0.83	NTU
2109071447C	Conductivity		626	µS/cm
2109071447C	DO		4.83	mg/L
2109071447C	ORP		-92	mV
2109071447C	pH		8.38	NA
2109071447C	Temperature		23.31	ºC
2109071447C	Turbidity		0.79	NTU
2109071449C	Conductivity		623	µS/cm
2109071449C	DO		4.84	mg/L
2109071449C	ORP		-92	mV
2109071449C	pH		8.42	NA
2109071449C	Temperature		23.33	ºC
2109071449C	Turbidity		0.80	NTU

Well ID	BLM-5-527	Event Date	9/20/2021	
Sample	**Parameter**		**Result**	**Units**
2109200955C	Conductivity		1105	µS/cm
2109200955C	DO		7.98	mg/L
2109200955C	ORP		74	mV
2109200955C	pH		8.79	NA
2109200955C	Temperature		22.16	ºC
2109200955C	Turbidity		0.98	NTU
2109200957C	Conductivity		1091	µS/cm
2109200957C	DO		8.17	mg/L
2109200957C	ORP		74	mV
2109200957C	pH		8.80	NA
2109200957C	Temperature		22.00	ºC
2109200957C	Turbidity		1.00	NTU
2109200959C	Conductivity		1106	µS/cm
2109200959C	DO		8.10	mg/L
2109200959C	ORP		73	mV
2109200959C	pH		8.81	NA
2109200959C	Temperature		21.96	ºC
2109200959C	Turbidity		0.68	NTU

Well ID	BLM-6-488	Event Date	10/15/2021	
Sample	**Parameter**		**Result**	**Units**
2110150900C	Conductivity		1405	µS/cm
2110150900C	DO		6.02	mg/L
2110150900C	DTW		360.25	ft
2110150900C	ORP		146	mV
2110150900C	pH		6.50	NA
2110150900C	Temperature		19.46	ºC
2110150900C	Turbidity		6.17	NTU
2110150903C	Conductivity		1420	µS/cm
2110150903C	DO		5.80	mg/L
2110150903C	DTW		360.35	ft
2110150903C	ORP		141	mV
2110150903C	pH		6.53	NA
2110150903C	Temperature		19.57	ºC
2110150903C	Turbidity		5.94	NTU
2110150906C	Conductivity		1427	µS/cm
2110150906C	DO		5.56	mg/L
2110150906C	DTW		360.35	ft
2110150906C	ORP		137	mV
2110150906C	pH		6.55	NA
2110150906C	Temperature		19.71	ºC
2110150906C	Turbidity		5.76	NTU

Well ID	BLM-7-509	Event Date	9/1/2021	
Sample	**Parameter**		**Result**	**Units**
2109010955B	Conductivity		1118	µS/cm
2109010955B	DO		5.69	mg/L
2109010955B	ORP		-46	mV
2109010955B	pH		8.93	NA
2109010955B	Temperature		21.29	ºC
2109010955B	Turbidity		0.41	NTU
2109010956B	Conductivity		1118	µS/cm
2109010956B	DO		5.36	mg/L
2109010956B	ORP		-46	mV
2109010956B	pH		8.93	NA
2109010956B	Temperature		21.31	ºC
2109010956B	Turbidity		0.39	NTU
2109010957B	Conductivity		1117	µS/cm
2109010957B	DO		5.41	mg/L
2109010957B	ORP		-46	mV
2109010957B	pH		8.95	NA
2109010957B	Temperature		21.26	ºC
2109010957B	Turbidity		0.44	NTU
2109090955B	Conductivity		1129	µS/cm
2109090955B	DO		5.17	mg/L
2109090955B	DTW		495.30	ft
2109090955B	ORP		-52	mV
2109090955B	pH		8.61	NA
2109090955B	Temperature		20.65	ºC
2109090955B	Turbidity		0.54	NTU
2109090958B	Conductivity		1133	µS/cm
2109090958B	DO		4.99	mg/L
2109090958B	DTW		495.44	ft
2109090958B	ORP		-50	mV
2109090958B	pH		8.63	NA
2109090958B	Temperature		20.72	ºC
2109090958B	Turbidity		0.47	NTU
2109091001B	Conductivity		1136	µS/cm
2109091001B	DO		4.75	mg/L
2109091001B	DTW		495.44	ft
2109091001B	ORP		-48	mV
2109091001B	pH		8.68	NA
2109091001B	Temperature		20.82	ºC
2109091001B	Turbidity		0.40	NTU

Well ID	BLM-9-419	Event Date	9/2/2021	
Sample	**Parameter**		**Result**	**Units**
2109021025C	Conductivity		1028	µS/cm
2109021025C	DO		4.72	mg/L
2109021025C	DTW		378.72	ft
2109021025C	ORP		-73	mV
2109021025C	pH		8.15	NA
2109021025C	Temperature		21.61	ºC
2109021025C	Turbidity		3.47	NTU
2109021027C	Conductivity		1026	µS/cm
2109021027C	DO		4.65	mg/L
2109021027C	DTW		379.20	ft
2109021027C	ORP		-74	mV
2109021027C	pH		8.12	NA
2109021027C	Temperature		21.63	ºC
2109021027C	Turbidity		3.42	NTU
2109021029C	Conductivity		1029	µS/cm
2109021029C	DO		4.34	mg/L
2109021029C	DTW		379.20	ft
2109021029C	ORP		-74	mV
2109021029C	pH		8.09	NA
2109021029C	Temperature		21.59	ºC
2109021029C	Turbidity		3.34	NTU

Well ID	BW-1-268	Event Date	9/9/2021	
Sample	**Parameter**		**Result**	**Units**
2109090810B	Conductivity		1281	µS/cm
2109090810B	DO		7.16	mg/L
2109090810B	DTW		169.40	ft
2109090810B	ORP		46	mV
2109090810B	pH		7.96	NA
2109090810B	Temperature		20.75	ºC
2109090810B	Turbidity		0.49	NTU
2109090811B	Conductivity		1272	µS/cm
2109090811B	DO		6.80	mg/L
2109090811B	DTW		169.72	ft
2109090811B	ORP		45	mV
2109090811B	pH		8.01	NA
2109090811B	Temperature		20.78	ºC
2109090811B	Turbidity		0.54	NTU
2109090812B	Conductivity		1268	µS/cm
2109090812B	DO		6.53	mg/L
2109090812B	DTW		169.84	ft
2109090812B	ORP		43	mV
2109090812B	pH		8.03	NA
2109090812B	Temperature		20.82	ºC
2109090812B	Turbidity		0.46	NTU

Well ID	BW-3-180	Event Date	10/19/2021	
Sample	**Parameter**		**Result**	**Units**
2110191040C	Conductivity		2340	µS/cm
2110191040C	DTW		170.91	ft
2110191040C	pH		8.11	NA
2110191040C	Temperature		17.3	ºC
2110191040C	Turbidity		14.8	NTU
2110191043C	Conductivity		2330	µS/cm
2110191043C	DTW		172.15	ft
2110191043C	pH		8.09	NA
2110191043C	Temperature		17.0	ºC
2110191043C	Turbidity		12.8	NTU
2110191046C	Conductivity		2300	µS/cm
2110191046C	DTW		172.15	ft
2110191046C	pH		8.09	NA
2110191046C	Temperature		16.9	ºC
2110191046C	Turbidity		12.2	NTU

Well ID BW-6-355 **Event Date** 9/20/2021

Sample	Parameter	Result	Units
2109201445C	Conductivity	1046	µS/cm
2109201445C	DO	3.14	mg/L
2109201445C	DTW	245.35	ft
2109201445C	ORP	27	mV
2109201445C	pH	8.02	NA
2109201445C	Temperature	21.98	ºC
2109201445C	Turbidity	1.50	NTU
2109201447C	Conductivity	1040	µS/cm
2109201447C	DO	3.26	mg/L
2109201447C	DTW	247.55	ft
2109201447C	ORP	27	mV
2109201447C	pH	8.05	NA
2109201447C	Temperature	21.92	ºC
2109201447C	Turbidity	1.34	NTU
2109201449C	Conductivity	1034	µS/cm
2109201449C	DO	3.42	mg/L
2109201449C	DTW	247.55	ft
2109201449C	ORP	26	mV
2109201449C	pH	8.00	NA
2109201449C	Temperature	22.01	ºC
2109201449C	Turbidity	0.98	NTU

Well ID JER-1-483 **Event Date** 10/14/2021

Sample	Parameter	Result	Units
2110141340B	Conductivity	1116	µS/cm
2110141340B	pH	7.72	NA
2110141340B	Temperature	21.5	ºC
2110141340B	Turbidity	0.48	NTU
2110141455B	Conductivity	1050	µS/cm
2110141455B	pH	7.75	NA
2110141455B	Temperature	20.1	ºC
2110141455B	Turbidity	0.35	NTU

Well ID JER-1-563 **Event Date** 10/15/2021

Sample	Parameter	Result	Units
2110151022B	Conductivity	1149	µS/cm
2110151022B	pH	8.67	NA
2110151022B	Temperature	20.8	ºC
2110151022B	Turbidity	1.35	NTU
2110151130B	Conductivity	1143	µS/cm
2110151130B	pH	8.43	NA
2110151130B	Temperature	20.9	ºC
2110151130B	Turbidity	0.31	NTU

Well ID	JER-1-683	Event Date	10/15/2021	
Sample	**Parameter**		**Result**	**Units**
2110151030B	Conductivity		1107	µS/cm
2110151030B	pH		8.35	NA
2110151030B	Temperature		20.2	ºC
2110151030B	Turbidity		0.47	NTU
2110151155B	Conductivity		1110	µS/cm
2110151155B	pH		8.28	NA
2110151155B	Temperature		20.2	ºC
2110151155B	Turbidity		0.42	NTU

Well ID	JER-2-504	Event Date	10/7/2021	
Sample	**Parameter**		**Result**	**Units**
2110071400B	Conductivity		1130	µS/cm
2110071400B	pH		8.40	NA
2110071400B	Temperature		25.1	ºC
2110071400B	Turbidity		0.72	NTU
2110071520B	Conductivity		1137	µS/cm
2110071520B	pH		8.31	NA
2110071520B	Temperature		22.9	ºC
2110071520B	Turbidity		0.66	NTU

Well ID	JER-2-584	Event Date	10/13/2021	
Sample	**Parameter**		**Result**	**Units**
2110131300B	Conductivity		1175	µS/cm
2110131300B	pH		8.48	NA
2110131300B	Temperature		21.3	ºC
2110131300B	Turbidity		0.75	NTU
2110131417B	Conductivity		1163	µS/cm
2110131417B	pH		8.55	NA
2110131417B	Temperature		21.4	ºC
2110131417B	Turbidity		0.61	NTU

Well ID	JER-2-684	Event Date	10/13/2021	
Sample	**Parameter**		**Result**	**Units**
2110131330B	Conductivity		1183	µS/cm
2110131330B	pH		8.24	NA
2110131330B	Temperature		22.7	ºC
2110131330B	Turbidity		1.12	NTU
2110131510B	Conductivity		1164	µS/cm
2110131510B	pH		8.16	NA
2110131510B	Temperature		22.9	ºC
2110131510B	Turbidity		0.91	NTU

Well ID	JP-1-424	Event Date	10/6/2021	
Sample	**Parameter**		**Result**	**Units**
2110061350A	Conductivity		1017	µS/cm
2110061350A	DO		6.32	mg/L
2110061350A	DTW		413.68	ft
2110061350A	ORP		143	mV
2110061350A	pH		6.81	NA
2110061350A	Temperature		21.89	ºC
2110061350A	Turbidity		0.35	NTU
2110061353A	Conductivity		1010	µS/cm
2110061353A	DO		6.12	mg/L
2110061353A	DTW		413.80	ft
2110061353A	ORP		144	mV
2110061353A	pH		6.81	NA
2110061353A	Temperature		21.93	ºC
2110061353A	Turbidity		0.22	NTU
2110061356A	Conductivity		1000	µS/cm
2110061356A	DO		6.01	mg/L
2110061356A	DTW		413.80	ft
2110061356A	ORP		144	mV
2110061356A	pH		6.83	NA
2110061356A	Temperature		21.98	ºC
2110061356A	Turbidity		0.19	NTU

Well ID JP-2-447 **Event Date** 10/21/2021

Sample	Parameter	Result	Units
2110210925C	Conductivity	1048	µS/cm
2110210925C	DO	11.18	mg/L
2110210925C	DTW	414.10	ft
2110210925C	ORP	157	mV
2110210925C	pH	7.62	NA
2110210925C	Temperature	20.71	ºC
2110210925C	Turbidity	0.96	NTU
2110210927C	Conductivity	1037	µS/cm
2110210927C	DO	11.12	mg/L
2110210927C	DTW	414.15	ft
2110210927C	ORP	157	mV
2110210927C	pH	7.63	NA
2110210927C	Temperature	20.67	ºC
2110210927C	Turbidity	0.64	NTU
2110210929C	Conductivity	1053	µS/cm
2110210929C	DO	10.91	mg/L
2110210929C	DTW	414.15	ft
2110210929C	ORP	157	mV
2110210929C	pH	7.65	NA
2110210929C	Temperature	20.69	ºC
2110210929C	Turbidity	0.70	NTU

Well ID JP-3-689 **Event Date** 10/7/2021

Sample	Parameter	Result	Units
2110070950A	Conductivity	1019	µS/cm
2110070950A	DO	7.12	mg/L
2110070950A	ORP	69	mV
2110070950A	pH	6.55	NA
2110070950A	Temperature	20.99	ºC
2110070950A	Transducer	14.01	ft
2110070950A	Turbidity	0.81	NTU
2110070953A	Conductivity	1013	µS/cm
2110070953A	DO	6.84	mg/L
2110070953A	ORP	67	mV
2110070953A	pH	6.55	NA
2110070953A	Temperature	21.05	ºC
2110070953A	Turbidity	0.74	NTU
2110070956A	Conductivity	1006	µS/cm
2110070956A	DO	6.53	mg/L
2110070956A	ORP	66	mV
2110070956A	pH	6.58	NA
2110070956A	Temperature	21.12	ºC
2110070956A	Turbidity	0.67	NTU

Well ID	NASA 10	Event Date	9/15/2021	
Sample	**Parameter**		**Result**	**Units**
2109151340C	Conductivity		678	µS/cm
2109151340C	DTW		110.58	ft
2109151340C	pH		7.88	NA
2109151340C	Temperature		24.9	ºC
2109151340C	Turbidity		1.90	NTU
2109151415C	Conductivity		671	µS/cm
2109151415C	DTW		111.36	ft
2109151415C	pH		7.92	NA
2109151415C	Temperature		25.1	ºC
2109151415C	Turbidity		1.66	NTU
2109151427C	Conductivity		684	µS/cm
2109151427C	DTW		111.50	ft
2109151427C	pH		8.01	NA
2109151427C	Temperature		25.8	ºC
2109151427C	Turbidity		1.30	NTU

Well ID	NASA 3	Event Date	8/9/2021	
Sample	**Parameter**		**Result**	**Units**
2108090940C	Conductivity		981	µS/cm
2108090940C	DO		5.99	mg/L
2108090940C	DTW		122.75	ft
2108090940C	ORP		-31	mV
2108090940C	pH		8.63	NA
2108090940C	Temperature		23.04	ºC
2108090940C	Turbidity		1.66	NTU
2108090942C	Conductivity		983	µS/cm
2108090942C	DO		5.87	mg/L
2108090942C	DTW		125.10	ft
2108090942C	ORP		-31	mV
2108090942C	pH		8.65	NA
2108090942C	Temperature		23.06	ºC
2108090942C	Turbidity		0.90	NTU
2108090944C	Conductivity		984	µS/cm
2108090944C	DO		5.45	mg/L
2108090944C	DTW		125.10	ft
2108090944C	ORP		-30	mV
2108090944C	pH		8.60	NA
2108090944C	Temperature		23.01	ºC
2108090944C	Turbidity		0.72	NTU

Well ID	NASA 5	Event Date	9/15/2021	
Sample	**Parameter**		**Result**	**Units**
2109150900C	Conductivity		1059	µS/cm
2109150900C	DTW		111.19	ft
2109150900C	pH		8.13	NA
2109150900C	Temperature		22.2	ºC
2109150900C	Turbidity		3.75	NTU
2109150920C	Conductivity		1070	µS/cm
2109150920C	DTW		111.81	ft
2109150920C	pH		8.05	NA
2109150920C	Temperature		22.0	ºC
2109150920C	Turbidity		3.01	NTU
2109150929C	Conductivity		1072	µS/cm
2109150929C	DTW		111.86	ft
2109150929C	pH		7.99	NA
2109150929C	Temperature		22.6	ºC
2109150929C	Turbidity		2.71	NTU

Well ID	PL-10-484	Event Date	10/6/2021	
Sample	**Parameter**		**Result**	**Units**
2110060905Y	Atmospheric Pressure		12.59	psia
2110060905Y	Conductivity		1107	µS/cm
2110060905Y	Formation Pressure		21.96	psia
2110060905Y	pH		8.80	NA
2110060905Y	Temperature		18.4	ºC
2110060905Y	Turbidity		2.60	NTU
2110061045Y	Atmospheric Pressure		12.58	psia
2110061045Y	Conductivity		1109	µS/cm
2110061045Y	pH		8.78	NA
2110061045Y	Temperature		18.4	ºC
2110061045Y	Turbidity		2.27	NTU

Well ID	PL-10-592	Event Date	10/6/2021	
Sample	**Parameter**		**Result**	**Units**
2110061351Y	Atmospheric Pressure		12.58	psia
2110061351Y	Conductivity		1121	µS/cm
2110061351Y	Formation Pressure		68.98	psia
2110061351Y	pH		7.65	NA
2110061351Y	Temperature		21.3	ºC
2110061351Y	Turbidity		1.73	NTU
2110061457Y	Atmospheric Pressure		12.57	psia
2110061457Y	Conductivity		1125	µS/cm
2110061457Y	pH		7.58	NA
2110061457Y	Temperature		21.3	ºC
2110061457Y	Turbidity		0.44	NTU

Well ID	PL-11-470	Event Date	9/13/2021	
Sample	**Parameter**		**Result**	**Units**
2109131100B	Conductivity		1159	µS/cm
2109131100B	pH		8.76	NA
2109131100B	Temperature		28.4	ºC
2109131100B	Turbidity		1.32	NTU
2109131410B	Conductivity		1153	µS/cm
2109131410B	pH		7.95	NA
2109131410B	Temperature		23.8	ºC
2109131410B	Turbidity		1.00	NTU

Well ID	PL-11-530	Event Date	9/13/2021	
Sample	**Parameter**		**Result**	**Units**
2109131105B	Conductivity		1112	µS/cm
2109131105B	pH		8.77	NA
2109131105B	Temperature		27.5	ºC
2109131105B	Turbidity		0.79	NTU
2109131455B	Conductivity		1168	µS/cm
2109131455B	pH		7.79	NA
2109131455B	Temperature		24.5	ºC
2109131455B	Turbidity		0.85	NTU

Well ID	PL-11-710	Event Date	9/14/2021	
Sample	**Parameter**		**Result**	**Units**
2109141330B	Conductivity		1146	µS/cm
2109141330B	pH		8.46	NA
2109141330B	Temperature		26.4	ºC
2109141330B	Turbidity		0.92	NTU
2109141450B	Conductivity		1216	µS/cm
2109141450B	pH		7.97	NA
2109141450B	Temperature		25.5	ºC
2109141450B	Turbidity		0.63	NTU

Well ID	PL-11-820	Event Date	9/14/2021	
Sample	**Parameter**		**Result**	**Units**
2109141335B	Conductivity		1037	µS/cm
2109141335B	pH		8.51	NA
2109141335B	Temperature		24.0	ºC
2109141335B	Turbidity		1.07	NTU
2109141505B	Conductivity		1046	µS/cm
2109141505B	pH		7.83	NA
2109141505B	Temperature		24.1	ºC
2109141505B	Turbidity		0.58	NTU

Well ID	PL-11-980	Event Date	9/14/2021	
Sample	**Parameter**		**Result**	**Units**
2109141340B	Conductivity		1002	µS/cm
2109141340B	pH		8.75	NA
2109141340B	Temperature		26.5	ºC
2109141340B	Turbidity		0.68	NTU
2109141515B	Conductivity		1004	µS/cm
2109141515B	pH		8.10	NA
2109141515B	Temperature		24.0	ºC
2109141515B	Turbidity		0.57	NTU

Well ID	PL-12-570	Event Date	8/4/2021	
Sample	**Parameter**		**Result**	**Units**
2108040930C	Conductivity		1100	µS/cm
2108040930C	DO		5.80	mg/L
2108040930C	DTW		484.10	ft
2108040930C	ORP		6	mV
2108040930C	pH		8.38	NA
2108040930C	Temperature		21.61	ºC
2108040930C	Turbidity		1.19	NTU
2108040932C	Conductivity		1102	µS/cm
2108040932C	DO		5.77	mg/L
2108040932C	ORP		7	mV
2108040932C	pH		8.33	NA
2108040932C	Temperature		21.61	ºC
2108040932C	Turbidity		1.16	NTU
2108040933C	Conductivity		1105	µS/cm
2108040933C	DO		5.81	mg/L
2108040933C	DTW		484.21	ft
2108040933C	ORP		7	mV
2108040933C	pH		8.40	NA
2108040933C	Temperature		21.62	ºC
2108040933C	Turbidity		1.15	NTU

Well ID	PL-12-800	Event Date	8/3/2021	
Sample	**Parameter**		**Result**	**Units**
2108041425C	Conductivity		1104	µS/cm
2108041425C	DO		8.48	mg/L
2108041425C	DTW		484.10	ft
2108041425C	ORP		-61	mV
2108041425C	pH		9.35	NA
2108041425C	Temperature		22.27	ºC
2108041425C	Turbidity		1.80	NTU
2108041427C	Conductivity		1101	µS/cm
2108041427C	DO		8.39	mg/L
2108041427C	ORP		-60	mV
2108041427C	pH		9.26	NA
2108041427C	Temperature		22.24	ºC
2108041427C	Turbidity		1.73	NTU
2108041429C	Conductivity		1105	µS/cm
2108041429C	DO		8.42	mg/L
2108041429C	DTW		484.21	ft
2108041429C	ORP		-59	mV
2108041429C	pH		9.17	NA
2108041429C	Temperature		22.26	ºC
2108041429C	Turbidity		1.79	NTU

Well ID	PL-1-486	Event Date	10/14/2021	
Sample	**Parameter**		**Result**	**Units**
2110141415C	Conductivity		992	µS/cm
2110141415C	DO		6.80	mg/L
2110141415C	DTW		485.13	ft
2110141415C	ORP		161	mV
2110141415C	pH		6.75	NA
2110141415C	Temperature		21.66	ºC
2110141415C	Turbidity		0.52	NTU
2110141418C	Conductivity		981	µS/cm
2110141418C	DO		6.54	mg/L
2110141418C	DTW		485.20	ft
2110141418C	ORP		162	mV
2110141418C	pH		6.78	NA
2110141418C	Temperature		21.72	ºC
2110141418C	Turbidity		0.44	NTU
2110141421C	Conductivity		978	µS/cm
2110141421C	DO		6.28	mg/L
2110141421C	DTW		485.20	ft
2110141421C	ORP		162	mV
2110141421C	pH		6.79	NA
2110141421C	Temperature		21.74	ºC
2110141421C	Turbidity		0.43	NTU

Well ID	PL-2-504	Event Date	9/14/2021	
Sample	**Parameter**		**Result**	**Units**
2109140930A	Conductivity		1117	µS/cm
2109140930A	DO		7.61	mg/L
2109140930A	DTW		477.40	ft
2109140930A	ORP		199	mV
2109140930A	pH		5.24	NA
2109140930A	Temperature		21.35	ºC
2109140930A	Turbidity		0.69	NTU
2109140932A	Conductivity		1134	µS/cm
2109140932A	DO		7.66	mg/L
2109140932A	DTW		477.50	ft
2109140932A	ORP		199	mV
2109140932A	pH		5.81	NA
2109140932A	Temperature		21.42	ºC
2109140932A	Turbidity		0.95	NTU
2109140934A	Conductivity		1125	µS/cm
2109140934A	DO		7.69	mg/L
2109140934A	DTW		477.50	ft
2109140934A	ORP		197	mV
2109140934A	pH		5.77	NA
2109140934A	Temperature		21.26	ºC
2109140934A	Turbidity		0.88	NTU

Well ID	PL-4-464	Event Date	9/14/2021	
Sample	**Parameter**		**Result**	**Units**
2109141500A	Conductivity		1128	µS/cm
2109141500A	DO		8.18	mg/L
2109141500A	DTW		448.90	ft
2109141500A	ORP		112	mV
2109141500A	pH		6.56	NA
2109141500A	Temperature		22.38	ºC
2109141500A	Turbidity		2.93	NTU
2109141502A	Conductivity		1126	µS/cm
2109141502A	DO		8.21	mg/L
2109141502A	DTW		449.45	ft
2109141502A	ORP		111	mV
2109141502A	pH		7.02	NA
2109141502A	Temperature		22.69	ºC
2109141502A	Turbidity		1.30	NTU
2109141504A	Conductivity		1118	µS/cm
2109141504A	DO		8.23	mg/L
2109141504A	DTW		449.85	ft
2109141504A	ORP		116	mV
2109141504A	pH		7.21	NA
2109141504A	Temperature		22.48	ºC
2109141504A	Turbidity		0.94	NTU

Well ID	PL-6-545	Event Date	10/13/2021	
Sample	**Parameter**		**Result**	**Units**
2110130940Y	Atmospheric Pressure		12.54	psia
2110130940Y	Conductivity		1031	µS/cm
2110130940Y	Formation Pressure		56.32	psia
2110130940Y	pH		8.35	NA
2110130940Y	Temperature		21.8	ºC
2110130940Y	Turbidity		2.40	NTU
2110131040Y	Atmospheric Pressure		12.51	psia
2110131040Y	Conductivity		1026	µS/cm
2110131040Y	pH		8.50	NA
2110131040Y	Temperature		21.7	ºC
2110131040Y	Turbidity		1.93	NTU

Well ID PL-6-725 **Event Date** 10/12/2021

Sample	Parameter	Result	Units
2110121045Y	Atmospheric Pressure	12.44	psia
2110121045Y	Conductivity	1013	µS/cm
2110121045Y	Formation Pressure	134.45	psia
2110121045Y	pH	7.86	NA
2110121045Y	Temperature	20.7	ºC
2110121045Y	Turbidity	1.79	NTU
2110121112Y	Atmospheric Pressure	12.42	psia
2110121112Y	Conductivity	1002	µS/cm
2110121112Y	pH	7.94	NA
2110121112Y	Temperature	20.5	ºC
2110121112Y	Turbidity	1.33	NTU

Well ID PL-7-480 **Event Date** 8/10/2021

Sample	Parameter	Result	Units
2108100930Y	Atmospheric Pressure	12.63	psia
2108100930Y	Conductivity	1043	µS/cm
2108100930Y	Formation Pressure	14.32	psia
2108100930Y	pH	8.23	NA
2108100930Y	Temperature	23.6	ºC
2108100930Y	Turbidity	1.16	NTU
2108101410Y	Conductivity	1038	µS/cm
2108101410Y	pH	8.05	NA
2108101410Y	Temperature	23.8	ºC
2108101410Y	Turbidity	1.43	NTU

Well ID PL-7-560 **Event Date** 8/5/2021

Sample	Parameter	Result	Units
2108051415Y	Atmospheric Pressure	12.80	psia
2108051415Y	Conductivity	960	µS/cm
2108051415Y	DTW	480.60	ft
2108051415Y	Formation Pressure	48.48	psia
2108051415Y	pH	7.88	NA
2108051415Y	Temperature	25.8	ºC
2108051415Y	Turbidity	1.61	NTU
2108051458Y	Conductivity	1076	µS/cm
2108051458Y	DTW	480.71	ft
2108051458Y	pH	7.46	NA
2108051458Y	Temperature	25.5	ºC
2108051458Y	Turbidity	1.03	NTU

Well ID **PL-8-455** **Event Date** **9/2/2021**

Sample	Parameter	Result	Units
2109021450Y	Atmospheric Pressure	12.58	psia
2109021450Y	Conductivity	806	µS/cm
2109021450Y	DTW	438.17	ft
2109021450Y	Formation Pressure	22.94	psia
2109021450Y	pH	7.84	NA
2109021450Y	Temperature	22.1	ºC
2109021450Y	Turbidity	5.36	NTU
2109021557Y	Atmospheric Pressure	12.62	psia
2109021557Y	Conductivity	821	µS/cm
2109021557Y	DTW	438.30	ft
2109021557Y	pH	7.99	NA
2109021557Y	Temperature	22.5	ºC
2109021557Y	Turbidity	2.87	NTU

Well ID **PL-8-605** **Event Date** **9/2/2021**

Sample	Parameter	Result	Units
2109021035Y	Atmospheric Pressure	12.60	psia
2109021035Y	Conductivity	901	µS/cm
2109021035Y	DTW	438.00	ft
2109021035Y	Formation Pressure	87.84	psia
2109021035Y	pH	7.93	NA
2109021035Y	Temperature	20.9	ºC
2109021035Y	Turbidity	6.19	NTU
2109021335Y	Atmospheric Pressure	12.62	psia
2109021335Y	Conductivity	889	µS/cm
2109021335Y	DTW	438.17	ft
2109021335Y	pH	7.91	NA
2109021335Y	Temperature	21.3	ºC
2109021335Y	Turbidity	3.70	NTU

Well ID	ST-4-481	Event Date	9/2/2021	
Sample	**Parameter**		**Result**	**Units**
2109020955B	Conductivity		938.59	µS/cm
2109020955B	DO		6.18	mg/L
2109020955B	ORP		409.5	mV
2109020955B	pH		7.18	NA
2109020955B	Temperature		21.27	ºC
2109020955B	Turbidity		0.36	NTU
2109020956B	Conductivity		938.65	µS/cm
2109020956B	DO		6.18	mg/L
2109020956B	ORP		409.7	mV
2109020956B	pH		7.20	NA
2109020956B	Temperature		21.31	ºC
2109020956B	Turbidity		0.41	NTU
2109020957B	Conductivity		938.61	µS/cm
2109020957B	DO		6.19	mg/L
2109020957B	ORP		409.5	mV
2109020957B	pH		7.19	NA
2109020957B	Temperature		21.33	ºC
2109020957B	Turbidity		0.39	NTU

Well ID	ST-4-589	Event Date	8/2/2021	
Sample	**Parameter**		**Result**	**Units**
2108020925B	Conductivity		997	µS/cm
2108020925B	DTW		456.95	ft
2108020925B	pH		6.95	NA
2108020925B	Temperature		21.7	ºC
2108020925B	Turbidity		1.25	NTU
2108020928B	Conductivity		990	µS/cm
2108020928B	DTW		456.99	ft
2108020928B	pH		6.98	NA
2108020928B	Temperature		21.9	ºC
2108020928B	Turbidity		1.16	NTU
2108020931B	Conductivity		983	µS/cm
2108020931B	DTW		456.99	ft
2108020931B	pH		7.03	NA
2108020931B	Temperature		22.2	ºC
2108020931B	Turbidity		1.07	NTU

Well ID	ST-4-690	Event Date	9/2/2021	
Sample	**Parameter**		**Result**	**Units**
2109021455B	Conductivity		808.16	µS/cm
2109021455B	DO		3.68	mg/L
2109021455B	ORP		306	mV
2109021455B	pH		7.99	NA
2109021455B	Temperature		25.92	ºC
2109021455B	Turbidity		2.64	NTU
2109021456B	Conductivity		808.17	µS/cm
2109021456B	DO		3.62	mg/L
2109021456B	ORP		306.6	mV
2109021456B	pH		7.97	NA
2109021456B	Temperature		26.03	ºC
2109021456B	Turbidity		1.94	NTU
2109021457B	Conductivity		808.17	µS/cm
2109021457B	DO		3.70	mg/L
2109021457B	ORP		306.7	mV
2109021457B	pH		7.97	NA
2109021457B	Temperature		26.10	ºC
2109021457B	Turbidity		1.83	NTU

Well ID	ST-5-1175	Event Date	8/4/2021	
Sample	**Parameter**		**Result**	**Units**
2108041440Y	Atmospheric Pressure		12.64	psia
2108041440Y	Conductivity		1549	µS/cm
2108041440Y	DTW		472.45	ft
2108041440Y	Formation Pressure		339.36	psia
2108041440Y	pH		8.27	NA
2108041440Y	Temperature		26.0	ºC
2108041440Y	Turbidity		1.18	NTU
2108050945Y	Atmospheric Pressure		12.69	psia
2108050945Y	Conductivity		1743	µS/cm
2108050945Y	DTW		472.56	ft
2108050945Y	pH		7.82	NA
2108050945Y	Temperature		26.5	ºC
2108050945Y	Turbidity		1.55	NTU

Well ID ST-5-485 **Event Date** 8/4/2021

Sample	Parameter	Result	Units
2108041020Y	Atmospheric Pressure	12.73	psia
2108041020Y	Conductivity	980	µS/cm
2108041020Y	DTW	472.36	ft
2108041020Y	Formation Pressure	40.81	psia
2108041020Y	pH	8.15	NA
2108041020Y	Temperature	23.6	ºC
2108041020Y	Turbidity	2.12	NTU
2108041315Y	Atmospheric Pressure	12.70	psia
2108041315Y	Conductivity	992	µS/cm
2108041315Y	DTW	472.45	ft
2108041315Y	pH	8.23	NA
2108041315Y	Temperature	24.2	ºC
2108041315Y	Turbidity	1.50	NTU

Well ID ST-5-655 **Event Date** 8/2/2021

Sample	Parameter	Result	Units
2108020950Y	Conductivity	872	µS/cm
2108020950Y	DTW	471.90	ft
2108020950Y	Formation Pressure	114.43	psia
2108020950Y	pH	8.09	NA
2108020950Y	Temperature	24.6	ºC
2108020950Y	Turbidity	0.71	NTU
2108021405Y	Conductivity	877	µS/cm
2108021405Y	DTW	471.99	ft
2108021405Y	pH	7.79	NA
2108021405Y	Temperature	25.3	ºC
2108021405Y	Turbidity	0.69	NTU

Well ID ST-5-815 **Event Date** 8/3/2021

Sample	Parameter	Result	Units
2108031430Y	Conductivity	799	µS/cm
2108031430Y	Formation Pressure	183.48	psia
2108031430Y	pH	8.38	NA
2108031430Y	Temperature	26.8	ºC
2108031430Y	Turbidity	1.07	NTU
2108040854Y	Conductivity	810	µS/cm
2108040854Y	pH	8.23	NA
2108040854Y	Temperature	24.4	ºC
2108040854Y	Turbidity	0.93	NTU

Well ID ST-5-985 **Event Date** 8/2/2021

Sample	Parameter	Result	Units
2108030810Y	Conductivity	1323	µS/cm
2108030810Y	DTW	471.99	ft
2108030810Y	Formation Pressure	257.12	psia
2108030810Y	pH	8.40	NA
2108030810Y	Temperature	23.2	ºC
2108030810Y	Turbidity	1.57	NTU
2108031040Y	Conductivity	1463	µS/cm
2108031040Y	DTW	472.20	ft
2108031040Y	pH	7.64	NA
2108031040Y	Temperature	25.7	ºC
2108031040Y	Turbidity	1.07	NTU

Well ID ST-6-528 **Event Date** 9/15/2021

Sample	Parameter	Result	Units
2109151055B	Conductivity	1147	µS/cm
2109151055B	pH	7.97	NA
2109151055B	Temperature	26.7	ºC
2109151055B	Turbidity	1.39	NTU
2109151410B	Conductivity	1168	µS/cm
2109151410B	pH	7.55	NA
2109151410B	Temperature	24.0	ºC
2109151410B	Turbidity	1.24	NTU

Well ID ST-6-568 **Event Date** 9/15/2021

Sample	Parameter	Result	Units
2109151100B	Conductivity	1118	µS/cm
2109151100B	pH	8.53	NA
2109151100B	Temperature	25.0	ºC
2109151100B	Turbidity	0.90	NTU
2109151430B	Conductivity	1107	µS/cm
2109151430B	pH	7.53	NA
2109151430B	Temperature	24.3	ºC
2109151430B	Turbidity	0.88	NTU

Well ID	ST-6-678	Event Date	9/16/2021	
Sample	**Parameter**		**Result**	**Units**
2109161250B	Conductivity		1070	µS/cm
2109161250B	pH		8.48	NA
2109161250B	Temperature		24.2	ºC
2109161250B	Turbidity		0.99	NTU
2109161515B	Conductivity		1089	µS/cm
2109161515B	pH		8.56	NA
2109161515B	Temperature		23.1	ºC
2109161515B	Turbidity		2.28	NTU

Well ID	ST-6-824	Event Date	9/16/2021	
Sample	**Parameter**		**Result**	**Units**
2109161255B	Conductivity		969	µS/cm
2109161255B	pH		8.08	NA
2109161255B	Temperature		23.8	ºC
2109161255B	Turbidity		1.88	NTU
2109161450B	Conductivity		1027	µS/cm
2109161450B	pH		8.10	NA
2109161450B	Temperature		24.1	ºC
2109161450B	Turbidity		0.69	NTU

Well ID	ST-6-970	Event Date	9/16/2021	
Sample	**Parameter**		**Result**	**Units**
2109161305B	Conductivity		1052	µS/cm
2109161305B	pH		8.31	NA
2109161305B	Temperature		24.1	ºC
2109161305B	Turbidity		1.87	NTU
2109161501B	Conductivity		1091	µS/cm
2109161501B	pH		7.90	NA
2109161501B	Temperature		23.1	ºC
2109161501B	Turbidity		1.23	NTU

Well ID	ST-7-453	Event Date	10/4/2021	
Sample	**Parameter**		**Result**	**Units**
2110041410B	Conductivity		1247	µS/cm
2110041410B	pH		7.53	NA
2110041410B	Temperature		25.3	ºC
2110041410B	Turbidity		1.68	NTU
2110041540B	Conductivity		1272	µS/cm
2110041540B	pH		7.20	NA
2110041540B	Temperature		22.6	ºC
2110041540B	Turbidity		0.77	NTU

Well ID	ST-7-544	Event Date	10/4/2021	
Sample	**Parameter**		**Result**	**Units**
2110041425B	Conductivity		1224	µS/cm
2110041425B	pH		7.94	NA
2110041425B	Temperature		25.2	ºC
2110041425B	Turbidity		1.08	NTU
2110041620B	Conductivity		1261	µS/cm
2110041620B	pH		7.51	NA
2110041620B	Temperature		22.6	ºC
2110041620B	Turbidity		0.54	NTU

Well ID	ST-7-779	Event Date	10/6/2021	
Sample	**Parameter**		**Result**	**Units**
2110061325B	Conductivity		1102	µS/cm
2110061325B	pH		8.36	NA
2110061325B	Temperature		27.8	ºC
2110061325B	Turbidity		0.90	NTU
2110061416B	Conductivity		1111	µS/cm
2110061416B	pH		8.48	NA
2110061416B	Temperature		26.4	ºC
2110061416B	Turbidity		0.62	NTU

Well ID	ST-7-970	Event Date	10/6/2021	
Sample	**Parameter**		**Result**	**Units**
2110061340B	Conductivity		982	µS/cm
2110061340B	pH		8.26	NA
2110061340B	Temperature		25.3	ºC
2110061340B	Turbidity		0.62	NTU
2110061526B	Conductivity		1002	µS/cm
2110061526B	pH		8.20	NA
2110061526B	Temperature		24.4	ºC
2110061526B	Turbidity		0.31	NTU

Well ID **WB-14-520** **Event Date** **8/23/2021**

Sample	Parameter	Result	Units
2108230955Y	Atmospheric Pressure	12.56	psia
2108230955Y	Conductivity	726	µS/cm
2108230955Y	DTW	306.72	ft
2108230955Y	Formation Pressure	109.00	psia
2108230955Y	pH	7.23	NA
2108230955Y	Temperature	26.4	ºC
2108230955Y	Turbidity	4.77	NTU
2108231108Y	Atmospheric Pressure	12.58	psia
2108231108Y	Conductivity	751	µS/cm
2108231108Y	DTW	307.25	ft
2108231108Y	pH	7.29	NA
2108231108Y	Temperature	26.7	ºC
2108231108Y	Turbidity	1.76	NTU

Well ID **WB-5-250** **Event Date** **8/19/2021**

Sample	Parameter	Result	Units
2108191435Y	Atmospheric Pressure	12.50	psia
2108191435Y	Conductivity	1142	µS/cm
2108191435Y	DTW	219.50	ft
2108191435Y	Formation Pressure	31.58	psia
2108191435Y	pH	7.87	NA
2108191435Y	Temperature	25.2	ºC
2108191435Y	Turbidity	67.5	NTU
2108191555Y	Atmospheric Pressure	12.52	psia
2108191555Y	Conductivity	1238	µS/cm
2108191555Y	DTW	219.63	ft
2108191555Y	pH	7.05	NA
2108191555Y	Temperature	25.7	ºC
2108191555Y	Turbidity	31.9	NTU

Well ID	WB-5-280	Event Date	8/18/2021	
Sample	**Parameter**		**Result**	**Units**
2108181525Y	Atmospheric Pressure		12.58	psia
2108181525Y	Conductivity		1258	µS/cm
2108181525Y	DTW		219.30	ft
2108181525Y	Formation Pressure		44.85	psia
2108181525Y	pH		7.88	NA
2108181525Y	Temperature		25.0	ºC
2108181525Y	Turbidity		134	NTU
2108191335Y	Atmospheric Pressure		12.52	psia
2108191335Y	Conductivity		1318	µS/cm
2108191335Y	DTW		219.50	ft
2108191335Y	pH		7.62	NA
2108191335Y	Temperature		24.7	ºC
2108191335Y	Turbidity		196	NTU

Well ID	WB-5-345	Event Date	8/17/2021	
Sample	**Parameter**		**Result**	**Units**
2108171525Y	Atmospheric Pressure		12.58	psia
2108171525Y	Conductivity		1219	µS/cm
2108171525Y	DTW		219.05	ft
2108171525Y	Formation Pressure		76.60	psia
2108171525Y	pH		7.36	NA
2108171525Y	Temperature		24.9	ºC
2108171525Y	Turbidity		157	NTU
2108181015Y	Atmospheric Pressure		12.56	psia
2108181015Y	Conductivity		1320	µS/cm
2108181015Y	DTW		219.30	ft
2108181015Y	pH		7.07	NA
2108181015Y	Temperature		23.6	ºC
2108181015Y	Turbidity		180	NTU

Well ID	WW-1-452	Event Date	9/1/2021	
Sample	**Parameter**		**Result**	**Units**
2109011455B	Conductivity		1107	µS/cm
2109011455B	DO		5.96	mg/L
2109011455B	ORP		-42	mV
2109011455B	pH		8.83	NA
2109011455B	Temperature		23.13	ºC
2109011455B	Turbidity		0.34	NTU
2109011456B	Conductivity		1105	µS/cm
2109011456B	DO		6.43	mg/L
2109011456B	ORP		-42	mV
2109011456B	pH		8.84	NA
2109011456B	Temperature		22.98	ºC
2109011456B	Turbidity		0.37	NTU
2109011457B	Conductivity		1105	µS/cm
2109011457B	DO		5.82	mg/L
2109011457B	ORP		-42	mV
2109011457B	pH		8.84	NA
2109011457B	Temperature		23.08	ºC
2109011457B	Turbidity		0.41	NTU
2109091410B	Conductivity		1093	µS/cm
2109091410B	DO		6.11	mg/L
2109091410B	DTW		422.05	ft
2109091410B	ORP		-38	mV
2109091410B	pH		8.69	NA
2109091410B	Temperature		22.74	ºC
2109091410B	Turbidity		0.49	NTU
2109091413B	Conductivity		1089	µS/cm
2109091413B	DO		5.82	mg/L
2109091413B	DTW		422.17	ft
2109091413B	ORP		-36	mV
2109091413B	pH		8.64	NA
2109091413B	Temperature		22.87	ºC
2109091413B	Turbidity		0.48	NTU
2109091416B	Conductivity		1080	µS/cm
2109091416B	DO		5.50	mg/L
2109091416B	DTW		422.17	ft
2109091416B	ORP		-33	mV
2109091416B	pH		8.59	NA
2109091416B	Temperature		23.00	ºC
2109091416B	Turbidity		0.41	NTU

Well ID	WW-2-489	Event Date	9/8/2021	
Sample	**Parameter**		**Result**	**Units**
2109080945B	Conductivity		944	µS/cm
2109080945B	DO		4.96	mg/L
2109080945B	ORP		26	mV
2109080945B	pH		8.85	NA
2109080945B	Temperature		22.22	ºC
2109080945B	Turbidity		5.97	NTU
2109080948B	Conductivity		955	µS/cm
2109080948B	DO		4.74	mg/L
2109080948B	ORP		26	mV
2109080948B	pH		8.87	NA
2109080948B	Temperature		22.30	ºC
2109080948B	Turbidity		5.27	NTU
2109080951B	Conductivity		962	µS/cm
2109080951B	DO		4.46	mg/L
2109080951B	ORP		28	mV
2109080951B	pH		8.87	NA
2109080951B	Temperature		22.36	ºC
2109080951B	Turbidity		4.81	NTU

Well ID	WW-2-664	Event Date	9/8/2021	
Sample	**Parameter**		**Result**	**Units**
2109081415B	Conductivity		927	µS/cm
2109081415B	DO		5.13	mg/L
2109081415B	ORP		-28	mV
2109081415B	pH		9.13	NA
2109081415B	Temperature		22.95	ºC
2109081415B	Turbidity		1.27	NTU
2109081418B	Conductivity		926	µS/cm
2109081418B	DO		4.94	mg/L
2109081418B	ORP		-29	mV
2109081418B	pH		9.10	NA
2109081418B	Temperature		23.07	ºC
2109081418B	Turbidity		1.17	NTU
2109081421B	Conductivity		919	µS/cm
2109081421B	DO		4.72	mg/L
2109081421B	ORP		-29	mV
2109081421B	pH		9.10	NA
2109081421B	Temperature		23.15	ºC
2109081421B	Turbidity		1.13	NTU

Well ID	WW-3-469	Event Date	9/1/2021	
Sample	**Parameter**		**Result**	**Units**
2109011345Y	Atmospheric Pressure		12.53	psia
2109011345Y	Conductivity		1060	µS/cm
2109011345Y	DTW		408.96	ft
2109011345Y	Formation Pressure		39.19	psia
2109011345Y	pH		7.64	NA
2109011345Y	Temperature		20.7	ºC
2109011345Y	Turbidity		2.48	NTU
2109011417Y	Atmospheric Pressure		12.51	psia
2109011417Y	Conductivity		1051	µS/cm
2109011417Y	DTW		409.12	ft
2109011417Y	pH		7.59	NA
2109011417Y	Temperature		20.9	ºC
2109011417Y	Turbidity		1.59	NTU
2109091425Y	Atmospheric Pressure		12.49	psia
2109091425Y	Conductivity		1084	µS/cm
2109091425Y	DTW		409.35	ft
2109091425Y	Formation Pressure		39.27	psia
2109091425Y	pH		7.55	NA
2109091425Y	Temperature		21.0	ºC
2109091425Y	Turbidity		2.97	NTU
2109091527Y	Atmospheric Pressure		12.58	psia
2109091527Y	Conductivity		1062	µS/cm
2109091527Y	DTW		409.50	ft
2109091527Y	pH		7.43	NA
2109091527Y	Temperature		21.4	ºC
2109091527Y	Turbidity		2.10	NTU

Well ID **WW-3-569** **Event Date** **9/1/2021**

Sample	Parameter	Result	Units
2109010845Y	Atmospheric Pressure	12.54	psia
2109010845Y	Conductivity	1049	µS/cm
2109010845Y	DTW	408.80	ft
2109010845Y	Formation Pressure	82.48	psia
2109010845Y	pH	8.15	NA
2109010845Y	Temperature	19.7	ºC
2109010845Y	Turbidity	4.04	NTU
2109010950Y	Atmospheric Pressure	12.52	psia
2109010950Y	Conductivity	1037	µS/cm
2109010950Y	DTW	408.96	ft
2109010950Y	pH	8.03	NA
2109010950Y	Temperature	19.6	ºC
2109010950Y	Turbidity	1.72	NTU
2109071530Y	Conductivity	1025	µS/cm
2109071530Y	DTW	409.12	ft
2109071530Y	Formation Pressure	82.48	psia
2109071530Y	pH	7.91	NA
2109071530Y	Temperature	23.5	ºC
2109071530Y	Turbidity	0.38	NTU
2109071558Y	Conductivity	1025	µS/cm
2109071558Y	DTW	409.35	ft
2109071558Y	pH	7.93	NA
2109071558Y	Temperature	23.3	ºC
2109071558Y	Turbidity	0.41	NTU

Well ID **WW-5-459** **Event Date** **10/19/2021**

Sample	Parameter	Result	Units
2110191045B	Conductivity	1079	µS/cm
2110191045B	pH	7.88	NA
2110191045B	Temperature	21.8	ºC
2110191045B	Turbidity	0.39	NTU
2110191300B	Conductivity	1060	µS/cm
2110191300B	pH	7.90	NA
2110191300B	Temperature	22.2	ºC
2110191300B	Turbidity	0.40	NTU

Well ID	WW-5-579	Event Date	10/19/2021	
Sample	**Parameter**		**Result**	**Units**
2110191100B	Conductivity		1031	µS/cm
2110191100B	pH		7.94	NA
2110191100B	Temperature		21.9	ºC
2110191100B	Turbidity		1.09	NTU
2110191420B	Conductivity		1035	µS/cm
2110191420B	pH		7.96	NA
2110191420B	Temperature		22.5	ºC
2110191420B	Turbidity		0.37	NTU

Well ID	WW-5-809	Event Date	10/20/2021	
Sample	**Parameter**		**Result**	**Units**
2110201025B	Conductivity		1001	µS/cm
2110201025B	pH		8.61	NA
2110201025B	Temperature		20.9	ºC
2110201025B	Turbidity		0.84	NTU
2110201410B	Conductivity		1007	µS/cm
2110201410B	pH		8.55	NA
2110201410B	Temperature		20.9	ºC
2110201410B	Turbidity		0.90	NTU

Well ID	WW-5-909	Event Date	10/20/2021	
Sample	**Parameter**		**Result**	**Units**
2110201030B	Conductivity		1313	µS/cm
2110201030B	pH		8.71	NA
2110201030B	Temperature		20.9	ºC
2110201030B	Turbidity		0.81	NTU
2110201418B	Conductivity		1310	µS/cm
2110201418B	pH		8.69	NA
2110201418B	Temperature		20.8	ºC
2110201418B	Turbidity		0.86	NTU

Appendix A.2
Monitor Well Analytical Data

Detections for Monitoring Well Sampling Events in this Reporting Period

Analytical Results for Sampling Events at 200-H-225

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/12/2021	8260	2108121000Y	Dichlorofluoromethane (CFC 21)	1	ug/L	1	0.2		
8/12/2021	8260	2108121000Y	Tetrahydrofuran (THF)	8	ug/L	5	1.7		
8/12/2021	8260	2108121000Y	Trichlorofluoromethane (CFC 11)	0.92	ug/L	1	0.24		J
8/12/2021	8260	2108121000Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.66	ug/L	1	0.2		J
8/12/2021	8260	2108121000Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.75	ug/L	1	0.2		J
8/12/2021	607	2108121001Y	Bromacil	0.023	µg/L	0.0094	0.0047	109	
8/12/2021	METALS	2108121035Y	Sodium, Total	33.9	mg/L	1	0.2		
8/12/2021	METALS	2108121035Y	Zinc, Total	0.046	mg/L	0.02	0.003		
8/12/2021	METALS	2108121035Y	Strontium, Total	2.18	mg/L	0.1	0.002		
8/12/2021	METALS	2108121035Y	Potassium, Total	2.2	mg/L	2	0.4		
8/12/2021	METALS	2108121035Y	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
8/12/2021	METALS	2108121035Y	Magnesium, Total	68	mg/L	1	0.03		
8/12/2021	METALS	2108121035Y	Barium, Total	0.026	mg/L	0.02	0.003		
8/12/2021	METALS	2108121035Y	Calcium, Total	141	mg/L	1	0.3		
8/12/2021	METALS	2108121035Y	Thallium, Total	0.00007	mg/L	0.001	0.00004		J
8/12/2021	METALS	2108121035Y	Boron, Total	0.06	mg/L	0.2	0.02		J
8/12/2021	METALS	2108121035Y	Manganese, Total	0.01	mg/L	0.01	0.004		
8/12/2021	ANIONS	2108121036Y	Chloride	35.6	mg/L	2	0.5		
8/12/2021	ANIONS	2108121036Y	Fluoride, undistilled	1.3	mg/L	0.1	0.01		
8/12/2021	ANIONS	2108121036Y	Alkalinity, Total as CaCO3	277	mg/L	2	1.8		
8/12/2021	ANIONS	2108121036Y	Sulfate	370	mg/L	10	2		
8/12/2021	6850	2108121037Y	Perchlorate	0.13	ug/L	0.2	0.06		J

Analytical Results for Sampling Events at 200-H-331

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/11/2021	METALS	2108111005Y	Manganese, Total	0.028	mg/L	0.01	0.004		
8/11/2021	METALS	2108111005Y	Molybdenum, Total	0.003	mg/L	0.025	0.003		J
8/11/2021	METALS	2108111005Y	Zinc, Total	2.62	mg/L	0.02	0.003		QD
8/11/2021	METALS	2108111005Y	Strontium, Total	13.9	mg/L	1	0.02		
8/11/2021	METALS	2108111005Y	Sodium, Total	37.3	mg/L	1	0.2		
8/11/2021	METALS	2108111005Y	Nickel, Total	0.008	mg/L	0.04	0.003		J EB
8/11/2021	METALS	2108111005Y	Iron, Total	0.22	mg/L	0.1	0.07		
8/11/2021	METALS	2108111005Y	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
8/11/2021	METALS	2108111005Y	Cobalt, Total	0.001	mg/L	0.05	0.0009		J
8/11/2021	METALS	2108111005Y	Calcium, Total	401	mg/L	10	3		
8/11/2021	METALS	2108111005Y	Boron, Total	0.12	mg/L	0.2	0.02		J
8/11/2021	METALS	2108111005Y	Barium, Total	0.016	mg/L	0.02	0.003		J
8/11/2021	METALS	2108111005Y	Potassium, Total	3.2	mg/L	2	0.4		
8/11/2021	METALS	2108111005Y	Magnesium, Total	138	mg/L	1	0.03		
8/11/2021	METALS	2108111006Y	Potassium, Total	2.7	mg/L	2	0.4		
8/11/2021	METALS	2108111006Y	Zinc, Total	1.27	mg/L	0.02	0.003		QD
8/11/2021	METALS	2108111006Y	Sodium, Total	35	mg/L	1	0.2		
8/11/2021	METALS	2108111006Y	Molybdenum, Total	0.004	mg/L	0.025	0.003		J
8/11/2021	METALS	2108111006Y	Manganese, Total	0.019	mg/L	0.01	0.004		
8/11/2021	METALS	2108111006Y	Iron, Total	0.12	mg/L	0.1	0.07		
8/11/2021	METALS	2108111006Y	Cobalt, Total	0.001	mg/L	0.05	0.0009		J
8/11/2021	METALS	2108111006Y	Calcium, Total	404	mg/L	10	3		
8/11/2021	METALS	2108111006Y	Boron, Total	0.1	mg/L	0.2	0.02		J
8/11/2021	METALS	2108111006Y	Barium, Total	0.013	mg/L	0.02	0.003		J
8/11/2021	METALS	2108111006Y	Magnesium, Total	138	mg/L	1	0.03		
8/11/2021	METALS	2108111006Y	Strontium, Total	13.9	mg/L	1	0.02		

Analytical Results for Sampling Events at 200-H-433

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/11/2021	8260	2108111510Y	2-Propanol	21	ug/L	50	3.4		J
8/11/2021	8260	2108111510Y	Silane, fluorotrimethyl-	19	ug/L	NA	NA		TIC
8/11/2021	8260	2108111510Y	Silane, methoxytrimethyl-	5.6	ug/L	NA	NA		TIC
8/11/2021	METALS	2108111535Y	Barium, Total	0.01	mg/L	0.02	0.003		J
8/11/2021	METALS	2108111535Y	Zinc, Total	0.051	mg/L	0.02	0.003		
8/11/2021	METALS	2108111535Y	Strontium, Total	14.4	mg/L	1	0.02		
8/11/2021	METALS	2108111535Y	Sodium, Total	32.8	mg/L	1	0.2		
8/11/2021	METALS	2108111535Y	Potassium, Total	2.3	mg/L	2	0.4		
8/11/2021	METALS	2108111535Y	Manganese, Total	0.011	mg/L	0.01	0.004		
8/11/2021	METALS	2108111535Y	Magnesium, Total	140	mg/L	1	0.03		
8/11/2021	METALS	2108111535Y	Boron, Total	0.08	mg/L	0.2	0.02		J
8/11/2021	METALS	2108111535Y	Calcium, Total	432	mg/L	10	3		

Analytical Results for Sampling Events at 200-JG-110

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/20/2021	8260	2109200855A	Trichloroethene (TCE)	24	ug/L	1	0.2		
9/20/2021	8260	2109200855A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.58	ug/L	1	0.2		J
9/20/2021	8260	2109200855A	Trichlorofluoromethane (CFC 11)	5	ug/L	1	0.24		
9/20/2021	8260	2109200855A	Chloromethane	0.8	ug/L	2	0.28		J RB A FB
9/20/2021	8260	2109200855A	1,1,2-Trichloro-1,2,2-Trifluoroethane	38	ug/L	1	0.2		
9/20/2021	8260	2109200855A	Tetrachloroethene (PCE)	2.1	ug/L	1	0.21		
9/20/2021	8260	2109200856A	1,1,2-Trichloro-1,2,2-Trifluoroethane	38	ug/L	1	0.2		
9/20/2021	8260	2109200856A	Chloromethane	0.69	ug/L	2	0.28		J RB A FB
9/20/2021	8260	2109200856A	Tetrachloroethene (PCE)	2.1	ug/L	1	0.21		
9/20/2021	8260	2109200856A	Trichloroethene (TCE)	23	ug/L	1	0.2		
9/20/2021	8260	2109200856A	Trichlorofluoromethane (CFC 11)	5.2	ug/L	1	0.24		
9/20/2021	8260	2109200856A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.54	ug/L	1	0.2		J
9/20/2021	607	2109200858A	Bromacil	0.065	µg/L	0.0097	0.0049	130.4	
9/20/2021	METALS	2109200900A	Calcium, Total	136	mg/L	1	0.3		
9/20/2021	METALS	2109200900A	Strontium, Total	3.13	mg/L	0.1	0.002		
9/20/2021	METALS	2109200900A	Sodium, Total	41.5	mg/L	1	0.2		
9/20/2021	METALS	2109200900A	Potassium, Total	3.5	mg/L	2	0.4		
9/20/2021	METALS	2109200900A	Magnesium, Total	75	mg/L	1	0.03		
9/20/2021	METALS	2109200900A	Boron, Total	0.08	mg/L	0.2	0.02		J
9/20/2021	METALS	2109200900A	Barium, Total	0.043	mg/L	0.02	0.003		
9/20/2021	METALS	2109200900A	Molybdenum, Total	0.014	mg/L	0.025	0.003		J
9/20/2021	ANIONS	2109200901A	Alkalinity, Total as CaCO3	223	mg/L	2	1.8		
9/20/2021	ANIONS	2109200901A	Chloride	56.5	mg/L	2	0.5		
9/20/2021	ANIONS	2109200901A	Fluoride, undistilled	1.18	mg/L	0.1	0.01		
9/20/2021	ANIONS	2109200901A	Sulfate	420	mg/L	10	2		
9/20/2021	SM2540C	2109200902A	Total Dissolved Solids (TDS)	915	mg/L	10	9		
9/20/2021	6850	2109200903A	Perchlorate	0.35	ug/L	0.2	0.06		
9/20/2021	353.2	2109200904A	Nitrate+Nitrite as Nitrogen	1.66	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 200-KV-150

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/14/2021	8260	2109140900C	Trichloroethene (TCE)	2.8	ug/L	1	0.2		
9/14/2021	8260	2109140900C	Trichlorofluoromethane (CFC 11)	16	ug/L	1	0.24		
9/14/2021	8260	2109140900C	Chloromethane	0.36	ug/L	2	0.28		J RB A
9/14/2021	8260	2109140900C	1,1,2-Trichloro-1,2,2-Trifluoroethane	25	ug/L	1	0.2		
9/14/2021	8260	2109140900C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.61	ug/L	1	0.2		J
9/14/2021	8260	2109140900C	Dichlorofluoromethane (CFC 21)	0.47	ug/L	1	0.2		J
9/14/2021	8260	2109140902C	1,1,2-Trichloro-1,2,2-Trifluoroethane	26	ug/L	1	0.2		
9/14/2021	8260	2109140902C	Dichlorofluoromethane (CFC 21)	0.43	ug/L	1	0.2		J
9/14/2021	8260	2109140902C	Trichloroethene (TCE)	2.9	ug/L	1	0.2		
9/14/2021	8260	2109140902C	Trichlorofluoromethane (CFC 11)	18	ug/L	1	0.24		
9/14/2021	8260	2109140902C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.56	ug/L	1	0.2		J
9/14/2021	607	2109140903C	Bromacil	0.27	µg/L	0.0094	0.0047	140	
9/14/2021	METALS	2109140904C	Molybdenum, Total	0.011	mg/L	0.025	0.003		J
9/14/2021	METALS	2109140904C	Potassium, Total	4.9	mg/L	2	0.4		
9/14/2021	METALS	2109140904C	Silver, Total	0.0007	mg/L	0.01	0.0006		J
9/14/2021	METALS	2109140904C	Sodium, Total	13.9	mg/L	1	0.2		
9/14/2021	METALS	2109140904C	Strontium, Total	0.66	mg/L	0.1	0.002		
9/14/2021	METALS	2109140904C	Manganese, Total	0.017	mg/L	0.01	0.004		
9/14/2021	METALS	2109140904C	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
9/14/2021	METALS	2109140904C	Boron, Total	0.04	mg/L	0.2	0.02		J
9/14/2021	METALS	2109140904C	Zinc, Total	0.026	mg/L	0.02	0.003		FB
9/14/2021	METALS	2109140904C	Thallium, Total	0.00009	mg/L	0.001	0.00004		J
9/14/2021	METALS	2109140904C	Magnesium, Total	17.2	mg/L	1	0.03		
9/14/2021	METALS	2109140904C	Iron, Total	0.32	mg/L	0.1	0.07		
9/14/2021	METALS	2109140904C	Copper, Total	0.005	mg/L	0.02	0.004		J
9/14/2021	METALS	2109140904C	Calcium, Total	61.2	mg/L	1	0.3		
9/14/2021	METALS	2109140904C	Barium, Total	0.083	mg/L	0.02	0.003		
9/14/2021	METALS	2109140904C	Arsenic, Total	0.0015	mg/L	0.001	0.0004		
9/14/2021	METALS	2109140904C	Antimony, Total	0.0163	mg/L	0.001	0.0002		
9/14/2021	METALS	2109140904C	Aluminum, Total	0.26	mg/L	0.1	0.03		
9/14/2021	METALS	2109140904C	Chromium, Total	0.003	mg/L	0.01	0.002		J
9/14/2021	ANIONS	2109140906C	Sulfate	92.8	mg/L	2	0.4		
9/14/2021	ANIONS	2109140906C	Alkalinity, Total as CaCO3	127	mg/L	2	1.8		
9/14/2021	ANIONS	2109140906C	Fluoride, undistilled	0.3	mg/L	0.1	0.01		
9/14/2021	ANIONS	2109140906C	Chloride	31.4	mg/L	2	0.5		
9/14/2021	SM2540C	2109140907C	Total Dissolved Solids (TDS)	344	mg/L	10	9		
9/14/2021	6850	2109140908C	Perchlorate	0.29	ug/L	0.2	0.06		
9/14/2021	353.2	2109140909C	Nitrate+Nitrite as Nitrogen	1.48	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 200-LV-150

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/20/2021	8260	2110200930A	Trichloroethene (TCE)	0.24	ug/L	1	0.2		J
10/20/2021	8260	2110200930A	1,1,2-Trichloro-1,2,2-Trifluoroethane	3.2	ug/L	1	0.2		
10/20/2021	8260	2110200930A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.8	ug/L	1	0.2		
10/20/2021	607	2110200932A	Bromacil	0.011	µg/L	0.0094	0.0047	111	
10/20/2021	METALS	2110200934A	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
10/20/2021	METALS	2110200934A	Manganese, Total	0.07	mg/L	0.01	0.004		
10/20/2021	METALS	2110200934A	Thallium, Total	0.00005	mg/L	0.001	0.00004		J
10/20/2021	METALS	2110200934A	Strontium, Total	2.47	mg/L	0.1	0.002		
10/20/2021	METALS	2110200934A	Sodium, Total	32.2	mg/L	1	0.2		
10/20/2021	METALS	2110200934A	Potassium, Total	7.1	mg/L	2	0.4		
10/20/2021	METALS	2110200934A	Nickel, Total	0.006	mg/L	0.04	0.003		J
10/20/2021	METALS	2110200934A	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
10/20/2021	METALS	2110200934A	Zinc, Total	0.017	mg/L	0.02	0.003		J
10/20/2021	METALS	2110200934A	Antimony, Total	0.0011	mg/L	0.001	0.0002		
10/20/2021	METALS	2110200934A	Iron, Total	0.93	mg/L	0.1	0.07		
10/20/2021	METALS	2110200934A	Cobalt, Total	0.002	mg/L	0.05	0.0009		J
10/20/2021	METALS	2110200934A	Chromium, Total	0.007	mg/L	0.01	0.002		J
10/20/2021	METALS	2110200934A	Calcium, Total	154	mg/L	1	0.3		
10/20/2021	METALS	2110200934A	Boron, Total	0.08	mg/L	0.2	0.02		J
10/20/2021	METALS	2110200934A	Barium, Total	0.055	mg/L	0.02	0.003		
10/20/2021	METALS	2110200934A	Arsenic, Total	0.0108	mg/L	0.001	0.0004		
10/20/2021	METALS	2110200934A	Aluminum, Total	0.19	mg/L	0.1	0.03		
10/20/2021	METALS	2110200934A	Magnesium, Total	93.1	mg/L	1	0.03		
10/20/2021	ANIONS	2110200936A	Sulfate	339	mg/L	8	1.6		
10/20/2021	ANIONS	2110200936A	Fluoride, undistilled	0.8	mg/L	0.1	0.01		
10/20/2021	ANIONS	2110200936A	Alkalinity, Total as CaCO3	344	mg/L	2	1.8		
10/20/2021	ANIONS	2110200936A	Chloride	96.3	mg/L	2	0.5		
10/20/2021	SM2540C	2110200937A	Total Dissolved Solids (TDS)	977	mg/L	10	9		
10/20/2021	353.2	2110200939A	Nitrate+Nitrite as Nitrogen	0.135	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 200-SG-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/7/2021	8260	2109071050B	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8.3	ug/L	1	0.2		
9/7/2021	8260	2109071050B	2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	0.25	ug/L	1	0.2		J
9/7/2021	8260	2109071050B	Trichlorofluoromethane (CFC 11)	9.1	ug/L	1	0.24		
9/7/2021	8260	2109071050B	Ethene, chlorotrifluoro-	5.5	ug/L	NA	NA		TIC
9/7/2021	8260	2109071050B	Dichlorofluoromethane (CFC 21)	1.8	ug/L	1	0.2		
9/7/2021	8260	2109071050B	1,1,2-Trichloro-1,2,2-Trifluoroethane	440	ug/L	5	1		
9/7/2021	8260	2109071050B	Tetrachloroethene (PCE)	4.6	ug/L	1	0.21		
9/7/2021	8260	2109071050B	Trichloroethene (TCE)	110	ug/L	1	0.2		
9/7/2021	607	2109071052B	Bromacil	0.099	µg/L	0.0094	0.0047	105	
9/7/2021	8270	2109071100B	Unknown Hydrocarbon	10	ug/L	NA	NA		TIC
9/7/2021	8270	2109071100B	Unknown Hydrocarbon	4.7	ug/L	NA	NA		TIC
9/7/2021	8270	2109071100B	Unknown Hydrocarbon	8.9	ug/L	NA	NA		TIC
9/7/2021	8270	2109071100B	Unknown Hydrocarbon	8	ug/L	NA	NA		TIC
9/7/2021	8270	2109071100B	Unknown Hydrocarbon	5.4	ug/L	NA	NA		TIC
9/7/2021	8270	2109071100B	Unknown Hydrocarbon	7.2	ug/L	NA	NA		TIC
9/7/2021	8290	2109071310B	OCDD	0.885	pg/L	23.6	0.247		J RB
9/7/2021	METALS	2109071318B	Manganese, Total	0.007	mg/L	0.01	0.004		J
9/7/2021	METALS	2109071318B	Sodium, Total	39.5	mg/L	1	0.2		
9/7/2021	METALS	2109071318B	Strontium, Total	2.44	mg/L	0.1	0.002		
9/7/2021	METALS	2109071318B	Potassium, Total	3.2	mg/L	2	0.4		
9/7/2021	METALS	2109071318B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
9/7/2021	METALS	2109071318B	Calcium, Total	122	mg/L	1	0.3		
9/7/2021	METALS	2109071318B	Boron, Total	0.08	mg/L	0.2	0.02		J
9/7/2021	METALS	2109071318B	Thallium, Total	0.00005	mg/L	0.001	0.00004		J
9/7/2021	METALS	2109071318B	Barium, Total	0.029	mg/L	0.02	0.003		
9/7/2021	METALS	2109071318B	Antimony, Total	0.0003	mg/L	0.001	0.0002		J
9/7/2021	METALS	2109071318B	Magnesium, Total	66	mg/L	1	0.03		
9/7/2021	ANIONS	2109071319B	Fluoride, undistilled	1.35	mg/L	0.1	0.01		
9/7/2021	ANIONS	2109071319B	Sulfate	349	mg/L	10	2		
9/7/2021	ANIONS	2109071319B	Chloride	49.6	mg/L	2	0.5		
9/7/2021	ANIONS	2109071319B	Alkalinity, Total as CaCO3	281	mg/L	2	1.8		
9/7/2021	SM2540C	2109071320B	Total Dissolved Solids (TDS)	877	mg/L	10	9		
9/7/2021	6850	2109071321B	Perchlorate	0.19	ug/L	0.2	0.06		J
9/7/2021	353.2	2109071322B	Nitrate+Nitrite as Nitrogen	0.307	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 300-A-120

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/13/2021	8260	2109131000A	Trichlorofluoromethane (CFC 11)	52	ug/L	1	0.24		
9/13/2021	8260	2109131000A	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.3	ug/L	1	0.2		
9/13/2021	8260	2109131000A	Chloromethane	0.3	ug/L	2	0.28		J A
9/13/2021	8260	2109131000A	Trichloroethene (TCE)	0.25	ug/L	1	0.2		J
9/13/2021	8260	2109131001A	Trichlorofluoromethane (CFC 11)	50	ug/L	1	0.24		
9/13/2021	8260	2109131001A	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.4	ug/L	1	0.2		
9/13/2021	8260	2109131001A	Trichloroethene (TCE)	0.34	ug/L	1	0.2		J
9/13/2021	607	2109131003A	N-Nitrosodimethylamine	1.7	µg/L	0.0096	0.0048	58	QD
9/13/2021	607	2109131003A	N-Nitrodimethylamine	2.5	µg/L	0.0096	0.0048	102.6	
9/13/2021	607	2109131003A	Bromacil	0.72	µg/L	0.0096	0.0048	140	
9/13/2021	607	2109131004A	Bromacil	0.67	µg/L	0.0097	0.0049	140	
9/13/2021	607	2109131004A	N-Nitrosodimethylamine	1.3	µg/L	0.0097	0.0049	58	QD
9/13/2021	607	2109131004A	N-Nitrodimethylamine	2	µg/L	0.0097	0.0049	102.6	
9/13/2021	8270	2109131005A	Bis(2-ethylhexyl) Phthalate	12	ug/L	4.7	3.9		
9/13/2021	METALS	2109131010A	Molybdenum, Total	0.016	mg/L	0.025	0.003		J
9/13/2021	METALS	2109131010A	Strontium, Total	1.4	mg/L	0.1	0.002		
9/13/2021	METALS	2109131010A	Sodium, Total	43.3	mg/L	1	0.2		
9/13/2021	METALS	2109131010A	Potassium, Total	2.1	mg/L	2	0.4		
9/13/2021	METALS	2109131010A	Chromium, Total	0.043	mg/L	0.01	0.002		
9/13/2021	METALS	2109131010A	Nickel, Total	0.27	mg/L	0.04	0.003		
9/13/2021	METALS	2109131010A	Zinc, Total	0.004	mg/L	0.02	0.003		J
9/13/2021	METALS	2109131010A	Vanadium, Total	0.001	mg/L	0.05	0.0007		J
9/13/2021	METALS	2109131010A	Iron, Total	0.23	mg/L	0.1	0.07		
9/13/2021	METALS	2109131010A	Calcium, Total	58.6	mg/L	1	0.3		
9/13/2021	METALS	2109131010A	Boron, Total	0.11	mg/L	0.2	0.02		J
9/13/2021	METALS	2109131010A	Barium, Total	0.049	mg/L	0.02	0.003		
9/13/2021	METALS	2109131010A	Aluminum, Total	0.03	mg/L	0.1	0.03		J
9/13/2021	METALS	2109131010A	Manganese, Total	0.005	mg/L	0.01	0.004		J
9/13/2021	METALS	2109131010A	Magnesium, Total	42.4	mg/L	1	0.03		
9/13/2021	ANIONS	2109131011A	Alkalinity, Total as CaCO3	204	mg/L	2	1.8		
9/13/2021	ANIONS	2109131011A	Chloride	39.3	mg/L	2	0.5		
9/13/2021	ANIONS	2109131011A	Fluoride, undistilled	0.6	mg/L	0.1	0.01		
9/13/2021	ANIONS	2109131011A	Sulfate	164	mg/L	8	1.6		
9/13/2021	SM2540C	2109131012A	Total Dissolved Solids (TDS)	498	mg/L	10	9		
9/13/2021	6850	2109131013A	Perchlorate	0.54	ug/L	0.2	0.06		
9/13/2021	353.2	2109131014A	Nitrate+Nitrite as Nitrogen	3.21	mg/L	0.25	0.008		
9/13/2021	8290	2109131017A	Total Hepta-Dioxins	0.274	pg/L	NA	NA		J
9/13/2021	8290	2109131017A	1,2,3,4,6,7,8-HpCDD	0.274	pg/L	12.5	0.179		J

Analytical Results for Sampling Events at 300-A-120

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/13/2021	8290	2109131017A	OCDD	1.32	pg/L	25	0.219		J RB

Analytical Results for Sampling Events at 300-C-128

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/19/2021	8260	2110191410A	1,1,2-Trichloro-1,2,2-Trifluoroethane	51	ug/L	1	0.2		
10/19/2021	8260	2110191410A	Dichlorofluoromethane (CFC 21)	0.73	ug/L	1	0.2		J
10/19/2021	8260	2110191410A	Trichloroethene (TCE)	2.1	ug/L	1	0.2		
10/19/2021	8260	2110191410A	Trichlorofluoromethane (CFC 11)	420	ug/L	5	1.2		
10/19/2021	607	2110191412A	N-Nitrosodimethylamine	3.9	µg/L	0.0096	0.0048	50	
10/19/2021	607	2110191412A	N-Nitrodimethylamine	6.4	µg/L	0.0096	0.0048	91	
10/19/2021	607	2110191412A	Bromacil	3.3	µg/L	0.0096	0.0048	111	
10/19/2021	METALS	2110191413A	Potassium, Total	2.4	mg/L	2	0.4		
10/19/2021	METALS	2110191413A	Nickel, Total	0.019	mg/L	0.04	0.003		J
10/19/2021	METALS	2110191413A	Zinc, Total	0.007	mg/L	0.02	0.003		J
10/19/2021	METALS	2110191413A	Vanadium, Total	0.0007	mg/L	0.05	0.0007		J
10/19/2021	METALS	2110191413A	Strontium, Total	3.77	mg/L	0.1	0.002		
10/19/2021	METALS	2110191413A	Aluminum, Total	0.06	mg/L	0.1	0.03		J
10/19/2021	METALS	2110191413A	Magnesium, Total	66.6	mg/L	1	0.03		
10/19/2021	METALS	2110191413A	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
10/19/2021	METALS	2110191413A	Calcium, Total	101	mg/L	1	0.3		
10/19/2021	METALS	2110191413A	Boron, Total	0.12	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191413A	Barium, Total	0.034	mg/L	0.02	0.003		
10/19/2021	METALS	2110191413A	Sodium, Total	47.6	mg/L	1	0.2		
10/19/2021	353.2	2110191414A	Nitrate+Nitrite as Nitrogen	6.05	mg/L	0.5	0.02		

Analytical Results for Sampling Events at 300-D-153

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/16/2021	8260	2109161441C	Unknown	7.2	ug/L	NA	NA		TIC RB
9/16/2021	8260	2109161441C	1,1,2-Trichloro-1,2,2-Trifluoroethane	2	ug/L	1	0.2		
9/16/2021	8260	2109161441C	Trichlorofluoromethane (CFC 11)	2.2	ug/L	1	0.24		
9/16/2021	METALS	2109161444C	Potassium, Total	5.1	mg/L	2	0.4		
9/16/2021	METALS	2109161444C	Boron, Total	0.13	mg/L	0.2	0.02		J
9/16/2021	METALS	2109161444C	Zinc, Total	0.005	mg/L	0.02	0.003		J
9/16/2021	METALS	2109161444C	Thallium, Total	0.0001	mg/L	0.001	0.00004		J
9/16/2021	METALS	2109161444C	Strontium, Total	2.82	mg/L	0.1	0.002		
9/16/2021	METALS	2109161444C	Sodium, Total	37.1	mg/L	1	0.2		
9/16/2021	METALS	2109161444C	Nickel, Total	0.025	mg/L	0.04	0.003		J
9/16/2021	METALS	2109161444C	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
9/16/2021	METALS	2109161444C	Calcium, Total	113	mg/L	1	0.3		
9/16/2021	METALS	2109161444C	Barium, Total	0.027	mg/L	0.02	0.003		
9/16/2021	METALS	2109161444C	Aluminum, Total	0.04	mg/L	0.1	0.03		J
9/16/2021	METALS	2109161444C	Magnesium, Total	82.2	mg/L	1	0.03		
9/16/2021	METALS	2109161445C	Nickel, Total	0.026	mg/L	0.04	0.003		J
9/16/2021	METALS	2109161445C	Sodium, Total	37.4	mg/L	1	0.2		
9/16/2021	METALS	2109161445C	Zinc, Total	0.006	mg/L	0.02	0.003		J
9/16/2021	METALS	2109161445C	Strontium, Total	2.82	mg/L	0.1	0.002		
9/16/2021	METALS	2109161445C	Potassium, Total	5.1	mg/L	2	0.4		
9/16/2021	METALS	2109161445C	Magnesium, Total	83	mg/L	1	0.03		
9/16/2021	METALS	2109161445C	Calcium, Total	114	mg/L	1	0.3		
9/16/2021	METALS	2109161445C	Boron, Total	0.13	mg/L	0.2	0.02		J
9/16/2021	METALS	2109161445C	Barium, Total	0.027	mg/L	0.02	0.003		
9/16/2021	METALS	2109161445C	Aluminum, Total	0.04	mg/L	0.1	0.03		J
9/16/2021	METALS	2109161445C	Thallium, Total	0.0001	mg/L	0.001	0.00004		J
9/16/2021	METALS	2109161445C	Molybdenum, Total	0.005	mg/L	0.025	0.003		J

Analytical Results for Sampling Events at 400-D-195

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260_LL	2108170850Y	2-Propanol	6.3	ug/L	40	3.4		J EB
8/16/2021	8260_LL	2108170850Y	Chloromethane	0.34	ug/L	0.5	0.28		J RB A
8/16/2021	8260_LL	2108170850Y	Tetrahydrofuran (THF)	7.3	ug/L	5	1.7		
8/16/2021	METALS	2108171043Y	Potassium, Total	1.5	mg/L	2	0.4		J
8/16/2021	METALS	2108171043Y	Zinc, Total	0.013	mg/L	0.02	0.003		J
8/16/2021	METALS	2108171043Y	Vanadium, Total	0.0007	mg/L	0.05	0.0007		J
8/16/2021	METALS	2108171043Y	Sodium, Total	50.9	mg/L	1	0.2		
8/16/2021	METALS	2108171043Y	Molybdenum, Total	0.004	mg/L	0.025	0.003		J
8/16/2021	METALS	2108171043Y	Magnesium, Total	12.6	mg/L	1	0.03		
8/16/2021	METALS	2108171043Y	Calcium, Total	18.3	mg/L	1	0.3		
8/16/2021	METALS	2108171043Y	Boron, Total	0.09	mg/L	0.2	0.02		J
8/16/2021	METALS	2108171043Y	Barium, Total	0.011	mg/L	0.02	0.003		J
8/16/2021	METALS	2108171043Y	Arsenic, Total	0.0004	mg/L	0.001	0.0004		J
8/16/2021	METALS	2108171043Y	Manganese, Total	0.009	mg/L	0.01	0.004		J
8/16/2021	METALS	2108171043Y	Strontium, Total	0.95	mg/L	0.1	0.002		

Analytical Results for Sampling Events at 400-D-275

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260_LL	2108161050Y	Acrylonitrile	1.8	ug/L	2.5	0.9		J
8/16/2021	8260_LL	2108161050Y	Tetrahydrofuran (THF)	3.7	ug/L	5	1.7		J
8/16/2021	METALS	2108161325Y	Barium, Total	0.018	mg/L	0.02	0.003		J
8/16/2021	METALS	2108161325Y	Strontium, Total	2.06	mg/L	0.1	0.002		
8/16/2021	METALS	2108161325Y	Sodium, Total	84.4	mg/L	1	0.2		
8/16/2021	METALS	2108161325Y	Potassium, Total	1.9	mg/L	2	0.4		J
8/16/2021	METALS	2108161325Y	Molybdenum, Total	0.013	mg/L	0.025	0.003		J
8/16/2021	METALS	2108161325Y	Manganese, Total	0.02	mg/L	0.01	0.004		
8/16/2021	METALS	2108161325Y	Magnesium, Total	20	mg/L	1	0.03		
8/16/2021	METALS	2108161325Y	Boron, Total	0.32	mg/L	0.2	0.02		
8/16/2021	METALS	2108161325Y	Zinc, Total	0.007	mg/L	0.02	0.003		J
8/16/2021	METALS	2108161325Y	Calcium, Total	33	mg/L	1	0.3		
8/16/2021	ANIONS	2108161326Y	Sulfate	193	mg/L	10	2		
8/16/2021	ANIONS	2108161326Y	Fluoride, undistilled	0.38	mg/L	0.1	0.01		
8/16/2021	ANIONS	2108161326Y	Chloride	23	mg/L	2	0.5		
8/16/2021	ANIONS	2108161326Y	Alkalinity, Total as CaCO3	124	mg/L	2	1.8		
8/16/2021	SM2540C	2108161327Y	Total Dissolved Solids (TDS)	446	mg/L	10	9		
8/16/2021	353.2	2108161329Y	Nitrate+Nitrite as Nitrogen	0.003	mg/L	0.05	0.002		J

Analytical Results for Sampling Events at 400-D-355

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/12/2021	8260_LL	2108121525Y	Acrylonitrile	1.6	ug/L	2.5	0.9		J
8/12/2021	8260_LL	2108121525Y	Chloromethane	0.32	ug/L	0.5	0.28		J RB A EB
8/12/2021	8260_LL	2108121525Y	Tetrahydrofuran (THF)	1.8	ug/L	5	1.7		J
8/12/2021	METALS	2108121545Y	Magnesium, Total	18.6	mg/L	1	0.03		
8/12/2021	METALS	2108121545Y	Zinc, Total	0.013	mg/L	0.02	0.003		J
8/12/2021	METALS	2108121545Y	Strontium, Total	2.48	mg/L	0.1	0.002		
8/12/2021	METALS	2108121545Y	Sodium, Total	90.6	mg/L	1	0.2		
8/12/2021	METALS	2108121545Y	Potassium, Total	1.9	mg/L	2	0.4		J
8/12/2021	METALS	2108121545Y	Manganese, Total	0.024	mg/L	0.01	0.004		
8/12/2021	METALS	2108121545Y	Calcium, Total	35.7	mg/L	1	0.3		
8/12/2021	METALS	2108121545Y	Boron, Total	0.38	mg/L	0.2	0.02		
8/12/2021	METALS	2108121545Y	Barium, Total	0.018	mg/L	0.02	0.003		J
8/12/2021	METALS	2108121545Y	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
8/12/2021	METALS	2108121545Y	Aluminum, Total	0.05	mg/L	0.1	0.03		J
8/12/2021	METALS	2108121545Y	Molybdenum, Total	0.014	mg/L	0.025	0.003		J

Analytical Results for Sampling Events at 400-EV-131

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/2/2021	8260	2108021000C	1,1,2-Trichloro-1,2,2-Trifluoroethane	49	ug/L	1	0.2		
8/2/2021	8260	2108021000C	Chloromethane	0.3	ug/L	2	0.28		J FB
8/2/2021	8260	2108021000C	Dichlorofluoromethane (CFC 21)	0.42	ug/L	1	0.2		J
8/2/2021	8260	2108021000C	Trichloroethene (TCE)	1	ug/L	1	0.2		
8/2/2021	8260	2108021000C	Trichlorofluoromethane (CFC 11)	130	ug/L	2	0.48		
8/2/2021	8260	2108021001C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.32	ug/L	1	0.2		J
8/2/2021	8260	2108021001C	Trichlorofluoromethane (CFC 11)	130	ug/L	2.5	0.6		
8/2/2021	8260	2108021001C	Silane, methoxytrimethyl-	13	ug/L	NA	NA		TIC
8/2/2021	8260	2108021001C	Dichlorofluoromethane (CFC 21)	0.37	ug/L	1	0.2		J
8/2/2021	8260	2108021001C	Chloromethane	0.36	ug/L	2	0.28		J FB
8/2/2021	8260	2108021001C	1,1,2-Trichloro-1,2,2-Trifluoroethane	61	ug/L	1	0.2		
8/2/2021	8260	2108021001C	Trichloroethene (TCE)	0.83	ug/L	1	0.2		J
8/2/2021	607	2108021003C	N-Nitrodimethylamine	1.7	µg/L	0.01	0.0052	96	
8/2/2021	607	2108021003C	Bromacil	5.6	µg/L	0.01	0.0052	102	
8/2/2021	607	2108021003C	N-Nitrosodimethylamine	0.78	µg/L	0.01	0.0052	44	
8/2/2021	METALS	2108021004C	Manganese, Total	0.007	mg/L	0.01	0.004		J
8/2/2021	METALS	2108021004C	Zinc, Total	0.003	mg/L	0.02	0.003		J
8/2/2021	METALS	2108021004C	Vanadium, Total	0.0009	mg/L	0.05	0.0007		J
8/2/2021	METALS	2108021004C	Thallium, Total	0.00005	mg/L	0.001	0.00004		J
8/2/2021	METALS	2108021004C	Strontium, Total	4.51	mg/L	0.1	0.002		
8/2/2021	METALS	2108021004C	Sodium, Total	89.6	mg/L	1	0.2		
8/2/2021	METALS	2108021004C	Potassium, Total	4.4	mg/L	2	0.4		
8/2/2021	METALS	2108021004C	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
8/2/2021	METALS	2108021004C	Iron, Total	0.18	mg/L	0.1	0.07		
8/2/2021	METALS	2108021004C	Chromium, Total	0.004	mg/L	0.01	0.002		J
8/2/2021	METALS	2108021004C	Calcium, Total	114	mg/L	1	0.3		
8/2/2021	METALS	2108021004C	Boron, Total	0.22	mg/L	0.2	0.02		
8/2/2021	METALS	2108021004C	Barium, Total	0.032	mg/L	0.02	0.003		
8/2/2021	METALS	2108021004C	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
8/2/2021	METALS	2108021004C	Aluminum, Total	0.11	mg/L	0.1	0.03		
8/2/2021	METALS	2108021004C	Magnesium, Total	83.8	mg/L	1	0.03		
8/2/2021	METALS	2108021004C	Nickel, Total	0.005	mg/L	0.04	0.003		J
8/2/2021	ANIONS	2108021005C	Alkalinity, Total as CaCO3	241	mg/L	2	1.8		
8/2/2021	ANIONS	2108021005C	Sulfate	413	mg/L	10	2		
8/2/2021	ANIONS	2108021005C	Fluoride, undistilled	1.05	mg/L	0.1	0.01		
8/2/2021	ANIONS	2108021005C	Chloride	100	mg/L	8	1.7		
8/2/2021	SM2540C	2108021006C	Total Dissolved Solids (TDS)	1050	mg/L	13	12		
8/2/2021	6850	2108021007C	Perchlorate	1.1	ug/L	0.2	0.06		

Analytical Results for Sampling Events at 400-EV-131

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/2/2021	353.2	2108021008C	Nitrate+Nitrite as Nitrogen	5.79	mg/L	0.25	0.008		

Analytical Results for Sampling Events at 400-FV-131

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/18/2021	8260	2110181000A	1,1,2-Trichloro-1,2,2-Trifluoroethane	21	ug/L	1	0.2		
10/18/2021	8260	2110181000A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	5.6	ug/L	1	0.2		
10/18/2021	8260	2110181000A	Dichlorofluoromethane (CFC 21)	4.7	ug/L	1	0.2		
10/18/2021	8260	2110181000A	Trichloroethene (TCE)	0.26	ug/L	1	0.2		J
10/18/2021	8260	2110181000A	Trichlorofluoromethane (CFC 11)	28	ug/L	1	0.24		
10/18/2021	607	2110181002A	N-Nitrosodimethylamine	0.76	µg/L	0.0098	0.0049	53	
10/18/2021	607	2110181002A	N-Nitrodimethylamine	0.54	µg/L	0.0098	0.0049	89	
10/18/2021	607	2110181002A	Bromacil	0.49	µg/L	0.0098	0.0049	120	
10/18/2021	607	2110181003A	N-Nitrosodimethylamine	0.73	µg/L	0.0094	0.0047	53	
10/18/2021	607	2110181003A	N-Nitrodimethylamine	0.54	µg/L	0.0094	0.0047	89	
10/18/2021	607	2110181003A	Bromacil	0.51	µg/L	0.0094	0.0047	120	
10/18/2021	METALS	2110181004A	Manganese, Total	0.039	mg/L	0.01	0.004		
10/18/2021	METALS	2110181004A	Zinc, Total	0.004	mg/L	0.02	0.003		J
10/18/2021	METALS	2110181004A	Thallium, Total	0.0001	mg/L	0.001	0.00004		J
10/18/2021	METALS	2110181004A	Strontium, Total	2.46	mg/L	0.1	0.002		
10/18/2021	METALS	2110181004A	Sodium, Total	116	mg/L	1	0.2		
10/18/2021	METALS	2110181004A	Molybdenum, Total	0.005	mg/L	0.025	0.003		J
10/18/2021	METALS	2110181004A	Arsenic, Total	0.0019	mg/L	0.001	0.0004		
10/18/2021	METALS	2110181004A	Magnesium, Total	79.8	mg/L	1	0.03		
10/18/2021	METALS	2110181004A	Calcium, Total	101	mg/L	1	0.3		
10/18/2021	METALS	2110181004A	Boron, Total	0.24	mg/L	0.2	0.02		
10/18/2021	METALS	2110181004A	Barium, Total	0.045	mg/L	0.02	0.003		
10/18/2021	METALS	2110181004A	Potassium, Total	3.1	mg/L	2	0.4		
10/18/2021	ANIONS	2110181005A	Chloride	52.4	mg/L	2	0.5		
10/18/2021	ANIONS	2110181005A	Fluoride, undistilled	0.85	mg/L	0.1	0.01		
10/18/2021	ANIONS	2110181005A	Alkalinity, Total as CaCO3	391	mg/L	2	1.8		
10/18/2021	ANIONS	2110181005A	Sulfate	334	mg/L	8	1.6		
10/18/2021	SM2540C	2110181006A	Total Dissolved Solids (TDS)	987	mg/L	10	9		
10/18/2021	6850	2110181007A	Perchlorate	0.33	ug/L	0.2	0.06		
10/18/2021	353.2	2110181008A	Nitrate+Nitrite as Nitrogen	1.85	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 400-GV-125

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/3/2021	8260	2108030900C	1,1,2-Trichloro-1,2,2-Trifluoroethane	60	ug/L	1	0.2		
8/3/2021	8260	2108030900C	Trichlorofluoromethane (CFC 11)	180	ug/L	1	0.24		
8/3/2021	8260	2108030900C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	4.4	ug/L	1	0.2		
8/3/2021	8260	2108030900C	Chloromethane	0.28	ug/L	2	0.28		J RB A
8/3/2021	8260	2108030900C	Dichlorofluoromethane (CFC 21)	3.5	ug/L	1	0.2		
8/3/2021	8260	2108030900C	Trichloroethene (TCE)	1.5	ug/L	1	0.2		
8/3/2021	607	2108030902C	N-Nitrosodimethylamine	2.5	µg/L	0.0094	0.0047	44	
8/3/2021	607	2108030902C	N-Nitrodimethylamine	4.2	µg/L	0.0094	0.0047	96	
8/3/2021	607	2108030902C	Bromacil	4.6	µg/L	0.0094	0.0047	102	
8/3/2021	METALS	2108030903C	Nickel, Total	0.008	mg/L	0.04	0.003		J
8/3/2021	METALS	2108030903C	Thallium, Total	0.0002	mg/L	0.001	0.00004		J
8/3/2021	METALS	2108030903C	Strontium, Total	3.72	mg/L	0.1	0.002		
8/3/2021	METALS	2108030903C	Potassium, Total	4.3	mg/L	2	0.4		
8/3/2021	METALS	2108030903C	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
8/3/2021	METALS	2108030903C	Calcium, Total	118	mg/L	1	0.3		
8/3/2021	METALS	2108030903C	Boron, Total	0.33	mg/L	0.2	0.02		
8/3/2021	METALS	2108030903C	Barium, Total	0.043	mg/L	0.02	0.003		
8/3/2021	METALS	2108030903C	Arsenic, Total	0.001	mg/L	0.001	0.0004		
8/3/2021	METALS	2108030903C	Sodium, Total	87.3	mg/L	1	0.2		
8/3/2021	METALS	2108030903C	Magnesium, Total	89.5	mg/L	1	0.03		
8/3/2021	ANIONS	2108030904C	Chloride	99	mg/L	10	3		
8/3/2021	ANIONS	2108030904C	Fluoride, undistilled	1	mg/L	0.1	0.01		
8/3/2021	ANIONS	2108030904C	Alkalinity, Total as CaCO3	260	mg/L	2	1.8		
8/3/2021	ANIONS	2108030904C	Sulfate	413	mg/L	10	2		
8/3/2021	SM2540C	2108030905C	Total Dissolved Solids (TDS)	1040	mg/L	10	9		
8/3/2021	6850	2108030906C	Perchlorate	1	ug/L	0.2	0.06		
8/3/2021	353.2	2108030907C	Nitrate+Nitrite as Nitrogen	7.87	mg/L	0.25	0.008		

Analytical Results for Sampling Events at 400-HV-147

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/18/2021	8260	2110181410A	Trichloroethene (TCE)	0.93	ug/L	1	0.2		J
10/18/2021	8260	2110181410A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.2	ug/L	1	0.2		
10/18/2021	8260	2110181410A	Trichlorofluoromethane (CFC 11)	160	ug/L	1	0.24		
10/18/2021	8260	2110181410A	Chloroform	0.85	ug/L	1	0.24		J
10/18/2021	8260	2110181410A	1,1,2-Trichloro-1,2,2-Trifluoroethane	82	ug/L	1	0.2		
10/18/2021	8260	2110181410A	Dichlorofluoromethane (CFC 21)	3	ug/L	1	0.2		
10/18/2021	8260	2110181412A	1,1,2-Trichloro-1,2,2-Trifluoroethane	76	ug/L	1	0.2		
10/18/2021	8260	2110181412A	Chloroform	0.75	ug/L	1	0.24		J
10/18/2021	8260	2110181412A	Dichlorofluoromethane (CFC 21)	3	ug/L	1	0.2		
10/18/2021	8260	2110181412A	Trichloroethene (TCE)	0.58	ug/L	1	0.2		J
10/18/2021	8260	2110181412A	Trichlorofluoromethane (CFC 11)	160	ug/L	1	0.24		
10/18/2021	8260	2110181412A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.2	ug/L	1	0.2		
10/18/2021	607	2110181413A	N-Nitrosodimethylamine	170	µg/L	0.49	0.24	53	D
10/18/2021	607	2110181413A	N-Nitrodimethylamine	330	µg/L	0.49	0.24	89	D
10/18/2021	607	2110181413A	Bromacil	3.4	µg/L	0.49	0.24	120	D
10/18/2021	METALS	2110181414A	Thallium, Total	0.00004	mg/L	0.001	0.00004		J
10/18/2021	METALS	2110181414A	Boron, Total	0.73	mg/L	0.2	0.02		
10/18/2021	METALS	2110181414A	Barium, Total	0.077	mg/L	0.02	0.003		
10/18/2021	METALS	2110181414A	Arsenic, Total	0.0012	mg/L	0.001	0.0004		
10/18/2021	METALS	2110181414A	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
10/18/2021	METALS	2110181414A	Magnesium, Total	111	mg/L	1	0.03		
10/18/2021	METALS	2110181414A	Zinc, Total	0.005	mg/L	0.02	0.003		J
10/18/2021	METALS	2110181414A	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
10/18/2021	METALS	2110181414A	Strontium, Total	5.86	mg/L	0.1	0.002		
10/18/2021	METALS	2110181414A	Sodium, Total	131	mg/L	1	0.2		
10/18/2021	METALS	2110181414A	Potassium, Total	4.5	mg/L	2	0.4		
10/18/2021	METALS	2110181414A	Manganese, Total	0.008	mg/L	0.01	0.004		J
10/18/2021	METALS	2110181414A	Cobalt, Total	0.003	mg/L	0.05	0.0009		J
10/18/2021	METALS	2110181414A	Calcium, Total	148	mg/L	1	0.3		
10/18/2021	METALS	2110181414A	Molybdenum, Total	0.005	mg/L	0.025	0.003		J
10/18/2021	ANIONS	2110181415A	Sulfate	385	mg/L	8	1.6		
10/18/2021	ANIONS	2110181415A	Alkalinity, Total as CaCO3	278	mg/L	2	1.8		
10/18/2021	ANIONS	2110181415A	Chloride	89.9	mg/L	2	0.5		
10/18/2021	ANIONS	2110181415A	Fluoride, undistilled	0.51	mg/L	0.1	0.01		
10/18/2021	SM2540C	2110181416A	Total Dissolved Solids (TDS)	1400	mg/L	10	9		
10/18/2021	6850	2110181417A	Perchlorate	0.72	ug/L	0.2	0.06		
10/18/2021	353.2	2110181418A	Nitrate+Nitrite as Nitrogen	77.6	mg/L	5	0.2		

Analytical Results for Sampling Events at 400-IV-123

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/19/2021	8260	2110191000A	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.3	ug/L	1	0.2		
10/19/2021	8260	2110191000A	Dichlorofluoromethane (CFC 21)	0.5	ug/L	1	0.2		J
10/19/2021	8260	2110191000A	Trichloroethene (TCE)	0.29	ug/L	1	0.2		J
10/19/2021	8260	2110191000A	Trichlorofluoromethane (CFC 11)	140	ug/L	1	0.24		
10/19/2021	607	2110191002A	N-Nitrodimethylamine	0.02	µg/L	0.0094	0.0047	91	
10/19/2021	607	2110191002A	Bromacil	0.01	µg/L	0.0094	0.0047	111	J
10/19/2021	METALS	2110191003A	Chromium, Total	0.005	mg/L	0.01	0.002		J
10/19/2021	METALS	2110191003A	Vanadium, Total	0.007	mg/L	0.05	0.0007		J
10/19/2021	METALS	2110191003A	Strontium, Total	0.9	mg/L	0.1	0.002		
10/19/2021	METALS	2110191003A	Sodium, Total	34.3	mg/L	1	0.2		
10/19/2021	METALS	2110191003A	Potassium, Total	3.1	mg/L	2	0.4		
10/19/2021	METALS	2110191003A	Magnesium, Total	27.7	mg/L	1	0.03		
10/19/2021	METALS	2110191003A	Boron, Total	0.15	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191003A	Barium, Total	0.027	mg/L	0.02	0.003		
10/19/2021	METALS	2110191003A	Arsenic, Total	0.0086	mg/L	0.001	0.0004		
10/19/2021	METALS	2110191003A	Antimony, Total	0.0004	mg/L	0.001	0.0002		J
10/19/2021	METALS	2110191003A	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/19/2021	METALS	2110191003A	Calcium, Total	19.1	mg/L	1	0.3		
10/19/2021	ANIONS	2110191004A	Chloride	7.2	mg/L	2	0.5		
10/19/2021	ANIONS	2110191004A	Fluoride, undistilled	0.62	mg/L	0.1	0.01		
10/19/2021	ANIONS	2110191004A	Alkalinity, Total as CaCO3	171	mg/L	2	1.8		
10/19/2021	ANIONS	2110191004A	Sulfate	42.9	mg/L	2	0.4		
10/19/2021	SM2540C	2110191005A	Total Dissolved Solids (TDS)	245	mg/L	10	9		
10/19/2021	6850	2110191006A	Perchlorate	0.9	ug/L	0.2	0.06		
10/19/2021	353.2	2110191007A	Nitrate+Nitrite as Nitrogen	1.76	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 400-JV-150

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/2/2021	8260	2108021418C	Trichloroethene (TCE)	0.64	ug/L	1	0.2		J
8/2/2021	8260	2108021418C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.67	ug/L	1	0.2		J
8/2/2021	8260	2108021418C	Trichlorofluoromethane (CFC 11)	500	ug/L	5	1.2		
8/2/2021	8260	2108021418C	Chloromethane	0.3	ug/L	2	0.28		J FB
8/2/2021	8260	2108021418C	1,1,2-Trichloro-1,2,2-Trifluoroethane	160	ug/L	1	0.2		
8/2/2021	8260	2108021418C	Dichlorofluoromethane (CFC 21)	2.5	ug/L	1	0.2		
8/2/2021	607	2108021420C	N-Nitrosodimethylamine	2.6	µg/L	0.0098	0.0049	44	
8/2/2021	607	2108021420C	N-Nitrodimethylamine	4.6	µg/L	0.0098	0.0049	96	
8/2/2021	607	2108021420C	Bromacil	1.6	µg/L	0.0098	0.0049	102	
8/2/2021	607	2108021421C	N-Nitrosodimethylamine	2.6	µg/L	0.0098	0.0049	44	
8/2/2021	607	2108021421C	N-Nitrodimethylamine	4.5	µg/L	0.0098	0.0049	96	
8/2/2021	607	2108021421C	Bromacil	1.6	µg/L	0.0098	0.0049	102	
8/2/2021	METALS	2108021422C	Molybdenum, Total	0.004	mg/L	0.025	0.003		J
8/2/2021	METALS	2108021422C	Thallium, Total	0.00004	mg/L	0.001	0.00004		J
8/2/2021	METALS	2108021422C	Strontium, Total	4.34	mg/L	0.1	0.002		
8/2/2021	METALS	2108021422C	Sodium, Total	197	mg/L	10	2		
8/2/2021	METALS	2108021422C	Nickel, Total	0.005	mg/L	0.04	0.003		J
8/2/2021	METALS	2108021422C	Arsenic, Total	0.001	mg/L	0.001	0.0004		J
8/2/2021	METALS	2108021422C	Magnesium, Total	115	mg/L	1	0.03		
8/2/2021	METALS	2108021422C	Potassium, Total	5.2	mg/L	2	0.4		
8/2/2021	METALS	2108021422C	Calcium, Total	153	mg/L	1	0.3		
8/2/2021	METALS	2108021422C	Boron, Total	0.98	mg/L	0.2	0.02		
8/2/2021	METALS	2108021422C	Barium, Total	0.039	mg/L	0.02	0.003		
8/2/2021	METALS	2108021422C	Manganese, Total	0.009	mg/L	0.01	0.004		J
8/2/2021	ANIONS	2108021423C	Chloride	147	mg/L	8	1.7		
8/2/2021	ANIONS	2108021423C	Fluoride, undistilled	0.7	mg/L	0.1	0.01		
8/2/2021	ANIONS	2108021423C	Alkalinity, Total as CaCO3	301	mg/L	2	1.8		
8/2/2021	ANIONS	2108021423C	Sulfate	726	mg/L	20	4		
8/2/2021	SM2540C	2108021424C	Total Dissolved Solids (TDS)	1670	mg/L	14	13		
8/2/2021	6850	2108021425C	Perchlorate	1.4	ug/L	0.2	0.06		
8/2/2021	353.2	2108021426C	Nitrate+Nitrite as Nitrogen	14	mg/L	0.5	0.02		

Analytical Results for Sampling Events at 600-G-138

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/21/2021	8260	2110211105A	Trichlorofluoromethane (CFC 11)	0.84	ug/L	1	0.24		J
10/21/2021	8260	2110211105A	Chloroform	0.52	ug/L	1	0.24		J
10/21/2021	8260	2110211105A	Silane, fluorotrimethyl-	6.7	ug/L	NA	NA		TIC
10/21/2021	8260	2110211105A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.64	ug/L	1	0.2		J
10/21/2021	8260	2110211105A	Chloromethane	0.31	ug/L	2	0.28		J RB
10/21/2021	8260	2110211105A	1,1,2-Trichloro-1,2,2-Trifluoroethane	33	ug/L	1	0.2		
10/21/2021	8260	2110211105A	Trichloroethene (TCE)	32	ug/L	1	0.2		
10/21/2021	300.0	2110211107A	Chloride	161	mg/L	6	1.3		
10/21/2021	353.2	2110211108A	Nitrate+Nitrite as Nitrogen	9.43	mg/L	0.5	0.02		

Analytical Results for Sampling Events at 700-A-253

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/29/2021	8260	2109290900C	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.5	ug/L	1.0	0.200		J
9/29/2021	8260	2109290900C	2-Propanol	8.4	ug/L	50	3.40		J
9/29/2021	8260	2109290900C	Silane, fluorotrimethyl-	9.4	ug/L	NA	NA		TIC
9/29/2021	8260	2109290900C	Silane, methoxytrimethyl-	5.4	ug/L	NA	NA		TIC
9/29/2021	8260	2109290900C	Unknown	5.4	ug/L	NA	NA		TIC
9/29/2021	6850	2109290903C	Perchlorate	0.25	ug/L	0.20	0.060		

Analytical Results for Sampling Events at 700-D-186

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/28/2021	8260	2109280902C	Chloromethane	0.3	ug/L	2.0	0.280		J RB FB
9/28/2021	8260	2109280902C	Unknown	6.8	ug/L	NA	NA		TIC
9/28/2021	8260	2109280902C	Silane, methoxytrimethyl-	5.9	ug/L	NA	NA		TIC
9/28/2021	8260	2109280902C	Silane, fluorotrimethyl-	10	ug/L	NA	NA		TIC
9/28/2021	8260	2109280902C	Trichloroethene (TCE)	0.34	ug/L	1.0	0.200		J
9/28/2021	8260	2109280902C	2-Propanol	18	ug/L	50	3.40		J
9/28/2021	8260	2109280902C	1,1,2-Trichloro-1,2,2-Trifluoroethane	23	ug/L	1.0	0.200		
9/28/2021	8260	2109280902C	Trichlorofluoromethane (CFC 11)	0.4	ug/L	1.0	0.240		J
9/28/2021	6850	2109280905C	Perchlorate	0.49	ug/L	0.20	0.060		

Analytical Results for Sampling Events at 700-E-458

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/18/2021	NDMA_LL	2108180940C	N-Nitrosodimethylamine	0.58	ng/L	0.47	0.43		RB * A TB FB
8/18/2021	METALS	2108180952C	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
8/18/2021	METALS	2108180952C	Zinc, Total	0.007	mg/L	0.02	0.003		J
8/18/2021	METALS	2108180952C	Vanadium, Total	0.01	mg/L	0.05	0.0007		J
8/18/2021	METALS	2108180952C	Strontium, Total	0.79	mg/L	0.1	0.002		
8/18/2021	METALS	2108180952C	Sodium, Total	143	mg/L	1	0.2		
8/18/2021	METALS	2108180952C	Potassium, Total	1.2	mg/L	2	0.4		J
8/18/2021	METALS	2108180952C	Magnesium, Total	4.6	mg/L	1	0.03		
8/18/2021	METALS	2108180952C	Iron, Total	0.7	mg/L	0.1	0.07		
8/18/2021	METALS	2108180952C	Chromium, Total	0.072	mg/L	0.01	0.002		
8/18/2021	METALS	2108180952C	Calcium, Total	18.9	mg/L	1	0.3		
8/18/2021	METALS	2108180952C	Boron, Total	0.17	mg/L	0.2	0.02		J
8/18/2021	METALS	2108180952C	Barium, Total	0.02	mg/L	0.02	0.003		J
8/18/2021	METALS	2108180952C	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
8/18/2021	METALS	2108180952C	Nickel, Total	0.061	mg/L	0.04	0.003		
8/18/2021	ANIONS	2108180954C	Fluoride, undistilled	0.58	mg/L	0.1	0.01		
8/18/2021	ANIONS	2108180954C	Sulfate	207	mg/L	8	1.6		
8/18/2021	ANIONS	2108180954C	Chloride	36.7	mg/L	2	0.5		
8/18/2021	ANIONS	2108180954C	Alkalinity, Total as CaCO3	103	mg/L	2	1.8		
8/18/2021	SM2540C	2108181005C	Total Dissolved Solids (TDS)	508	mg/L	10	9		
8/18/2021	6850	2108181006C	Perchlorate	0.8	ug/L	0.2	0.06		
8/18/2021	353.2	2108181007C	Nitrate+Nitrite as Nitrogen	3.71	mg/L	0.25	0.008		

Analytical Results for Sampling Events at 700-H-350

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/28/2021	6850	2109281545Y	Perchlorate	0.8	ug/L	0.20	0.060		

Analytical Results for Sampling Events at 700-H-535

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/29/2021	METALS	2109301020Y	Vanadium, Total	0.004	mg/L	0.050	0.00070		J EB
9/29/2021	METALS	2109301020Y	Calcium, Total	27.8	mg/L	1.0	0.30		
9/29/2021	METALS	2109301020Y	Boron, Total	0.19	mg/L	0.20	0.0200		J
9/29/2021	METALS	2109301020Y	Barium, Total	0.018	mg/L	0.020	0.003		J
9/29/2021	METALS	2109301020Y	Arsenic, Total	0.0004	mg/L	0.0010	0.000400		J
9/29/2021	METALS	2109301020Y	Strontium, Total	1.9	mg/L	0.10	0.002		
9/29/2021	METALS	2109301020Y	Sodium, Total	110	mg/L	1.0	0.200		
9/29/2021	METALS	2109301020Y	Molybdenum, Total	0.015	mg/L	0.025	0.003		J
9/29/2021	METALS	2109301020Y	Magnesium, Total	9.6	mg/L	1.0	0.03		
9/29/2021	METALS	2109301020Y	Manganese, Total	0.012	mg/L	0.010	0.004		
9/29/2021	ANIONS	2109301021Y	Alkalinity, Total as CaCO3	108	mg/L	2.0	1.80		
9/29/2021	ANIONS	2109301021Y	Chloride	29.4	mg/L	2.0	0.500		
9/29/2021	ANIONS	2109301021Y	Fluoride, undistilled	0.63	mg/L	0.10	0.01		
9/29/2021	ANIONS	2109301021Y	Sulfate	200	mg/L	8.0	1.60		
9/29/2021	SM2540C	2109301050Y	Total Dissolved Solids (TDS)	477	mg/L	13	12.0		
9/29/2021	353.2	2109301052Y	Nitrate+Nitrite as Nitrogen	0.003	mg/L	0.050	0.002		J

Analytical Results for Sampling Events at 700-H-670

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/29/2021	8260	2109290850Y	Chloromethane	0.29	ug/L	2.0	0.280		J RB EB
9/29/2021	8260	2109290850Y	Styrene	0.76	ug/L	1.0	0.200		J
9/29/2021	METALS	2109290852Y	Molybdenum, Total	0.015	mg/L	0.025	0.003		J
9/29/2021	METALS	2109290852Y	Zinc, Total	0.004	mg/L	0.020	0.003		J
9/29/2021	METALS	2109290852Y	Vanadium, Total	0.0007	mg/L	0.050	0.00070		J
9/29/2021	METALS	2109290852Y	Sodium, Total	116	mg/L	1.0	0.200		
9/29/2021	METALS	2109290852Y	Manganese, Total	0.009	mg/L	0.010	0.004		J
9/29/2021	METALS	2109290852Y	Magnesium, Total	8	mg/L	1.0	0.03		
9/29/2021	METALS	2109290852Y	Calcium, Total	24.1	mg/L	1.0	0.30		
9/29/2021	METALS	2109290852Y	Boron, Total	0.2	mg/L	0.20	0.0200		
9/29/2021	METALS	2109290852Y	Barium, Total	0.014	mg/L	0.020	0.003		J
9/29/2021	METALS	2109290852Y	Arsenic, Total	0.0004	mg/L	0.0010	0.000400		J
9/29/2021	METALS	2109290852Y	Strontium, Total	1.76	mg/L	0.10	0.002		
9/29/2021	METALS	2109290915Y	Arsenic, Total	0.0005	mg/L	0.0010	0.000400		J
9/29/2021	METALS	2109290915Y	Molybdenum, Total	0.014	mg/L	0.025	0.003		J
9/29/2021	METALS	2109290915Y	Vanadium, Total	0.0009	mg/L	0.050	0.00070		J
9/29/2021	METALS	2109290915Y	Zinc, Total	0.009	mg/L	0.020	0.003		J
9/29/2021	METALS	2109290915Y	Strontium, Total	1.73	mg/L	0.10	0.002		
9/29/2021	METALS	2109290915Y	Sodium, Total	116	mg/L	1.0	0.200		
9/29/2021	METALS	2109290915Y	Manganese, Total	0.007	mg/L	0.010	0.004		J
9/29/2021	METALS	2109290915Y	Magnesium, Total	8	mg/L	1.0	0.03		
9/29/2021	METALS	2109290915Y	Calcium, Total	24.1	mg/L	1.0	0.30		
9/29/2021	METALS	2109290915Y	Barium, Total	0.013	mg/L	0.020	0.003		J
9/29/2021	METALS	2109290915Y	Boron, Total	0.2	mg/L	0.20	0.0200		

Analytical Results for Sampling Events at 700-J-200

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/28/2021	8260	2109280910A	Unknown	6.9	ug/L	NA	NA		TIC
9/28/2021	8260	2109280910A	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.46	ug/L	1.0	0.200		J
9/28/2021	8260	2109280910A	2-Propanol	14	ug/L	50	3.40		J
9/28/2021	8260	2109280910A	Chloromethane	0.34	ug/L	2.0	0.280		J RB FB
9/28/2021	8260	2109280910A	Unknown	14	ug/L	NA	NA		TIC
9/28/2021	8260	2109280910A	Silane, methoxytrimethyl-	6.1	ug/L	NA	NA		TIC
9/28/2021	6850	2109280913A	Perchlorate	0.064	ug/L	0.20	0.060		J

Analytical Results for Sampling Events at BLM-10-517

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/5/2021	8260_LL	2110051440A	Trichlorofluoromethane (CFC 11)	0.33	ug/L	0.5	0.24		J
10/5/2021	8260_LL	2110051440A	Unknown	7.7	ug/L	NA	NA		TIC RB FB
10/5/2021	8260_LL	2110051440A	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.7	ug/L	0.5	0.2		

Analytical Results for Sampling Events at BLM-14-327

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/18/2021	8260	2110181410C	Trichloroethene (TCE)	75	ug/L	1	0.2		
10/18/2021	8260	2110181410C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.2	ug/L	1	0.2		
10/18/2021	8260	2110181410C	Trichlorofluoromethane (CFC 11)	95	ug/L	1	0.24		
10/18/2021	8260	2110181410C	Tetrachloroethene (PCE)	3.8	ug/L	1	0.21		
10/18/2021	8260	2110181410C	Dichlorofluoromethane (CFC 21)	0.32	ug/L	1	0.2		J
10/18/2021	8260	2110181410C	1,1,2-Trichloro-1,2,2-Trifluoroethane	370	ug/L	5	1		
10/18/2021	8260	2110181410C	cis-1,2-Dichloroethene	0.39	ug/L	1	0.23		J
10/18/2021	607	2110181412C	N-Nitrosodimethylamine	0.31	µg/L	0.0094	0.0047	53	
10/18/2021	607	2110181412C	N-Nitrodimethylamine	0.31	µg/L	0.0094	0.0047	89	
10/18/2021	607	2110181412C	Bromacil	0.89	µg/L	0.0094	0.0047	120	
10/18/2021	607	2110181413C	N-Nitrodimethylamine	0.31	µg/L	0.0095	0.0048	89	
10/18/2021	607	2110181413C	Bromacil	0.91	µg/L	0.0095	0.0048	120	
10/18/2021	607	2110181413C	N-Nitrosodimethylamine	0.3	µg/L	0.0095	0.0048	53	

Analytical Results for Sampling Events at BLM-21-400

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/5/2021	8260	2108050853B	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2	ug/L	1	0.2		
8/5/2021	8260	2108050853B	Dichlorofluoromethane (CFC 21)	0.61	ug/L	1	0.2		J
8/5/2021	8260	2108050853B	Tetrachloroethene (PCE)	2.4	ug/L	1	0.21		
8/5/2021	8260	2108050853B	Trichloroethene (TCE)	48	ug/L	1	0.2		
8/5/2021	8260	2108050853B	Trichlorofluoromethane (CFC 11)	79	ug/L	1	0.24		
8/5/2021	8260	2108050853B	cis-1,2-Dichloroethene	0.3	ug/L	1	0.23		J
8/5/2021	8260	2108050853B	1,1,2-Trichloro-1,2,2-Trifluoroethane	260	ug/L	5	1		
8/5/2021	607	2108050855B	Bromacil	0.55	µg/L	0.0095	0.0048	98	
8/5/2021	607	2108050855B	N-Nitrosodimethylamine	0.4	µg/L	0.0095	0.0048	39	
8/5/2021	607	2108050855B	N-Nitrodimethylamine	0.37	µg/L	0.0095	0.0048	89	
8/5/2021	607	2108050856B	N-Nitrosodimethylamine	0.41	µg/L	0.0095	0.0048	39	
8/5/2021	607	2108050856B	N-Nitrodimethylamine	0.37	µg/L	0.0095	0.0048	89	
8/5/2021	607	2108050856B	Bromacil	0.55	µg/L	0.0095	0.0048	98	

Analytical Results for Sampling Events at BLM-23-431

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/3/2021	8260	2108031420C	Dichlorofluoromethane (CFC 21)	6.9	ug/L	1	0.2		
8/3/2021	8260	2108031420C	Trichlorofluoromethane (CFC 11)	39	ug/L	1	0.24		Q
8/3/2021	8260	2108031420C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	15	ug/L	1	0.2		
8/3/2021	8260	2108031420C	1,1,2-Trichloro-1,2,2-Trifluoroethane	120	ug/L	1	0.2		Q
8/3/2021	8260	2108031420C	Trichloroethene (TCE)	53	ug/L	1	0.2		Q
8/3/2021	8260	2108031420C	1,1-Dichloroethene	0.56	ug/L	1	0.2		J
8/3/2021	8260	2108031420C	Tetrachloroethene (PCE)	1.6	ug/L	1	0.21		Q
8/3/2021	8260	2108031421C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	14	ug/L	1	0.2		
8/3/2021	8260	2108031421C	1,1,2-Trichloro-1,2,2-Trifluoroethane	120	ug/L	1	0.2		Q
8/3/2021	8260	2108031421C	Dichlorofluoromethane (CFC 21)	7	ug/L	1	0.2		
8/3/2021	8260	2108031421C	Tetrachloroethene (PCE)	1.6	ug/L	1	0.21		Q
8/3/2021	8260	2108031421C	Trichloroethene (TCE)	51	ug/L	1	0.2		Q
8/3/2021	8260	2108031421C	Trichlorofluoromethane (CFC 11)	39	ug/L	1	0.24		Q
8/3/2021	607	2108031423C	Bromacil	0.53	µg/L	0.0094	0.0047	102	
8/3/2021	607	2108031423C	N-Nitrosodimethylamine	0.23	µg/L	0.0094	0.0047	44	
8/3/2021	607	2108031423C	N-Nitrodimethylamine	0.23	µg/L	0.0094	0.0047	96	
8/3/2021	METALS	2108031424C	Molybdenum, Total	0.014	mg/L	0.025	0.003		J
8/3/2021	METALS	2108031424C	Strontium, Total	3.98	mg/L	0.1	0.002		
8/3/2021	METALS	2108031424C	Sodium, Total	53.4	mg/L	1	0.2		
8/3/2021	METALS	2108031424C	Potassium, Total	3.8	mg/L	2	0.4		
8/3/2021	METALS	2108031424C	Boron, Total	0.11	mg/L	0.2	0.02		J
8/3/2021	METALS	2108031424C	Nickel, Total	0.309	mg/L	0.04	0.003		
8/3/2021	METALS	2108031424C	Zinc, Total	0.044	mg/L	0.02	0.003		
8/3/2021	METALS	2108031424C	Magnesium, Total	73.5	mg/L	1	0.03		
8/3/2021	METALS	2108031424C	Calcium, Total	146	mg/L	1	0.3		
8/3/2021	METALS	2108031424C	Barium, Total	0.021	mg/L	0.02	0.003		
8/3/2021	METALS	2108031424C	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
8/3/2021	METALS	2108031424C	Antimony, Total	0.0032	mg/L	0.001	0.0002		
8/3/2021	METALS	2108031424C	Chromium, Total	0.023	mg/L	0.01	0.002		

Analytical Results for Sampling Events at BLM-25-455

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/3/2021	8260	2108031000B	Chloromethane	0.36	ug/L	2	0.28		J RB A
8/3/2021	METALS	2108031008B	Arsenic, Total	0.002	mg/L	0.001	0.0004		
8/3/2021	METALS	2108031008B	Nickel, Total	0.062	mg/L	0.04	0.003		
8/3/2021	METALS	2108031008B	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
8/3/2021	METALS	2108031008B	Zinc, Total	0.009	mg/L	0.02	0.003		J
8/3/2021	METALS	2108031008B	Strontium, Total	2.15	mg/L	0.1	0.002		
8/3/2021	METALS	2108031008B	Sodium, Total	28.2	mg/L	1	0.2		
8/3/2021	METALS	2108031008B	Potassium, Total	3.7	mg/L	2	0.4		
8/3/2021	METALS	2108031008B	Magnesium, Total	47.4	mg/L	1	0.03		
8/3/2021	METALS	2108031008B	Chromium, Total	0.009	mg/L	0.01	0.002		J
8/3/2021	METALS	2108031008B	Calcium, Total	81.5	mg/L	1	0.3		
8/3/2021	METALS	2108031008B	Barium, Total	0.025	mg/L	0.02	0.003		
8/3/2021	METALS	2108031008B	Boron, Total	0.08	mg/L	0.2	0.02		J
8/3/2021	METALS	2108031008B	Molybdenum, Total	0.024	mg/L	0.025	0.003		J

Analytical Results for Sampling Events at BLM-32-543

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/9/2021	NDMA_LL	2108091505B	N-Nitrosodimethylamine	2.2	ng/L	0.48	0.44		FB QD
8/9/2021	NDMA_LL	2108091505B	N-Nitrodimethylamine	0.21	ng/L	0.48	0.092		J
8/9/2021	NDMA_LL	2108091550B	N-Nitrosodimethylamine	1.6	ng/L	0.48	0.44		FB QD
8/9/2021	NDMA_LL	2108091550B	N-Nitrodimethylamine	0.3	ng/L	0.48	0.091		J
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	20	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Benzenesulfonamide, N-butyl-	2200	ug/L	NA	NA		TIC
8/9/2021	8270	2108091630B	Unknown	4	ug/L	NA	NA		TIC
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	6.4	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	12	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	19	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	26	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	15	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Unknown	6.2	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108091630B	Unknown Hydrocarbon	24	ug/L	NA	NA		TIC RB
8/9/2021	ANIONS	2108091655B	Alkalinity, Total as CaCO3	184	mg/L	2	1.8		
8/9/2021	ANIONS	2108091655B	Chloride	50.6	mg/L	2	0.5		
8/9/2021	ANIONS	2108091655B	Fluoride, undistilled	0.98	mg/L	0.1	0.01		
8/9/2021	ANIONS	2108091655B	Sulfate	295	mg/L	8	1.6		
8/9/2021	SM2540C	2108091656B	Total Dissolved Solids (TDS)	697	mg/L	10	9		
8/9/2021	6850	2108091657B	Perchlorate	0.5	ug/L	0.2	0.06		
8/9/2021	353.2	2108091658B	Nitrate+Nitrite as Nitrogen	1.38	mg/L	0.05	0.002		

Analytical Results for Sampling Events at BLM-32-571

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/9/2021	NDMA_LL	2108091510B	N-Nitrosodimethylamine	0.89	ng/L	0.48	0.44		i
8/9/2021	METALS	2108091535B	Barium, Total	0.032	mg/L	0.02	0.003		
8/9/2021	METALS	2108091535B	Boron, Total	0.1	mg/L	0.2	0.02		J
8/9/2021	METALS	2108091535B	Calcium, Total	81.2	mg/L	1	0.3		
8/9/2021	METALS	2108091535B	Copper, Total	0.026	mg/L	0.02	0.004		
8/9/2021	METALS	2108091535B	Magnesium, Total	58.2	mg/L	1	0.03		
8/9/2021	METALS	2108091535B	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
8/9/2021	METALS	2108091535B	Potassium, Total	3.2	mg/L	2	0.4		
8/9/2021	METALS	2108091535B	Sodium, Total	37.7	mg/L	1	0.2		
8/9/2021	METALS	2108091535B	Strontium, Total	1.99	mg/L	0.1	0.002		
8/9/2021	METALS	2108091535B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
8/9/2021	METALS	2108091535B	Zinc, Total	0.129	mg/L	0.02	0.003		
8/9/2021	METALS	2108091535B	Arsenic, Total	0.0007	mg/L	0.001	0.0004		J
8/9/2021	ANIONS	2108091555B	Alkalinity, Total as CaCO3	182	mg/L	2	1.8		
8/9/2021	ANIONS	2108091555B	Sulfate	280	mg/L	8	1.6		
8/9/2021	ANIONS	2108091555B	Chloride	47	mg/L	2	0.5		
8/9/2021	ANIONS	2108091555B	Fluoride, undistilled	0.98	mg/L	0.1	0.01		
8/9/2021	SM2540C	2108091556B	Total Dissolved Solids (TDS)	661	mg/L	10	9		
8/9/2021	6850	2108091557B	Perchlorate	0.47	ug/L	0.2	0.06		
8/9/2021	353.2	2108091558B	Nitrate+Nitrite as Nitrogen	1.64	mg/L	0.05	0.002		

Analytical Results for Sampling Events at BLM-32-632

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/9/2021	NDMA_LL	2108091515B	N-Nitrosodimethylamine	0.59	ng/L	0.48	0.44		
8/9/2021	METALS	2108091542B	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
8/9/2021	METALS	2108091542B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
8/9/2021	METALS	2108091542B	Strontium, Total	2.01	mg/L	0.1	0.002		
8/9/2021	METALS	2108091542B	Boron, Total	0.1	mg/L	0.2	0.02		J
8/9/2021	METALS	2108091542B	Sodium, Total	37.6	mg/L	1	0.2		
8/9/2021	METALS	2108091542B	Zinc, Total	0.099	mg/L	0.02	0.003		QD
8/9/2021	METALS	2108091542B	Potassium, Total	3.2	mg/L	2	0.4		
8/9/2021	METALS	2108091542B	Magnesium, Total	57.8	mg/L	1	0.03		
8/9/2021	METALS	2108091542B	Lead, Total	0.004	mg/L	0.05	0.003		J
8/9/2021	METALS	2108091542B	Calcium, Total	81.4	mg/L	1	0.3		
8/9/2021	METALS	2108091542B	Barium, Total	0.038	mg/L	0.02	0.003		
8/9/2021	METALS	2108091542B	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
8/9/2021	METALS	2108091542B	Copper, Total	0.056	mg/L	0.02	0.004		
8/9/2021	METALS	2108091542B	Manganese, Total	0.009	mg/L	0.01	0.004		J
8/9/2021	METALS	2108091615B	Manganese, Total	0.009	mg/L	0.01	0.004		J
8/9/2021	METALS	2108091615B	Zinc, Total	0.073	mg/L	0.02	0.003		QD
8/9/2021	METALS	2108091615B	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
8/9/2021	METALS	2108091615B	Strontium, Total	2.02	mg/L	0.1	0.002		
8/9/2021	METALS	2108091615B	Sodium, Total	37.5	mg/L	1	0.2		
8/9/2021	METALS	2108091615B	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
8/9/2021	METALS	2108091615B	Arsenic, Total	0.0012	mg/L	0.001	0.0004		
8/9/2021	METALS	2108091615B	Lead, Total	0.004	mg/L	0.05	0.003		J
8/9/2021	METALS	2108091615B	Copper, Total	0.055	mg/L	0.02	0.004		
8/9/2021	METALS	2108091615B	Calcium, Total	80.8	mg/L	1	0.3		
8/9/2021	METALS	2108091615B	Boron, Total	0.1	mg/L	0.2	0.02		J
8/9/2021	METALS	2108091615B	Barium, Total	0.038	mg/L	0.02	0.003		
8/9/2021	METALS	2108091615B	Magnesium, Total	57.6	mg/L	1	0.03		
8/9/2021	METALS	2108091615B	Potassium, Total	3.2	mg/L	2	0.4		
8/9/2021	ANIONS	2108091616B	Alkalinity, Total as CaCO3	180	mg/L	2	1.8		
8/9/2021	ANIONS	2108091616B	Sulfate	272	mg/L	8	1.6		
8/9/2021	ANIONS	2108091616B	Chloride	50.3	mg/L	2	0.5		
8/9/2021	ANIONS	2108091616B	Fluoride, undistilled	0.99	mg/L	0.1	0.01		
8/9/2021	SM2540C	2108091617B	Total Dissolved Solids (TDS)	704	mg/L	10	9		
8/9/2021	6850	2108091618B	Perchlorate	0.63	ug/L	0.2	0.06		
8/9/2021	353.2	2108091619B	Nitrate+Nitrite as Nitrogen	1.75	mg/L	0.05	0.002		

Analytical Results for Sampling Events at BLM-39-385

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/7/2021	8260	2110071520Y	Trichlorofluoromethane (CFC 11)	81	ug/L	1	0.24		
10/7/2021	8260	2110071520Y	Trichloroethene (TCE)	180	ug/L	1	0.2		
10/7/2021	8260	2110071520Y	Unknown	6.6	ug/L	NA	NA		TIC RB EB
10/7/2021	8260	2110071520Y	Tetrachloroethene (PCE)	6.8	ug/L	1	0.21		
10/7/2021	8260	2110071520Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	120	ug/L	1	0.2		
10/7/2021	8260	2110071520Y	Dichlorofluoromethane (CFC 21)	1.3	ug/L	1	0.2		
10/7/2021	8260	2110071520Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.3	ug/L	1	0.2		EB
10/7/2021	607	2110120835Y	N-Nitrosodimethylamine	3.2	µg/L	0.0094	0.0047	58	
10/7/2021	607	2110120835Y	N-Nitrodimethylamine	1.7	µg/L	0.0094	0.0047	101	
10/7/2021	607	2110120835Y	Bromacil	0.5	µg/L	0.0094	0.0047	132	

Analytical Results for Sampling Events at BLM-39-560

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/7/2021	8260	2110071258Y	Dichlorofluoromethane (CFC 21)	5.8	ug/L	1	0.2		QD
10/7/2021	8260	2110071258Y	Unknown	6.3	ug/L	NA	NA		TIC RB EB
10/7/2021	8260	2110071258Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8.6	ug/L	1	0.2		QD
10/7/2021	8260	2110071258Y	Vinyl Chloride	0.37	ug/L	1	0.2		J
10/7/2021	8260	2110071258Y	Trichlorofluoromethane (CFC 11)	3.4	ug/L	1	0.24		QD
10/7/2021	8260	2110071258Y	Tetrachloroethene (PCE)	0.41	ug/L	1	0.21		J
10/7/2021	8260	2110071258Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	11	ug/L	1	0.2		QD
10/7/2021	8260	2110071258Y	Trichloroethene (TCE)	12	ug/L	1	0.2		
10/7/2021	8260	2110071259Y	Trichlorofluoromethane (CFC 11)	2.4	ug/L	1	0.24		QD
10/7/2021	8260	2110071259Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.1	ug/L	1	0.2		QD
10/7/2021	8260	2110071259Y	Unknown	6.6	ug/L	NA	NA		TIC RB EB
10/7/2021	8260	2110071259Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	5.5	ug/L	1	0.2		QD
10/7/2021	8260	2110071259Y	Trichloroethene (TCE)	9.5	ug/L	1	0.2		
10/7/2021	8260	2110071259Y	Dichlorofluoromethane (CFC 21)	4.3	ug/L	1	0.2		QD
10/7/2021	8260	2110071259Y	Tetrachloroethene (PCE)	0.32	ug/L	1	0.21		J
10/7/2021	607	2110071300Y	N-Nitrosodimethylamine	0.012	µg/L	0.0095	0.0048	56	

Analytical Results for Sampling Events at BLM-40-517

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/4/2021	8260_LL	2110041420A	2-Propanol	5.6	ug/L	40	3.4		J RB
10/4/2021	8260_LL	2110041420A	Unknown	6.5	ug/L	NA	NA		TIC RB FB
10/4/2021	NDMA_LL	2110041423A	N-Nitrosodimethylamine	0.48	ng/L	0.47	0.4		

Analytical Results for Sampling Events at BLM-40-595

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/4/2021	8260_LL	2110041000A	Unknown	7.5	ug/L	NA	NA		TIC RB TB FB
10/4/2021	METALS	2110041007A	Barium, Total	0.023	mg/L	0.02	0.003		
10/4/2021	METALS	2110041007A	Potassium, Total	3.8	mg/L	2	0.4		
10/4/2021	METALS	2110041007A	Zinc, Total	0.004	mg/L	0.02	0.003		J
10/4/2021	METALS	2110041007A	Vanadium, Total	0.018	mg/L	0.05	0.0007		J
10/4/2021	METALS	2110041007A	Strontium, Total	0.92	mg/L	0.1	0.002		
10/4/2021	METALS	2110041007A	Sodium, Total	92.9	mg/L	1	0.2		
10/4/2021	METALS	2110041007A	Magnesium, Total	8.9	mg/L	1	0.03		
10/4/2021	METALS	2110041007A	Arsenic, Total	0.0022	mg/L	0.001	0.0004		
10/4/2021	METALS	2110041007A	Boron, Total	0.11	mg/L	0.2	0.02		J
10/4/2021	METALS	2110041007A	Calcium, Total	24.3	mg/L	1	0.3		
10/4/2021	METALS	2110041007A	Molybdenum, Total	0.022	mg/L	0.025	0.003		J

Analytical Results for Sampling Events at BLM-40-688

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/5/2021	8260_LL	2110050940A	1,2-Dichloroethane	1.1	ug/L	0.5	0.2		
10/5/2021	8260_LL	2110050940A	Unknown	7.2	ug/L	NA	NA		TIC RB TB FB
10/5/2021	METALS	2110050946A	Nickel, Total	0.017	mg/L	0.04	0.003		J
10/5/2021	METALS	2110050946A	Zinc, Total	0.666	mg/L	0.02	0.003		
10/5/2021	METALS	2110050946A	Vanadium, Total	0.008	mg/L	0.05	0.0007		J
10/5/2021	METALS	2110050946A	Thallium, Total	0.00006	mg/L	0.001	0.00004		J
10/5/2021	METALS	2110050946A	Strontium, Total	0.78	mg/L	0.1	0.002		
10/5/2021	METALS	2110050946A	Potassium, Total	3	mg/L	2	0.4		
10/5/2021	METALS	2110050946A	Molybdenum, Total	0.11	mg/L	0.025	0.003		
10/5/2021	METALS	2110050946A	Antimony, Total	0.0013	mg/L	0.001	0.0002		
10/5/2021	METALS	2110050946A	Magnesium, Total	6	mg/L	1	0.03		
10/5/2021	METALS	2110050946A	Sodium, Total	131	mg/L	1	0.2		
10/5/2021	METALS	2110050946A	Calcium, Total	27.7	mg/L	1	0.3		
10/5/2021	METALS	2110050946A	Boron, Total	0.15	mg/L	0.2	0.02		J
10/5/2021	METALS	2110050946A	Barium, Total	0.034	mg/L	0.02	0.003		
10/5/2021	METALS	2110050946A	Arsenic, Total	0.0028	mg/L	0.001	0.0004		
10/5/2021	METALS	2110050946A	Manganese, Total	0.025	mg/L	0.01	0.004		

Analytical Results for Sampling Events at BLM-41-420

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/18/2021	607	2110181017C	Bromacil	0.015	µg/L	0.0095	0.0048	120	
10/18/2021	NDMA_LL	2110181018C	N-Nitrosodimethylamine	1.6	ng/L	0.48	0.4		QD FB
10/18/2021	NDMA_LL	2110181019C	N-Nitrosodimethylamine	1.1	ng/L	0.48	0.4		QD FB
10/18/2021	METALS	2110181021C	Potassium, Total	4.2	mg/L	2	0.4		
10/18/2021	METALS	2110181021C	Vanadium, Total	0.0008	mg/L	0.05	0.0007		J
10/18/2021	METALS	2110181021C	Thallium, Total	0.00008	mg/L	0.001	0.00004		J
10/18/2021	METALS	2110181021C	Barium, Total	0.061	mg/L	0.02	0.003		
10/18/2021	METALS	2110181021C	Strontium, Total	2.61	mg/L	0.1	0.002		
10/18/2021	METALS	2110181021C	Zinc, Total	0.007	mg/L	0.02	0.003		J
10/18/2021	METALS	2110181021C	Sodium, Total	37.1	mg/L	1	0.2		
10/18/2021	METALS	2110181021C	Magnesium, Total	67.8	mg/L	1	0.03		
10/18/2021	METALS	2110181021C	Cobalt, Total	0.002	mg/L	0.05	0.0009		J
10/18/2021	METALS	2110181021C	Boron, Total	0.07	mg/L	0.2	0.02		J
10/18/2021	METALS	2110181021C	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
10/18/2021	METALS	2110181021C	Antimony, Total	0.0005	mg/L	0.001	0.0002		J
10/18/2021	METALS	2110181021C	Molybdenum, Total	0.016	mg/L	0.025	0.003		J
10/18/2021	METALS	2110181021C	Calcium, Total	104	mg/L	1	0.3		

Analytical Results for Sampling Events at BLM-41-670

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/19/2021	8260_LL	2110191435C	1,2-Dichloroethane	0.84	ug/L	0.5	0.2		
10/19/2021	NDMA_LL	2110191438C	N-Nitrosodimethylamine	0.84	ng/L	0.48	0.4		TB FB
10/19/2021	METALS	2110191440C	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
10/19/2021	METALS	2110191440C	Chromium, Total	0.004	mg/L	0.01	0.002		J
10/19/2021	METALS	2110191440C	Calcium, Total	89.8	mg/L	1	0.3		
10/19/2021	METALS	2110191440C	Boron, Total	0.1	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191440C	Barium, Total	0.065	mg/L	0.02	0.003		
10/19/2021	METALS	2110191440C	Arsenic, Total	0.0029	mg/L	0.001	0.0004		
10/19/2021	METALS	2110191440C	Strontium, Total	2.11	mg/L	0.1	0.002		
10/19/2021	METALS	2110191440C	Potassium, Total	6.7	mg/L	2	0.4		
10/19/2021	METALS	2110191440C	Manganese, Total	0.084	mg/L	0.01	0.004		QD
10/19/2021	METALS	2110191440C	Magnesium, Total	49.8	mg/L	1	0.03		
10/19/2021	METALS	2110191440C	Sodium, Total	72.6	mg/L	1	0.2		
10/19/2021	METALS	2110191441C	Barium, Total	0.066	mg/L	0.02	0.003		
10/19/2021	METALS	2110191441C	Sodium, Total	73.3	mg/L	1	0.2		
10/19/2021	METALS	2110191441C	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
10/19/2021	METALS	2110191441C	Potassium, Total	6.8	mg/L	2	0.4		
10/19/2021	METALS	2110191441C	Strontium, Total	2.15	mg/L	0.1	0.002		
10/19/2021	METALS	2110191441C	Magnesium, Total	50.5	mg/L	1	0.03		
10/19/2021	METALS	2110191441C	Boron, Total	0.1	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191441C	Arsenic, Total	0.0033	mg/L	0.001	0.0004		
10/19/2021	METALS	2110191441C	Manganese, Total	0.109	mg/L	0.01	0.004		QD
10/19/2021	METALS	2110191441C	Calcium, Total	90.8	mg/L	1	0.3		

Analytical Results for Sampling Events at BLM-42-569

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/7/2021	607	2109070922C	Bromacil	0.047	µg/L	0.0097	0.0049	105	
9/7/2021	NDMA_LL	2109070923C	N-Nitrosodimethylamine	1.6	ng/L	0.47	0.4		RB * TB FB
9/7/2021	8270	2109070925C	Unknown Hydrocarbon	4.5	ug/L	NA	NA		TIC
9/7/2021	8270	2109070925C	Unknown Hydrocarbon	5.8	ug/L	NA	NA		TIC
9/7/2021	8270	2109070925C	Unknown Hydrocarbon	7.2	ug/L	NA	NA		TIC
9/7/2021	8270	2109070925C	Unknown Hydrocarbon	6.3	ug/L	NA	NA		TIC
9/7/2021	8270	2109070925C	Unknown Hydrocarbon	8.1	ug/L	NA	NA		TIC
9/7/2021	METALS	2109070926C	Potassium, Total	5.4	mg/L	2	0.4		
9/7/2021	METALS	2109070926C	Vanadium, Total	0.014	mg/L	0.05	0.0007		J
9/7/2021	METALS	2109070926C	Strontium, Total	1.65	mg/L	0.1	0.002		
9/7/2021	METALS	2109070926C	Sodium, Total	43.7	mg/L	1	0.2		
9/7/2021	METALS	2109070926C	Barium, Total	0.033	mg/L	0.02	0.003		
9/7/2021	METALS	2109070926C	Molybdenum, Total	0.017	mg/L	0.025	0.003		J
9/7/2021	METALS	2109070926C	Magnesium, Total	29.2	mg/L	1	0.03		
9/7/2021	METALS	2109070926C	Boron, Total	0.09	mg/L	0.2	0.02		J
9/7/2021	METALS	2109070926C	Arsenic, Total	0.0016	mg/L	0.001	0.0004		
9/7/2021	METALS	2109070926C	Calcium, Total	44.6	mg/L	1	0.3		
9/7/2021	ANIONS	2109070927C	Alkalinity, Total as CaCO3	180	mg/L	2	1.8		
9/7/2021	ANIONS	2109070927C	Chloride	18.6	mg/L	2	0.5		
9/7/2021	ANIONS	2109070927C	Fluoride, undistilled	0.59	mg/L	0.1	0.01		
9/7/2021	ANIONS	2109070927C	Sulfate	117	mg/L	4	0.8		
9/7/2021	SM2540C	2109070928C	Total Dissolved Solids (TDS)	405	mg/L	10	9		
9/7/2021	6850	2109070929C	Perchlorate	0.28	ug/L	0.2	0.06		
9/7/2021	353.2	2109070930C	Nitrate+Nitrite as Nitrogen	1.11	mg/L	0.05	0.002		

Analytical Results for Sampling Events at BLM-42-709

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/7/2021	607	2109071455C	Bromacil	0.01	µg/L	0.0094	0.0047	105	
9/7/2021	NDMA_LL	2109071457C	N-Nitrosodimethylamine	1.5	ng/L	0.47	0.4		RB * FB
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	10	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	17	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	22	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	20	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	17	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	11	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Unknown Hydrocarbon	5.4	ug/L	NA	NA		TIC
9/7/2021	8270	2109071459C	Bis(2-ethylhexyl) Phthalate	5.6	ug/L	4.7	3.9		
9/7/2021	METALS	2109071500C	Magnesium, Total	28.7	mg/L	1	0.03		
9/7/2021	METALS	2109071500C	Vanadium, Total	0.015	mg/L	0.05	0.0007		J
9/7/2021	METALS	2109071500C	Strontium, Total	1.62	mg/L	0.1	0.002		
9/7/2021	METALS	2109071500C	Sodium, Total	43.6	mg/L	1	0.2		
9/7/2021	METALS	2109071500C	Molybdenum, Total	0.016	mg/L	0.025	0.003		J
9/7/2021	METALS	2109071500C	Calcium, Total	43.7	mg/L	1	0.3		
9/7/2021	METALS	2109071500C	Boron, Total	0.09	mg/L	0.2	0.02		J
9/7/2021	METALS	2109071500C	Barium, Total	0.032	mg/L	0.02	0.003		
9/7/2021	METALS	2109071500C	Arsenic, Total	0.0012	mg/L	0.001	0.0004		
9/7/2021	METALS	2109071500C	Potassium, Total	5.3	mg/L	2	0.4		
9/7/2021	ANIONS	2109071501C	Alkalinity, Total as CaCO3	181	mg/L	2	1.8		
9/7/2021	ANIONS	2109071501C	Chloride	18.1	mg/L	2	0.5		
9/7/2021	ANIONS	2109071501C	Fluoride, undistilled	0.59	mg/L	0.1	0.01		
9/7/2021	ANIONS	2109071501C	Sulfate	114	mg/L	4	0.8		
9/7/2021	SM2540C	2109071502C	Total Dissolved Solids (TDS)	399	mg/L	10	9		
9/7/2021	6850	2109071503C	Perchlorate	0.24	ug/L	0.2	0.06		
9/7/2021	353.2	2109071504C	Nitrate+Nitrite as Nitrogen	1.11	mg/L	0.05	0.002		

Analytical Results for Sampling Events at BLM-5-527

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/20/2021	8260	2109201005C	1,1,2-Trichloro-1,2,2-Trifluoroethane	10	ug/L	1	0.2		
9/20/2021	8260	2109201005C	Trichlorofluoromethane (CFC 11)	19	ug/L	1	0.24		
9/20/2021	8260	2109201005C	Trichloroethene (TCE)	28	ug/L	1	0.2		
9/20/2021	8260	2109201005C	Tetrachloroethene (PCE)	0.82	ug/L	1	0.21		J
9/20/2021	8260	2109201005C	Chloromethane	0.67	ug/L	2	0.28		J RB A TB FB
9/20/2021	607	2109201007C	N-Nitrosodimethylamine	0.11	µg/L	0.0094	0.0047	54	
9/20/2021	607	2109201007C	N-Nitrodimethylamine	0.066	µg/L	0.0094	0.0047	99.4	
9/20/2021	607	2109201007C	Bromacil	0.0075	µg/L	0.0094	0.0047	130.4	J
9/20/2021	METALS	2109201008C	Strontium, Total	2.32	mg/L	0.1	0.002		
9/20/2021	METALS	2109201008C	Vanadium, Total	0.0007	mg/L	0.05	0.0007		J
9/20/2021	METALS	2109201008C	Sodium, Total	36.8	mg/L	1	0.2		
9/20/2021	METALS	2109201008C	Potassium, Total	3.1	mg/L	2	0.4		
9/20/2021	METALS	2109201008C	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
9/20/2021	METALS	2109201008C	Calcium, Total	111	mg/L	1	0.3		
9/20/2021	METALS	2109201008C	Boron, Total	0.07	mg/L	0.2	0.02		J
9/20/2021	METALS	2109201008C	Barium, Total	0.034	mg/L	0.02	0.003		
9/20/2021	METALS	2109201008C	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
9/20/2021	METALS	2109201008C	Magnesium, Total	63.9	mg/L	1	0.03		

Analytical Results for Sampling Events at BLM-6-488

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/15/2021	8260	2110150910C	1,1,2-Trichloro-1,2,2-Trifluoroethane	1	ug/L	1	0.2		
10/15/2021	8260	2110150910C	Trichloroethene (TCE)	2.2	ug/L	1	0.2		
10/15/2021	8260	2110150910C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.31	ug/L	1	0.2		J
10/15/2021	NDMA_LL	2110150912C	N-Nitrosodimethylamine	0.41	ng/L	0.48	0.4		J

Analytical Results for Sampling Events at BLM-7-509

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/1/2021	NDMA_LL	2109091005B	N-Nitrosodimethylamine	0.55	ng/L	0.48	0.4		RB TB FB

Analytical Results for Sampling Events at BLM-9-419

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/2/2021	8260	2109021030C	Trichloroethene (TCE)	2.1	ug/L	1	0.2		
9/2/2021	8260	2109021030C	Trichlorofluoromethane (CFC 11)	3.2	ug/L	1	0.24		
9/2/2021	8260	2109021030C	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.5	ug/L	1	0.2		
9/2/2021	8260	2109021031C	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.1	ug/L	1	0.2		
9/2/2021	8260	2109021031C	Tetrachloroethene (PCE)	0.24	ug/L	1	0.21		J
9/2/2021	8260	2109021031C	Trichloroethene (TCE)	2.1	ug/L	1	0.2		
9/2/2021	8260	2109021031C	Trichlorofluoromethane (CFC 11)	3.3	ug/L	1	0.24		
9/2/2021	607	2109021033C	N-Nitrosodimethylamine	0.0086	µg/L	0.0095	0.0048	42	J
9/2/2021	607	2109021033C	Bromacil	0.065	µg/L	0.0095	0.0048	78	RB QD
9/2/2021	607	2109021033C	N-Nitrodimethylamine	0.0057	µg/L	0.0095	0.0048	75	J
9/2/2021	607	2109021034C	N-Nitrosodimethylamine	0.0075	µg/L	0.0094	0.0047	42	J
9/2/2021	607	2109021034C	N-Nitrodimethylamine	0.0057	µg/L	0.0094	0.0047	75	J
9/2/2021	607	2109021034C	Bromacil	0.0094	µg/L	0.0094	0.0047	78	RB QD
9/2/2021	METALS	2109021035C	Strontium, Total	2.38	mg/L	0.1	0.002		
9/2/2021	METALS	2109021035C	Zinc, Total	0.028	mg/L	0.02	0.003		
9/2/2021	METALS	2109021035C	Sodium, Total	28.2	mg/L	1	0.2		
9/2/2021	METALS	2109021035C	Potassium, Total	3.6	mg/L	2	0.4		
9/2/2021	METALS	2109021035C	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
9/2/2021	METALS	2109021035C	Calcium, Total	108	mg/L	1	0.3		
9/2/2021	METALS	2109021035C	Boron, Total	0.08	mg/L	0.2	0.02		J
9/2/2021	METALS	2109021035C	Barium, Total	0.046	mg/L	0.02	0.003		
9/2/2021	METALS	2109021035C	Arsenic, Total	0.0012	mg/L	0.001	0.0004		
9/2/2021	METALS	2109021035C	Magnesium, Total	56.8	mg/L	1	0.03		

Analytical Results for Sampling Events at BW-1-268

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/9/2021	8260	2109090815B	Trichlorofluoromethane (CFC 11)	190	ug/L	1	0.24		
9/9/2021	8260	2109090815B	1,1,2-Trichloro-1,2,2-Trifluoroethane	56	ug/L	1	0.2		
9/9/2021	8260	2109090815B	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.2	ug/L	1	0.2		
9/9/2021	8260	2109090815B	Trichloroethene (TCE)	1.1	ug/L	1	0.2		
9/9/2021	8260	2109090815B	Dichlorofluoromethane (CFC 21)	3.7	ug/L	1	0.2		
9/9/2021	607	2109090817B	N-Nitrodimethylamine	5.5	µg/L	0.0096	0.0048	102.6	
9/9/2021	607	2109090817B	Bromacil	4	µg/L	0.0096	0.0048	140	
9/9/2021	607	2109090817B	N-Nitrosodimethylamine	6.1	µg/L	0.0096	0.0048	58	
9/9/2021	METALS	2109090818B	Calcium, Total	104	mg/L	1	0.3		
9/9/2021	METALS	2109090818B	Antimony, Total	0.0005	mg/L	0.001	0.0002		J
9/9/2021	METALS	2109090818B	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
9/9/2021	METALS	2109090818B	Barium, Total	0.037	mg/L	0.02	0.003		
9/9/2021	METALS	2109090818B	Chromium, Total	0.004	mg/L	0.01	0.002		J
9/9/2021	METALS	2109090818B	Magnesium, Total	68.2	mg/L	1	0.03		
9/9/2021	METALS	2109090818B	Molybdenum, Total	0.011	mg/L	0.025	0.003		J
9/9/2021	METALS	2109090818B	Potassium, Total	3.1	mg/L	2	0.4		
9/9/2021	METALS	2109090818B	Sodium, Total	98.6	mg/L	1	0.2		
9/9/2021	METALS	2109090818B	Strontium, Total	2.98	mg/L	0.1	0.002		
9/9/2021	METALS	2109090818B	Zinc, Total	0.011	mg/L	0.02	0.003		J
9/9/2021	METALS	2109090818B	Boron, Total	0.23	mg/L	0.2	0.02		
9/9/2021	METALS	2109090819B	Potassium, Total	3	mg/L	2	0.4		
9/9/2021	METALS	2109090819B	Zinc, Total	0.009	mg/L	0.02	0.003		J
9/9/2021	METALS	2109090819B	Sodium, Total	98.9	mg/L	1	0.2		
9/9/2021	METALS	2109090819B	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
9/9/2021	METALS	2109090819B	Magnesium, Total	67.1	mg/L	1	0.03		
9/9/2021	METALS	2109090819B	Calcium, Total	104	mg/L	1	0.3		
9/9/2021	METALS	2109090819B	Boron, Total	0.23	mg/L	0.2	0.02		
9/9/2021	METALS	2109090819B	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
9/9/2021	METALS	2109090819B	Barium, Total	0.037	mg/L	0.02	0.003		
9/9/2021	METALS	2109090819B	Strontium, Total	3.02	mg/L	0.1	0.002		
9/9/2021	METALS	2109090819B	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
9/9/2021	METALS	2109090819B	Chromium, Total	0.004	mg/L	0.01	0.002		J

Analytical Results for Sampling Events at BW-3-180

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/19/2021	8260	2110191050C	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.4	ug/L	1	0.2		Q
10/19/2021	8260	2110191050C	Trichlorofluoromethane (CFC 11)	0.32	ug/L	1	0.24		J Q
10/19/2021	8260	2110191051C	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.4	ug/L	1	0.2		Q
10/19/2021	8260	2110191051C	Trichlorofluoromethane (CFC 11)	0.33	ug/L	1	0.24		J Q
10/19/2021	607	2110191053C	Bromacil	0.28	µg/L	0.0094	0.0047	111	
10/19/2021	METALS	2110191054C	Molybdenum, Total	0.034	mg/L	0.025	0.003		
10/19/2021	METALS	2110191054C	Iron, Total	1.79	mg/L	0.1	0.07		
10/19/2021	METALS	2110191054C	Zinc, Total	0.008	mg/L	0.02	0.003		J
10/19/2021	METALS	2110191054C	Vanadium, Total	0.0007	mg/L	0.05	0.0007		J
10/19/2021	METALS	2110191054C	Strontium, Total	7.51	mg/L	0.1	0.002		
10/19/2021	METALS	2110191054C	Sodium, Total	136	mg/L	1	0.2		
10/19/2021	METALS	2110191054C	Potassium, Total	2.6	mg/L	2	0.4		
10/19/2021	METALS	2110191054C	Nickel, Total	0.853	mg/L	0.04	0.003		
10/19/2021	METALS	2110191054C	Magnesium, Total	87	mg/L	1	0.03		
10/19/2021	METALS	2110191054C	Antimony, Total	0.0004	mg/L	0.001	0.0002		J
10/19/2021	METALS	2110191054C	Chromium, Total	0.337	mg/L	0.01	0.002		
10/19/2021	METALS	2110191054C	Calcium, Total	264	mg/L	10	3		
10/19/2021	METALS	2110191054C	Boron, Total	0.09	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191054C	Barium, Total	0.027	mg/L	0.02	0.003		
10/19/2021	METALS	2110191054C	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
10/19/2021	METALS	2110191054C	Manganese, Total	0.006	mg/L	0.01	0.004		J

Analytical Results for Sampling Events at BW-6-355

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/20/2021	8260	2109201450C	Chloromethane	0.48	ug/L	2	0.28		J RB A FB
9/20/2021	METALS	2109201454C	Magnesium, Total	23.9	mg/L	1	0.03		
9/20/2021	METALS	2109201454C	Zinc, Total	0.028	mg/L	0.02	0.003		
9/20/2021	METALS	2109201454C	Strontium, Total	3.06	mg/L	0.1	0.002		
9/20/2021	METALS	2109201454C	Sodium, Total	98.6	mg/L	1	0.2		
9/20/2021	METALS	2109201454C	Potassium, Total	1.9	mg/L	2	0.4		J
9/20/2021	METALS	2109201454C	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
9/20/2021	METALS	2109201454C	Chromium, Total	0.002	mg/L	0.01	0.002		J
9/20/2021	METALS	2109201454C	Calcium, Total	88.9	mg/L	1	0.3		
9/20/2021	METALS	2109201454C	Boron, Total	0.22	mg/L	0.2	0.02		
9/20/2021	METALS	2109201454C	Barium, Total	0.033	mg/L	0.02	0.003		
9/20/2021	METALS	2109201454C	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
9/20/2021	METALS	2109201454C	Nickel, Total	0.034	mg/L	0.04	0.003		J

Analytical Results for Sampling Events at JER-1-483

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/14/2021	607	2110141343B	Bromacil	0.026	µg/L	0.0095	0.0048	120	
10/14/2021	8270	2110141428B	1,4-Dioxane	1.6	ug/L	0.04	0.027		
10/14/2021	8270	2110141446B	Benzenesulfonamide, N-butyl-	270	ug/L	NA	NA		TIC
10/14/2021	METALS	2110141447B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/14/2021	METALS	2110141447B	Zinc, Total	0.135	mg/L	0.02	0.003		
10/14/2021	METALS	2110141447B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
10/14/2021	METALS	2110141447B	Strontium, Total	2.77	mg/L	0.1	0.002		
10/14/2021	METALS	2110141447B	Sodium, Total	47	mg/L	1	0.2		
10/14/2021	METALS	2110141447B	Manganese, Total	0.006	mg/L	0.01	0.004		J
10/14/2021	METALS	2110141447B	Magnesium, Total	66.1	mg/L	1	0.03		
10/14/2021	METALS	2110141447B	Lead, Total	0.005	mg/L	0.05	0.003		J
10/14/2021	METALS	2110141447B	Calcium, Total	107	mg/L	1	0.3		
10/14/2021	METALS	2110141447B	Boron, Total	0.08	mg/L	0.2	0.02		J
10/14/2021	METALS	2110141447B	Barium, Total	0.016	mg/L	0.02	0.003		J
10/14/2021	METALS	2110141447B	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
10/14/2021	METALS	2110141447B	Potassium, Total	4.1	mg/L	2	0.4		

Analytical Results for Sampling Events at JER-1-563

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/15/2021	8260_LL	2110151023B	Toluene	0.27	ug/L	0.5	0.2		J
10/15/2021	8260_LL	2110151023B	Sulfur Dioxide	7.3	ug/L	NA	NA		TIC
10/15/2021	NDMA_LL	2110151100B	N-Nitrosodimethylamine	0.96	ng/L	0.5	0.42		
10/15/2021	NDMA_LL	2110151100B	N-Nitrodimethylamine	0.68	ng/L	0.5	0.21		
10/15/2021	8270	2110151127B	1,4-Dioxane	3.9	ug/L	0.04	0.027		
10/15/2021	8270	2110151128B	Unknown	17	ug/L	NA	NA		TIC
10/15/2021	8270	2110151128B	Unknown	4.5	ug/L	NA	NA		TIC
10/15/2021	8270	2110151128B	Unknown	23	ug/L	NA	NA		TIC
10/15/2021	8270	2110151128B	Unknown	12	ug/L	NA	NA		TIC
10/15/2021	8270	2110151128B	Benzenesulfonamide, N-butyl-	2800	ug/L	NA	NA		TIC
10/15/2021	8270	2110151128B	Unknown	17	ug/L	NA	NA		TIC
10/15/2021	METALS	2110151129B	Iron, Total	0.32	mg/L	0.1	0.07		
10/15/2021	METALS	2110151129B	Strontium, Total	2.57	mg/L	0.1	0.002		
10/15/2021	METALS	2110151129B	Sodium, Total	67.5	mg/L	1	0.2		
10/15/2021	METALS	2110151129B	Potassium, Total	4.4	mg/L	2	0.4		
10/15/2021	METALS	2110151129B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/15/2021	METALS	2110151129B	Magnesium, Total	60.5	mg/L	1	0.03		
10/15/2021	METALS	2110151129B	Calcium, Total	96.6	mg/L	1	0.3		
10/15/2021	METALS	2110151129B	Boron, Total	0.09	mg/L	0.2	0.02		J
10/15/2021	METALS	2110151129B	Barium, Total	0.025	mg/L	0.02	0.003		
10/15/2021	METALS	2110151129B	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
10/15/2021	METALS	2110151129B	Manganese, Total	0.248	mg/L	0.01	0.004		

Analytical Results for Sampling Events at JER-1-683

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/15/2021	8260_LL	2110151031B	Toluene	0.21	ug/L	0.5	0.2		J
10/15/2021	NDMA_LL	2110151050B	N-Nitrodimethylamine	0.98	ng/L	0.48	0.2		
10/15/2021	NDMA_LL	2110151050B	N-Nitrosodimethylamine	0.88	ng/L	0.48	0.4		FB
10/15/2021	8270	2110151110B	1,4-Dioxane	3.6	ug/L	0.04	0.027		
10/15/2021	8270	2110151111B	1,4-Dioxane	3.7	ug/L	0.04	0.027		
10/15/2021	8270	2110151140B	Unknown	17	ug/L	NA	NA		TIC
10/15/2021	8270	2110151140B	Unknown	24	ug/L	NA	NA		TIC
10/15/2021	8270	2110151140B	Unknown	11	ug/L	NA	NA		TIC
10/15/2021	8270	2110151140B	Unknown	6.8	ug/L	NA	NA		TIC
10/15/2021	8270	2110151140B	1,4-Dioxane, 2,5-dimethyl-	6.5	ug/L	NA	NA		TIC
10/15/2021	8270	2110151140B	Benzenesulfonamide, N-butyl-	2800	ug/L	NA	NA		TIC
10/15/2021	METALS	2110151141B	Manganese, Total	0.675	mg/L	0.01	0.004		
10/15/2021	METALS	2110151141B	Strontium, Total	2.51	mg/L	0.1	0.002		
10/15/2021	METALS	2110151141B	Sodium, Total	55.3	mg/L	1	0.2		
10/15/2021	METALS	2110151141B	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
10/15/2021	METALS	2110151141B	Magnesium, Total	63.9	mg/L	1	0.03		
10/15/2021	METALS	2110151141B	Calcium, Total	101	mg/L	1	0.3		
10/15/2021	METALS	2110151141B	Boron, Total	0.09	mg/L	0.2	0.02		J
10/15/2021	METALS	2110151141B	Barium, Total	0.065	mg/L	0.02	0.003		
10/15/2021	METALS	2110151141B	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
10/15/2021	METALS	2110151141B	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
10/15/2021	METALS	2110151141B	Iron, Total	0.87	mg/L	0.1	0.07		
10/15/2021	METALS	2110151141B	Potassium, Total	4.4	mg/L	2	0.4		
10/15/2021	METALS	2110151142B	Barium, Total	0.065	mg/L	0.02	0.003		
10/15/2021	METALS	2110151142B	Strontium, Total	2.5	mg/L	0.1	0.002		
10/15/2021	METALS	2110151142B	Sodium, Total	54.6	mg/L	1	0.2		
10/15/2021	METALS	2110151142B	Potassium, Total	4.3	mg/L	2	0.4		
10/15/2021	METALS	2110151142B	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
10/15/2021	METALS	2110151142B	Manganese, Total	0.67	mg/L	0.01	0.004		
10/15/2021	METALS	2110151142B	Magnesium, Total	63.6	mg/L	1	0.03		
10/15/2021	METALS	2110151142B	Iron, Total	0.86	mg/L	0.1	0.07		
10/15/2021	METALS	2110151142B	Boron, Total	0.09	mg/L	0.2	0.02		J
10/15/2021	METALS	2110151142B	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
10/15/2021	METALS	2110151142B	Calcium, Total	100	mg/L	1	0.3		

Analytical Results for Sampling Events at JER-2-504

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/7/2021	8260_LL	2110071401B	Unknown	6.3	ug/L	NA	NA		TIC RB FB
10/7/2021	8260_LL	2110071401B	Toluene	0.29	ug/L	0.5	0.2		J
10/7/2021	NDMA_LL	2110071425B	N-Nitrosodimethylamine	3	ng/L	0.5	0.42		FB
10/7/2021	8270	2110071445B	Benzenesulfonamide, N-butyl-	130	ug/L	NA	NA		TIC
10/7/2021	8270	2110071445B	Unknown Hydrocarbon	4.8	ug/L	NA	NA		TIC
10/7/2021	8270	2110071445B	Unknown Hydrocarbon	6.4	ug/L	NA	NA		TIC
10/7/2021	8270	2110071445B	Unknown Hydrocarbon	5.4	ug/L	NA	NA		TIC
10/7/2021	8270	2110071445B	Unknown Hydrocarbon	4.3	ug/L	NA	NA		TIC
10/7/2021	8270	2110071445B	Unknown	7.6	ug/L	NA	NA		TIC
10/7/2021	8270	2110071445B	Unknown	110	ug/L	NA	NA		TIC
10/7/2021	8270	2110071515B	1,4-Dioxane	1.4	ug/L	0.04	0.027		
10/7/2021	8270	2110071516B	1,4-Dioxane	1.2	ug/L	0.04	0.027		
10/7/2021	METALS	2110071517B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/7/2021	METALS	2110071517B	Lead, Total	0.007	mg/L	0.05	0.003		J
10/7/2021	METALS	2110071517B	Zinc, Total	0.028	mg/L	0.02	0.003		
10/7/2021	METALS	2110071517B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J RB
10/7/2021	METALS	2110071517B	Thallium, Total	0.0002	mg/L	0.001	0.00004		J
10/7/2021	METALS	2110071517B	Strontium, Total	2.42	mg/L	0.1	0.002		
10/7/2021	METALS	2110071517B	Sodium, Total	40.1	mg/L	1	0.2		
10/7/2021	METALS	2110071517B	Potassium, Total	3.7	mg/L	2	0.4		
10/7/2021	METALS	2110071517B	Magnesium, Total	58.6	mg/L	1	0.03		
10/7/2021	METALS	2110071517B	Calcium, Total	91.2	mg/L	1	0.3		
10/7/2021	METALS	2110071517B	Boron, Total	0.07	mg/L	0.2	0.02		J
10/7/2021	METALS	2110071517B	Barium, Total	0.053	mg/L	0.02	0.003		
10/7/2021	METALS	2110071517B	Arsenic, Total	0.0014	mg/L	0.001	0.0004		
10/7/2021	METALS	2110071517B	Antimony, Total	0.0003	mg/L	0.001	0.0002		J
10/7/2021	METALS	2110071517B	Manganese, Total	0.014	mg/L	0.01	0.004		

Analytical Results for Sampling Events at JER-2-584

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/13/2021	8260_LL	2110131301B	Toluene	0.25	ug/L	0.5	0.2		J
10/13/2021	NDMA_LL	2110131325B	N-Nitrosodimethylamine	1.1	ng/L	0.48	0.4		FB
10/13/2021	8270	2110131345B	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131345B	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC
10/13/2021	8270	2110131345B	Benzenesulfonamide, N-butyl-	170	ug/L	NA	NA		TIC
10/13/2021	8270	2110131345B	Unknown	6.8	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131345B	Unknown	4.1	ug/L	NA	NA		TIC
10/13/2021	8270	2110131345B	Unknown	8.1	ug/L	NA	NA		TIC
10/13/2021	8270	2110131345B	Unknown	22	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131345B	Unknown Hydrocarbon	5.1	ug/L	NA	NA		TIC
10/13/2021	8270	2110131345B	Unknown Hydrocarbon	17	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131345B	Unknown	4.1	ug/L	NA	NA		TIC
10/13/2021	8270	2110131345B	Unknown Hydrocarbon	18	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131415B	1,4-Dioxane	0.9	ug/L	0.04	0.027		
10/13/2021	METALS	2110131416B	Manganese, Total	0.032	mg/L	0.01	0.004		
10/13/2021	METALS	2110131416B	Zinc, Total	0.031	mg/L	0.02	0.003		
10/13/2021	METALS	2110131416B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
10/13/2021	METALS	2110131416B	Thallium, Total	0.00008	mg/L	0.001	0.00004		J
10/13/2021	METALS	2110131416B	Strontium, Total	2.89	mg/L	0.1	0.002		
10/13/2021	METALS	2110131416B	Sodium, Total	53.1	mg/L	1	0.2		
10/13/2021	METALS	2110131416B	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
10/13/2021	METALS	2110131416B	Magnesium, Total	55.6	mg/L	1	0.03		
10/13/2021	METALS	2110131416B	Calcium, Total	94.6	mg/L	1	0.3		
10/13/2021	METALS	2110131416B	Boron, Total	0.09	mg/L	0.2	0.02		J
10/13/2021	METALS	2110131416B	Barium, Total	0.061	mg/L	0.02	0.003		
10/13/2021	METALS	2110131416B	Arsenic, Total	0.0013	mg/L	0.001	0.0004		
10/13/2021	METALS	2110131416B	Antimony, Total	0.0003	mg/L	0.001	0.0002		J
10/13/2021	METALS	2110131416B	Potassium, Total	6.2	mg/L	2	0.4		

Analytical Results for Sampling Events at JER-2-684

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/13/2021	8260_LL	2110131331B	Toluene	1.3	ug/L	0.5	0.2		
10/13/2021	NDMA_LL	2110131420B	N-Nitrosodimethylamine	7.7	ng/L	0.49	0.41		
10/13/2021	8270	2110131445B	Unknown	5	ug/L	NA	NA		TIC
10/13/2021	8270	2110131445B	Unknown	10	ug/L	NA	NA		TIC
10/13/2021	8270	2110131445B	Unknown	34	ug/L	NA	NA		TIC
10/13/2021	8270	2110131445B	Benzenesulfonamide, N-butyl-	160	ug/L	NA	NA		TIC
10/13/2021	8270	2110131445B	Unknown	120	ug/L	NA	NA		TIC
10/13/2021	8270	2110131445B	Unknown Hydrocarbon	8	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131445B	Unknown Hydrocarbon	6.7	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131445B	Unknown Hydrocarbon	4.1	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131445B	Unknown	4.6	ug/L	NA	NA		TIC
10/13/2021	8270	2110131445B	Unknown	6.6	ug/L	NA	NA		TIC RB
10/13/2021	8270	2110131505B	1,4-Dioxane	5	ug/L	0.04	0.027		
10/13/2021	METALS	2110131506B	Potassium, Total	6.3	mg/L	2	0.4		
10/13/2021	METALS	2110131506B	Zinc, Total	0.32	mg/L	0.02	0.003		
10/13/2021	METALS	2110131506B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
10/13/2021	METALS	2110131506B	Tin, Total	0.01	mg/L	0.5	0.008		J
10/13/2021	METALS	2110131506B	Thallium, Total	0.0003	mg/L	0.001	0.00004		J
10/13/2021	METALS	2110131506B	Sodium, Total	56.9	mg/L	1	0.2		
10/13/2021	METALS	2110131506B	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
10/13/2021	METALS	2110131506B	Strontium, Total	2.86	mg/L	0.1	0.002		
10/13/2021	METALS	2110131506B	Lead, Total	0.022	mg/L	0.05	0.003		J
10/13/2021	METALS	2110131506B	Copper, Total	0.006	mg/L	0.02	0.004		J
10/13/2021	METALS	2110131506B	Calcium, Total	89.9	mg/L	1	0.3		
10/13/2021	METALS	2110131506B	Boron, Total	0.09	mg/L	0.2	0.02		J
10/13/2021	METALS	2110131506B	Barium, Total	0.052	mg/L	0.02	0.003		
10/13/2021	METALS	2110131506B	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
10/13/2021	METALS	2110131506B	Magnesium, Total	53.1	mg/L	1	0.03		

Analytical Results for Sampling Events at JP-1-424

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/6/2021	8260_LL	2110061400A	2-Propanol	9.9	ug/L	40	3.4		J
10/6/2021	8260_LL	2110061400A	Unknown	5.9	ug/L	NA	NA		TIC
10/6/2021	8260_LL	2110061400A	Unknown	7.4	ug/L	NA	NA		TIC RB FB

Analytical Results for Sampling Events at JP-3-689

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/7/2021	8260_LL	2110071000A	Unknown	7.7	ug/L	NA	NA		TIC RB TB FB
10/7/2021	NDMA_LL	2110071002A	N-Nitrosodimethylamine	1.8	ng/L	0.48	0.4		TB FB

Analytical Results for Sampling Events at NASA 10

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/15/2021	8260	2109151420C	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2	ug/L	1	0.2		
9/15/2021	8260	2109151420C	Trichlorofluoromethane (CFC 11)	11	ug/L	1	0.24		
9/15/2021	8260	2109151421C	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.1	ug/L	1	0.2		
9/15/2021	8260	2109151421C	Trichlorofluoromethane (CFC 11)	11	ug/L	1	0.24		
9/15/2021	607	2109151423C	N-Nitrodimethylamine	0.25	µg/L	0.0095	0.0048	102.6	
9/15/2021	607	2109151423C	Bromacil	0.53	µg/L	0.0095	0.0048	140	
9/15/2021	607	2109151423C	N-Nitrosodimethylamine	0.058	µg/L	0.0095	0.0048	58	
9/15/2021	607	2109151424C	N-Nitrosodimethylamine	0.055	µg/L	0.0095	0.0048	58	
9/15/2021	607	2109151424C	N-Nitrodimethylamine	0.24	µg/L	0.0095	0.0048	102.6	
9/15/2021	607	2109151424C	Bromacil	0.5	µg/L	0.0095	0.0048	140	
9/15/2021	METALS	2109151425C	Calcium, Total	42.2	mg/L	1	0.3		
9/15/2021	METALS	2109151425C	Thallium, Total	0.0003	mg/L	0.001	0.00004		J
9/15/2021	METALS	2109151425C	Strontium, Total	0.74	mg/L	0.1	0.002		
9/15/2021	METALS	2109151425C	Sodium, Total	52.7	mg/L	1	0.2		
9/15/2021	METALS	2109151425C	Potassium, Total	5.3	mg/L	2	0.4		
9/15/2021	METALS	2109151425C	Molybdenum, Total	0.019	mg/L	0.025	0.003		J
9/15/2021	METALS	2109151425C	Chromium, Total	0.003	mg/L	0.01	0.002		J
9/15/2021	METALS	2109151425C	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
9/15/2021	METALS	2109151425C	Boron, Total	0.15	mg/L	0.2	0.02		J
9/15/2021	METALS	2109151425C	Barium, Total	0.056	mg/L	0.02	0.003		
9/15/2021	METALS	2109151425C	Arsenic, Total	0.0004	mg/L	0.001	0.0004		J
9/15/2021	METALS	2109151425C	Magnesium, Total	29.7	mg/L	1	0.03		
9/15/2021	353.2	2109151426C	Nitrate+Nitrite as Nitrogen	5.74	mg/L	0.5	0.02		

Analytical Results for Sampling Events at NASA 3

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/9/2021	8260_LL	2108090950C	2-Propanol	3.9	ug/L	40	3.4		J
8/9/2021	NDMA_LL	2108090953C	N-Nitrosodimethylamine	0.63	ng/L	0.47	0.43		FB Q
8/9/2021	8270	2108090955C	Unknown	6.6	ug/L	NA	NA		TIC
8/9/2021	8270	2108090955C	Unknown	4.1	ug/L	NA	NA		TIC
8/9/2021	8270	2108090955C	Unknown	4.6	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108090955C	Unknown Hydrocarbon	11	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108090955C	Unknown Hydrocarbon	14	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108090955C	Unknown Hydrocarbon	15	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108090955C	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108090955C	Unknown Hydrocarbon	8.9	ug/L	NA	NA		TIC RB
8/9/2021	8270	2108090955C	Unknown	7.6	ug/L	NA	NA		TIC RB
8/9/2021	8290	2108090958C	1,2,3,7,8-PeCDF	0.803	pg/L	12	0.223		J RB
8/9/2021	8290	2108090958C	OCDF	0.698	pg/L	24	0.28		J RB
8/9/2021	8290	2108090958C	Total Penta-Furans	0.803	pg/L	NA	NA		J RB
8/9/2021	ANIONS	2108091001C	Sulfate	254	mg/L	8	1.6		
8/9/2021	ANIONS	2108091001C	Alkalinity, Total as CaCO3	250	mg/L	2	1.8		
8/9/2021	ANIONS	2108091001C	Chloride	32.6	mg/L	2	0.5		
8/9/2021	ANIONS	2108091001C	Fluoride, undistilled	1.14	mg/L	0.1	0.01		
8/9/2021	SM2540C	2108091002C	Total Dissolved Solids (TDS)	696	mg/L	10	9		
8/9/2021	6850	2108091003C	Perchlorate	0.22	ug/L	0.2	0.06		
8/9/2021	353.2	2108091004C	Nitrate+Nitrite as Nitrogen	1.4	mg/L	0.05	0.002		

Analytical Results for Sampling Events at NASA 5

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/15/2021	8260	2109150921C	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.6	ug/L	1	0.2		Q
9/15/2021	8260	2109150921C	Trichlorofluoromethane (CFC 11)	25	ug/L	1	0.24		Q
9/15/2021	607	2109150923C	N-Nitrodimethylamine	1.5	µg/L	0.0095	0.0048	102.6	
9/15/2021	607	2109150923C	Bromacil	0.78	µg/L	0.0095	0.0048	140	
9/15/2021	607	2109150923C	N-Nitrosodimethylamine	0.47	µg/L	0.0095	0.0048	58	
9/15/2021	METALS	2109150924C	Barium, Total	0.035	mg/L	0.02	0.003		
9/15/2021	METALS	2109150924C	Nickel, Total	0.06	mg/L	0.04	0.003		
9/15/2021	METALS	2109150924C	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
9/15/2021	METALS	2109150924C	Manganese, Total	0.005	mg/L	0.01	0.004		J
9/15/2021	METALS	2109150924C	Magnesium, Total	46	mg/L	1	0.03		
9/15/2021	METALS	2109150924C	Iron, Total	0.29	mg/L	0.1	0.07		
9/15/2021	METALS	2109150924C	Chromium, Total	0.032	mg/L	0.01	0.002		
9/15/2021	METALS	2109150924C	Potassium, Total	2.6	mg/L	2	0.4		
9/15/2021	METALS	2109150924C	Sodium, Total	75.5	mg/L	1	0.2		
9/15/2021	METALS	2109150924C	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
9/15/2021	METALS	2109150924C	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
9/15/2021	METALS	2109150924C	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
9/15/2021	METALS	2109150924C	Thallium, Total	0.0001	mg/L	0.001	0.00004		J
9/15/2021	METALS	2109150924C	Strontium, Total	1.26	mg/L	0.1	0.002		
9/15/2021	METALS	2109150924C	Boron, Total	0.27	mg/L	0.2	0.02		
9/15/2021	METALS	2109150924C	Calcium, Total	70.3	mg/L	1	0.3		
9/15/2021	ANIONS	2109150925C	Sulfate	144	mg/L	4	0.8		
9/15/2021	ANIONS	2109150925C	Fluoride, undistilled	0.96	mg/L	0.1	0.01		
9/15/2021	ANIONS	2109150925C	Alkalinity, Total as CaCO3	268	mg/L	2	1.8		
9/15/2021	ANIONS	2109150925C	Chloride	67.4	mg/L	2	0.5		
9/15/2021	SM2540C	2109150926C	Total Dissolved Solids (TDS)	640	mg/L	10	9		
9/15/2021	6850	2109150927C	Perchlorate	0.76	ug/L	0.2	0.06		
9/15/2021	353.2	2109150928C	Nitrate+Nitrite as Nitrogen	6.76	mg/L	0.5	0.02		

Analytical Results for Sampling Events at PL-10-484

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/6/2021	8260_LL	2110060934Y	Unknown	7.5	ug/L	NA	NA		TIC RB EB
10/6/2021	607	2110060935Y	Bromacil	0.027	µg/L	0.0095	0.0048	130	
10/6/2021	NDMA_LL	2110061015Y	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		EB

Analytical Results for Sampling Events at PL-10-592

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/6/2021	8260_LL	2110061420Y	Unknown	7.6	ug/L	NA	NA		TIC RB
10/6/2021	NDMA_LL	2110061422Y	N-Nitrosodimethylamine	0.61	ng/L	0.49	0.41		EB

Analytical Results for Sampling Events at PL-11-470

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/13/2021	8260_LL	2109131300B	Toluene	0.9	ug/L	0.5	0.2		
9/13/2021	NDMA_LL	2109131303B	N-Nitrosodimethylamine	0.77	ng/L	0.48	0.4		RB TB FB
9/13/2021	8270	2109131335B	Benzenesulfonamide, N-butyl-	75	ug/L	NA	NA		TIC
9/13/2021	8270	2109131405B	1,4-Dioxane	1.9	ug/L	0.04	0.027		
9/13/2021	METALS	2109131406B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
9/13/2021	METALS	2109131406B	Zinc, Total	0.126	mg/L	0.02	0.003		
9/13/2021	METALS	2109131406B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
9/13/2021	METALS	2109131406B	Strontium, Total	2.83	mg/L	0.1	0.002		
9/13/2021	METALS	2109131406B	Potassium, Total	4.3	mg/L	2	0.4		
9/13/2021	METALS	2109131406B	Manganese, Total	0.01	mg/L	0.01	0.004		
9/13/2021	METALS	2109131406B	Magnesium, Total	57.1	mg/L	1	0.03		
9/13/2021	METALS	2109131406B	Iron, Total	0.09	mg/L	0.1	0.07		J
9/13/2021	METALS	2109131406B	Calcium, Total	97.5	mg/L	1	0.3		
9/13/2021	METALS	2109131406B	Boron, Total	0.1	mg/L	0.2	0.02		J
9/13/2021	METALS	2109131406B	Barium, Total	0.036	mg/L	0.02	0.003		
9/13/2021	METALS	2109131406B	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
9/13/2021	METALS	2109131406B	Antimony, Total	0.0003	mg/L	0.001	0.0002		J
9/13/2021	METALS	2109131406B	Sodium, Total	64.3	mg/L	1	0.2		
9/13/2021	METALS	2109131406B	Lead, Total	0.012	mg/L	0.05	0.003		J

Analytical Results for Sampling Events at PL-11-530

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/13/2021	8260_LL	2109131315B	Toluene	0.32	ug/L	0.5	0.2		J
9/13/2021	NDMA_LL	2109131318B	N-Nitrosodimethylamine	0.9	ng/L	0.48	0.4		RB FB QD
9/13/2021	NDMA_LL	2109131350B	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		RB FB QD
9/13/2021	8270	2109131415B	Benzenesulfonamide, N-butyl-	110	ug/L	NA	NA		TIC
9/13/2021	8270	2109131450B	1,4-Dioxane	1.7	ug/L	0.04	0.027		
9/13/2021	8270	2109131451B	1,4-Dioxane	1.8	ug/L	0.04	0.027		
9/13/2021	METALS	2109131452B	Molybdenum, Total	0.015	mg/L	0.025	0.003		J
9/13/2021	METALS	2109131452B	Barium, Total	0.04	mg/L	0.02	0.003		
9/13/2021	METALS	2109131452B	Zinc, Total	0.032	mg/L	0.02	0.003		
9/13/2021	METALS	2109131452B	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
9/13/2021	METALS	2109131452B	Strontium, Total	2.26	mg/L	0.1	0.002		
9/13/2021	METALS	2109131452B	Sodium, Total	112	mg/L	1	0.2		
9/13/2021	METALS	2109131452B	Potassium, Total	4.3	mg/L	2	0.4		
9/13/2021	METALS	2109131452B	Magnesium, Total	39.8	mg/L	1	0.03		
9/13/2021	METALS	2109131452B	Lead, Total	0.005	mg/L	0.05	0.003		J
9/13/2021	METALS	2109131452B	Iron, Total	0.1	mg/L	0.1	0.07		J
9/13/2021	METALS	2109131452B	Arsenic, Total	0.0015	mg/L	0.001	0.0004		
9/13/2021	METALS	2109131452B	Boron, Total	0.17	mg/L	0.2	0.02		J
9/13/2021	METALS	2109131452B	Calcium, Total	73	mg/L	1	0.3		
9/13/2021	METALS	2109131452B	Manganese, Total	0.071	mg/L	0.01	0.004		

Analytical Results for Sampling Events at PL-11-710

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/14/2021	8260_LL	2109141350B	2-Propanol	8.6	ug/L	40	3.4		J FB
9/14/2021	8260_LL	2109141350B	Toluene	0.2	ug/L	0.5	0.2		J
9/14/2021	NDMA_LL	2109141353B	N-Nitrosodimethylamine	0.79	ng/L	0.47	0.4		RB A
9/14/2021	8270	2109141435B	Unknown Hydrocarbon	12	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141435B	Benzenesulfonamide, N-butyl-	150	ug/L	NA	NA		TIC
9/14/2021	8270	2109141435B	Unknown	4.4	ug/L	NA	NA		TIC
9/14/2021	8270	2109141435B	Unknown Hydrocarbon	5.7	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141435B	Unknown Hydrocarbon	9.5	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141435B	Unknown Hydrocarbon	15	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141435B	Unknown Hydrocarbon	8.4	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141435B	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141445B	1,4-Dioxane	0.74	ug/L	0.04	0.027		
9/14/2021	METALS	2109141446B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
9/14/2021	METALS	2109141446B	Vanadium, Total	0.005	mg/L	0.05	0.0007		J
9/14/2021	METALS	2109141446B	Zinc, Total	0.049	mg/L	0.02	0.003		
9/14/2021	METALS	2109141446B	Strontium, Total	3.01	mg/L	0.1	0.002		
9/14/2021	METALS	2109141446B	Sodium, Total	64.3	mg/L	1	0.2		
9/14/2021	METALS	2109141446B	Potassium, Total	4.4	mg/L	2	0.4		
9/14/2021	METALS	2109141446B	Calcium, Total	100	mg/L	1	0.3		
9/14/2021	METALS	2109141446B	Boron, Total	0.1	mg/L	0.2	0.02		J
9/14/2021	METALS	2109141446B	Barium, Total	0.033	mg/L	0.02	0.003		
9/14/2021	METALS	2109141446B	Arsenic, Total	0.0007	mg/L	0.001	0.0004		J
9/14/2021	METALS	2109141446B	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
9/14/2021	METALS	2109141446B	Magnesium, Total	57.3	mg/L	1	0.03		

Analytical Results for Sampling Events at PL-11-820

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/14/2021	8260_LL	2109141400B	Toluene	0.2	ug/L	0.5	0.2		J
9/14/2021	NDMA_LL	2109141403B	N-Nitrosodimethylamine	0.72	ng/L	0.47	0.4		RB A FB
9/14/2021	8270	2109141455B	Benzenesulfonamide, N-butyl-	130	ug/L	NA	NA		TIC
9/14/2021	METALS	2109141500B	Potassium, Total	5	mg/L	2	0.4		
9/14/2021	METALS	2109141500B	Zinc, Total	0.135	mg/L	0.02	0.003		
9/14/2021	METALS	2109141500B	Vanadium, Total	0.01	mg/L	0.05	0.0007		J
9/14/2021	METALS	2109141500B	Sodium, Total	55.4	mg/L	1	0.2		
9/14/2021	METALS	2109141500B	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
9/14/2021	METALS	2109141500B	Lead, Total	0.008	mg/L	0.05	0.003		J
9/14/2021	METALS	2109141500B	Calcium, Total	83.9	mg/L	1	0.3		
9/14/2021	METALS	2109141500B	Boron, Total	0.07	mg/L	0.2	0.02		J
9/14/2021	METALS	2109141500B	Barium, Total	0.042	mg/L	0.02	0.003		
9/14/2021	METALS	2109141500B	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
9/14/2021	METALS	2109141500B	Magnesium, Total	53	mg/L	1	0.03		
9/14/2021	METALS	2109141500B	Strontium, Total	3.28	mg/L	0.1	0.002		

Analytical Results for Sampling Events at PL-11-980

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/14/2021	8260_LL	2109141345B	Chloromethane	0.29	ug/L	0.5	0.28		J A
9/14/2021	8260_LL	2109141345B	Toluene	0.29	ug/L	0.5	0.2		J
9/14/2021	NDMA_LL	2109141416B	N-Nitrosodimethylamine	0.93	ng/L	0.48	0.4		RB A * FB
9/14/2021	8270	2109141425B	Benzenesulfonamide, N-butyl-	65	ug/L	NA	NA		TIC
9/14/2021	8270	2109141425B	Unknown Hydrocarbon	4.3	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141425B	Unknown Hydrocarbon	4	ug/L	NA	NA		TIC RB
9/14/2021	8270	2109141425B	Unknown	4.9	ug/L	NA	NA		TIC RB
9/14/2021	METALS	2109141510B	Barium, Total	0.026	mg/L	0.02	0.003		
9/14/2021	METALS	2109141510B	Zinc, Total	0.218	mg/L	0.02	0.003		
9/14/2021	METALS	2109141510B	Vanadium, Total	0.02	mg/L	0.05	0.0007		J
9/14/2021	METALS	2109141510B	Strontium, Total	1.52	mg/L	0.1	0.002		
9/14/2021	METALS	2109141510B	Molybdenum, Total	0.019	mg/L	0.025	0.003		J
9/14/2021	METALS	2109141510B	Sodium, Total	130	mg/L	1	0.2		
9/14/2021	METALS	2109141510B	Potassium, Total	4.3	mg/L	2	0.4		
9/14/2021	METALS	2109141510B	Lead, Total	0.008	mg/L	0.05	0.003		J
9/14/2021	METALS	2109141510B	Copper, Total	0.004	mg/L	0.02	0.004		J
9/14/2021	METALS	2109141510B	Chromium, Total	0.004	mg/L	0.01	0.002		J
9/14/2021	METALS	2109141510B	Boron, Total	0.29	mg/L	0.2	0.02		
9/14/2021	METALS	2109141510B	Calcium, Total	46.6	mg/L	1	0.3		
9/14/2021	METALS	2109141510B	Arsenic, Total	0.0043	mg/L	0.001	0.0004		
9/14/2021	METALS	2109141510B	Magnesium, Total	22.4	mg/L	1	0.03		

Analytical Results for Sampling Events at PL-12-570

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/4/2021	8260	2108040940C	1,1,2-Trichloro-1,2,2-Trifluoroethane	5.8	ug/L	1	0.2		
8/4/2021	8260	2108040940C	Silane, methoxytrimethyl-	8.8	ug/L	NA	NA		TIC FB
8/4/2021	8260	2108040940C	Unknown	8.2	ug/L	NA	NA		TIC
8/4/2021	8260	2108040940C	Trichlorofluoromethane (CFC 11)	9.3	ug/L	1	0.24		
8/4/2021	8260	2108040940C	Trichloroethene (TCE)	13	ug/L	1	0.2		
8/4/2021	8260	2108040940C	Tetrachloroethene (PCE)	0.34	ug/L	1	0.21		J
8/4/2021	8260	2108040940C	2-Propanol	7.3	ug/L	50	3.4		J FB
8/4/2021	8260	2108040940C	Unknown	6.1	ug/L	NA	NA		TIC FB
8/4/2021	8260	2108040940C	Chloromethane	0.47	ug/L	2	0.28		J RB A FB
8/4/2021	NDMA_LL	2108040943C	N-Nitrodimethylamine	0.86	ng/L	0.49	0.2		
8/4/2021	NDMA_LL	2108040943C	N-Nitrosodimethylamine	3.2	ng/L	0.49	0.34		FB
8/4/2021	METALS	2108040946C	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
8/4/2021	METALS	2108040946C	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
8/4/2021	METALS	2108040946C	Strontium, Total	2.57	mg/L	0.1	0.002		
8/4/2021	METALS	2108040946C	Sodium, Total	37.8	mg/L	1	0.2		
8/4/2021	METALS	2108040946C	Nickel, Total	0.012	mg/L	0.04	0.003		J
8/4/2021	METALS	2108040946C	Magnesium, Total	66.9	mg/L	1	0.03		
8/4/2021	METALS	2108040946C	Calcium, Total	113	mg/L	1	0.3		
8/4/2021	METALS	2108040946C	Boron, Total	0.07	mg/L	0.2	0.02		J
8/4/2021	METALS	2108040946C	Barium, Total	0.027	mg/L	0.02	0.003		
8/4/2021	METALS	2108040946C	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
8/4/2021	METALS	2108040946C	Zinc, Total	0.005	mg/L	0.02	0.003		J
8/4/2021	METALS	2108040946C	Potassium, Total	3.8	mg/L	2	0.4		
8/4/2021	ANIONS	2108040947C	Sulfate	341	mg/L	8	1.6		
8/4/2021	ANIONS	2108040947C	Fluoride, undistilled	1.15	mg/L	0.1	0.01		
8/4/2021	ANIONS	2108040947C	Chloride	37.9	mg/L	2	0.5		
8/4/2021	ANIONS	2108040947C	Alkalinity, Total as CaCO3	230	mg/L	2	1.8		
8/4/2021	SM2540C	2108040948C	Total Dissolved Solids (TDS)	787	mg/L	10	9		
8/4/2021	6850	2108040949C	Perchlorate	0.48	ug/L	0.2	0.06		
8/4/2021	353.2	2108040950C	Nitrate+Nitrite as Nitrogen	0.774	mg/L	0.05	0.002		

Analytical Results for Sampling Events at PL-12-800

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/3/2021	8260	2108041435C	Trichloroethene (TCE)	2.1	ug/L	1	0.2		
8/3/2021	8260	2108041435C	Trichlorofluoromethane (CFC 11)	3	ug/L	1	0.24		
8/3/2021	8260	2108041435C	Chloromethane	0.32	ug/L	2	0.28		J RB A FB
8/3/2021	8260	2108041435C	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.1	ug/L	1	0.2		
8/3/2021	NDMA_LL	2108041438C	N-Nitrodimethylamine	0.74	ng/L	0.48	0.2		
8/3/2021	NDMA_LL	2108041438C	N-Nitrosodimethylamine	4.6	ng/L	0.48	0.33		FB
8/3/2021	METALS	2108041441C	Boron, Total	0.07	mg/L	0.2	0.02		J
8/3/2021	METALS	2108041441C	Potassium, Total	3.9	mg/L	2	0.4		
8/3/2021	METALS	2108041441C	Vanadium, Total	0.001	mg/L	0.05	0.0007		J
8/3/2021	METALS	2108041441C	Strontium, Total	2.56	mg/L	0.1	0.002		
8/3/2021	METALS	2108041441C	Sodium, Total	38.4	mg/L	1	0.2		
8/3/2021	METALS	2108041441C	Zinc, Total	0.024	mg/L	0.02	0.003		
8/3/2021	METALS	2108041441C	Nickel, Total	0.013	mg/L	0.04	0.003		J
8/3/2021	METALS	2108041441C	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
8/3/2021	METALS	2108041441C	Calcium, Total	111	mg/L	1	0.3		
8/3/2021	METALS	2108041441C	Barium, Total	0.028	mg/L	0.02	0.003		
8/3/2021	METALS	2108041441C	Arsenic, Total	0.001	mg/L	0.001	0.0004		
8/3/2021	METALS	2108041441C	Magnesium, Total	66.4	mg/L	1	0.03		
8/3/2021	ANIONS	2108041442C	Alkalinity, Total as CaCO3	232	mg/L	2	1.8		
8/3/2021	ANIONS	2108041442C	Chloride	38.1	mg/L	2	0.5		
8/3/2021	ANIONS	2108041442C	Fluoride, undistilled	1.17	mg/L	0.1	0.01		
8/3/2021	ANIONS	2108041442C	Sulfate	339	mg/L	8	1.6		
8/3/2021	SM2540C	2108041443C	Total Dissolved Solids (TDS)	787	mg/L	10	9		
8/3/2021	6850	2108041444C	Perchlorate	0.47	ug/L	0.2	0.06		
8/3/2021	353.2	2108041445C	Nitrate+Nitrite as Nitrogen	0.774	mg/L	0.05	0.002		

Analytical Results for Sampling Events at PL-1-486

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/14/2021	8260_LL	2110141425C	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.8	ug/L	0.5	0.2		
10/14/2021	8260_LL	2110141426C	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.8	ug/L	0.5	0.2		

Analytical Results for Sampling Events at PL-2-504

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/14/2021	8260	2109140940A	Trichlorofluoromethane (CFC 11)	48	ug/L	1	0.24		
9/14/2021	8260	2109140940A	Trichloroethene (TCE)	72	ug/L	1	0.2		
9/14/2021	8260	2109140940A	Tetrachloroethene (PCE)	1.4	ug/L	1	0.21		
9/14/2021	8260	2109140940A	Dichlorofluoromethane (CFC 21)	1.9	ug/L	1	0.2		
9/14/2021	8260	2109140940A	1,1,2-Trichloro-1,2,2-Trifluoroethane	53	ug/L	1	0.2		
9/14/2021	8260	2109140940A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.63	ug/L	1	0.2		J
9/14/2021	607	2109140942A	N-Nitrosodimethylamine	0.2	µg/L	0.0094	0.0047	58	QD
9/14/2021	607	2109140942A	N-Nitrodimethylamine	0.14	µg/L	0.0094	0.0047	102.6	QD
9/14/2021	607	2109140942A	Bromacil	0.12	µg/L	0.0094	0.0047	140	
9/14/2021	607	2109140943A	Bromacil	0.12	µg/L	0.0095	0.0048	140	
9/14/2021	607	2109140943A	N-Nitrosodimethylamine	0.26	µg/L	0.0095	0.0048	58	QD
9/14/2021	607	2109140943A	N-Nitrodimethylamine	0.19	µg/L	0.0095	0.0048	102.6	QD

Analytical Results for Sampling Events at PL-4-464

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/14/2021	8260_LL	2109141510A	Trichlorofluoromethane (CFC 11)	0.46	ug/L	0.5	0.24		J
9/14/2021	8260_LL	2109141510A	Trichloroethene (TCE)	0.4	ug/L	0.5	0.2		J
9/14/2021	NDMA_LL	2109141512A	N-Nitrosodimethylamine	0.78	ng/L	0.47	0.4		RB A * FB

Analytical Results for Sampling Events at PL-6-545

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/13/2021	8260_LL	2110131015Y	Bromomethane	0.79	ug/L	1	0.7		J
10/13/2021	NDMA_LL	2110131016Y	N-Nitrosodimethylamine	0.57	ng/L	0.48	0.4		

Analytical Results for Sampling Events at PL-6-725

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/12/2021	8260_LL	2110121110Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.26	ug/L	0.5	0.2		J EB
10/12/2021	NDMA_LL	2110121111Y	N-Nitrodimethylamine	0.31	ng/L	0.48	0.2		J EB
10/12/2021	NDMA_LL	2110121111Y	N-Nitrosodimethylamine	0.93	ng/L	0.48	0.4		EB

Analytical Results for Sampling Events at PL-7-480

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/10/2021	NDMA_LL	2108101001Y	N-Nitrosodimethylamine	1.4	ng/L	0.49	0.45		EB

Analytical Results for Sampling Events at PL-7-560

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/5/2021	NDMA_LL	2108051451Y	N-Nitrosodimethylamine	1	ng/L	0.47	0.33		TB EB

Analytical Results for Sampling Events at PL-8-455

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/2/2021	NDMA_LL	2109021531Y	N-Nitrosodimethylamine	0.84	ng/L	0.48	0.4		RB EB

Analytical Results for Sampling Events at PL-8-605

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/2/2021	NDMA_LL	2109021310Y	N-Nitrosodimethylamine	1.1	ng/L	0.48	0.4		RB * EB

Analytical Results for Sampling Events at ST-4-481

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/2/2021	NDMA_LL	2109021002B	N-Nitrosodimethylamine	1.7	ng/L	0.48	0.4		RB * TB FB

Analytical Results for Sampling Events at ST-4-589

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/2/2021	8260_LL	2108020935B	2-Propanol	7	ug/L	40	3.4		J
8/2/2021	NDMA_LL	2108020939B	N-Nitrosodimethylamine	0.44	ng/L	0.48	0.33		J RB TB FB
8/2/2021	METALS	2108020941B	Vanadium, Total	0.014	mg/L	0.05	0.0007		J
8/2/2021	METALS	2108020941B	Boron, Total	0.17	mg/L	0.2	0.02		J
8/2/2021	METALS	2108020941B	Calcium, Total	48.3	mg/L	1	0.3		
8/2/2021	METALS	2108020941B	Magnesium, Total	28.4	mg/L	1	0.03		
8/2/2021	METALS	2108020941B	Molybdenum, Total	0.037	mg/L	0.025	0.003		
8/2/2021	METALS	2108020941B	Nickel, Total	0.016	mg/L	0.04	0.003		J
8/2/2021	METALS	2108020941B	Potassium, Total	7.7	mg/L	2	0.4		
8/2/2021	METALS	2108020941B	Strontium, Total	1.92	mg/L	0.1	0.002		
8/2/2021	METALS	2108020941B	Arsenic, Total	0.0039	mg/L	0.001	0.0004		
8/2/2021	METALS	2108020941B	Barium, Total	0.029	mg/L	0.02	0.003		
8/2/2021	METALS	2108020941B	Sodium, Total	84.2	mg/L	1	0.2		

Analytical Results for Sampling Events at ST-4-690

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/2/2021	NDMA_LL	2109021502B	N-Nitrosodimethylamine	1.7	ng/L	0.49	0.41		RB * FB

Analytical Results for Sampling Events at ST-5-1175

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/4/2021	NDMA_LL	2108050850Y	N-Nitrosodimethylamine	2.4	ng/L	0.48	0.33		EB
8/4/2021	METALS	2108050851Y	Potassium, Total	9.9	mg/L	2	0.4		
8/4/2021	METALS	2108050851Y	Sodium, Total	227	mg/L	10	2		
8/4/2021	METALS	2108050851Y	Arsenic, Total	0.0035	mg/L	0.001	0.0004		
8/4/2021	METALS	2108050851Y	Barium, Total	0.026	mg/L	0.02	0.003		
8/4/2021	METALS	2108050851Y	Boron, Total	0.32	mg/L	0.2	0.02		
8/4/2021	METALS	2108050851Y	Calcium, Total	98.7	mg/L	1	0.3		
8/4/2021	METALS	2108050851Y	Magnesium, Total	33.9	mg/L	1	0.03		
8/4/2021	METALS	2108050851Y	Strontium, Total	2.1	mg/L	0.1	0.002		
8/4/2021	METALS	2108050851Y	Molybdenum, Total	0.015	mg/L	0.025	0.003		J
8/4/2021	METALS	2108050851Y	Vanadium, Total	0.012	mg/L	0.05	0.0007		J
8/4/2021	METALS	2108050851Y	Zinc, Total	0.011	mg/L	0.02	0.003		J
8/4/2021	METALS	2108050851Y	Manganese, Total	0.049	mg/L	0.01	0.004		
8/4/2021	ANIONS	2108050930Y	Alkalinity, Total as CaCO3	77.9	mg/L	2	1.8		
8/4/2021	ANIONS	2108050930Y	Chloride	83	mg/L	2	0.5		
8/4/2021	ANIONS	2108050930Y	Fluoride, undistilled	0.48	mg/L	0.1	0.01		
8/4/2021	ANIONS	2108050930Y	Sulfate	709	mg/L	20	4		
8/4/2021	SM2540C	2108050931Y	Total Dissolved Solids (TDS)	1260	mg/L	10	9		
8/4/2021	6850	2108050932Y	Perchlorate	0.99	ug/L	0.2	0.06		
8/4/2021	353.2	2108050933Y	Nitrate+Nitrite as Nitrogen	4.54	mg/L	0.25	0.008		

Analytical Results for Sampling Events at ST-5-485

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/4/2021	8260_LL	2108041115Y	Chloromethane	0.4	ug/L	0.5	0.28		J RB A
8/4/2021	NDMA_LL	2108041116Y	N-Nitrosodimethylamine	0.64	ng/L	0.48	0.34		EB

Analytical Results for Sampling Events at ST-5-655

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/2/2021	NDMA_LL	2108021321Y	N-Nitrosodimethylamine	3.3	ng/L	0.49	0.34		EB

Analytical Results for Sampling Events at ST-5-815

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/3/2021	8260_LL	2108031510Y	Chloromethane	0.32	ug/L	0.5	0.28		J RB A
8/3/2021	NDMA_LL	2108040825Y	N-Nitrosodimethylamine	1.3	ng/L	0.48	0.33		EB
8/3/2021	NDMA_LL	2108040825Y	N-Nitrodimethylamine	0.23	ng/L	0.48	0.2		J
8/3/2021	METALS	2108040826Y	Boron, Total	0.16	mg/L	0.2	0.02		J
8/3/2021	METALS	2108040826Y	Vanadium, Total	0.011	mg/L	0.05	0.0007		J
8/3/2021	METALS	2108040826Y	Barium, Total	0.024	mg/L	0.02	0.003		
8/3/2021	METALS	2108040826Y	Calcium, Total	50	mg/L	1	0.3		
8/3/2021	METALS	2108040826Y	Magnesium, Total	33.1	mg/L	1	0.03		
8/3/2021	METALS	2108040826Y	Molybdenum, Total	0.015	mg/L	0.025	0.003		J
8/3/2021	METALS	2108040826Y	Nickel, Total	0.016	mg/L	0.04	0.003		J
8/3/2021	METALS	2108040826Y	Potassium, Total	4.1	mg/L	2	0.4		
8/3/2021	METALS	2108040826Y	Sodium, Total	83.4	mg/L	1	0.2		
8/3/2021	METALS	2108040826Y	Strontium, Total	2.19	mg/L	0.1	0.002		
8/3/2021	METALS	2108040826Y	Arsenic, Total	0.0021	mg/L	0.001	0.0004		
8/3/2021	ANIONS	2108040850Y	Fluoride, undistilled	0.59	mg/L	0.1	0.01		
8/3/2021	ANIONS	2108040850Y	Sulfate	240	mg/L	8	1.6		
8/3/2021	ANIONS	2108040850Y	Chloride	37.4	mg/L	2	0.5		
8/3/2021	ANIONS	2108040850Y	Alkalinity, Total as CaCO3	159	mg/L	2	1.8		
8/3/2021	SM2540C	2108040851Y	Total Dissolved Solids (TDS)	573	mg/L	10	9		
8/3/2021	6850	2108040852Y	Perchlorate	0.41	ug/L	0.2	0.06		
8/3/2021	353.2	2108040853Y	Nitrate+Nitrite as Nitrogen	0.671	mg/L	0.05	0.002		

Analytical Results for Sampling Events at ST-5-985

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/2/2021	NDMA_LL	2108030950Y	N-Nitrosodimethylamine	1.6	ng/L	0.47	0.33		EB
8/2/2021	METALS	2108030951Y	Barium, Total	0.019	mg/L	0.02	0.003		J
8/2/2021	METALS	2108030951Y	Vanadium, Total	0.012	mg/L	0.05	0.0007		J
8/2/2021	METALS	2108030951Y	Sodium, Total	149	mg/L	1	0.2		
8/2/2021	METALS	2108030951Y	Potassium, Total	5.5	mg/L	2	0.4		
8/2/2021	METALS	2108030951Y	Nickel, Total	0.018	mg/L	0.04	0.003		J
8/2/2021	METALS	2108030951Y	Molybdenum, Total	0.011	mg/L	0.025	0.003		J
8/2/2021	METALS	2108030951Y	Magnesium, Total	52.1	mg/L	1	0.03		
8/2/2021	METALS	2108030951Y	Chromium, Total	0.004	mg/L	0.01	0.002		J
8/2/2021	METALS	2108030951Y	Boron, Total	0.22	mg/L	0.2	0.02		
8/2/2021	METALS	2108030951Y	Arsenic, Total	0.0025	mg/L	0.001	0.0004		
8/2/2021	METALS	2108030951Y	Strontium, Total	3.78	mg/L	0.1	0.002		
8/2/2021	METALS	2108030951Y	Calcium, Total	83.9	mg/L	1	0.3		
8/2/2021	METALS	2108030951Y	Zinc, Total	0.01	mg/L	0.02	0.003		J

Analytical Results for Sampling Events at ST-6-528

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/15/2021	NDMA_LL	2109151258B	N-Nitrosodimethylamine	0.59	ng/L	0.47	0.4		RB A TB FB
9/15/2021	8270	2109151330B	Unknown	7.8	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	2-Thiopheneacetic acid, 4-tetradec	18	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Unknown Hydrocarbon	26	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Unknown	33	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Unknown Hydrocarbon	29	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Tridecanol, 2-ethyl-2-methyl-	21	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Unknown Hydrocarbon	14	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Unknown Hydrocarbon	7.1	ug/L	NA	NA		TIC RB
9/15/2021	8270	2109151330B	Benzenesulfonamide, N-butyl-	630	ug/L	NA	NA		TIC
9/15/2021	8270	2109151400B	1,4-Dioxane	1.3	ug/L	0.04	0.027		
9/15/2021	METALS	2109151405B	Boron, Total	0.06	mg/L	0.2	0.02		J
9/15/2021	METALS	2109151405B	Magnesium, Total	64	mg/L	1	0.03		
9/15/2021	METALS	2109151405B	Calcium, Total	119	mg/L	1	0.3		
9/15/2021	METALS	2109151405B	Cobalt, Total	0.005	mg/L	0.05	0.0009		J
9/15/2021	METALS	2109151405B	Iron, Total	0.17	mg/L	0.1	0.07		
9/15/2021	METALS	2109151405B	Manganese, Total	0.236	mg/L	0.01	0.004		
9/15/2021	METALS	2109151405B	Nickel, Total	0.832	mg/L	0.04	0.003		
9/15/2021	METALS	2109151405B	Potassium, Total	3.2	mg/L	2	0.4		
9/15/2021	METALS	2109151405B	Sodium, Total	37.2	mg/L	1	0.2		
9/15/2021	METALS	2109151405B	Strontium, Total	2.44	mg/L	0.1	0.002		
9/15/2021	METALS	2109151405B	Zinc, Total	0.01	mg/L	0.02	0.003		J
9/15/2021	METALS	2109151405B	Barium, Total	0.029	mg/L	0.02	0.003		
9/15/2021	METALS	2109151405B	Molybdenum, Total	0.006	mg/L	0.025	0.003		J

Analytical Results for Sampling Events at ST-6-568

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/15/2021	8260_LL	2109151105B	Trichlorofluoromethane (CFC 11)	0.25	ug/L	0.5	0.24		J
9/15/2021	8260_LL	2109151105B	Trichloroethene (TCE)	0.39	ug/L	0.5	0.2		J
9/15/2021	8260_LL	2109151105B	Toluene	0.23	ug/L	0.5	0.2		J
9/15/2021	8260_LL	2109151105B	Bromomethane	0.7	ug/L	1	0.7		J
9/15/2021	NDMA_LL	2109151311B	N-Nitrosodimethylamine	0.73	ng/L	0.48	0.4		RB A FB QD Q
9/15/2021	NDMA_LL	2109151311B	N-Nitrodimethylamine	0.38	ng/L	0.48	0.2		J
9/15/2021	NDMA_LL	2109151345B	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		RB A FB QD Q
9/15/2021	NDMA_LL	2109151345B	N-Nitrodimethylamine	0.25	ng/L	0.48	0.2		J
9/15/2021	8270	2109151355B	Bis(2-ethylhexyl) Phthalate	4.8	ug/L	4.7	3.9		
9/15/2021	8270	2109151355B	Unknown	6.5	ug/L	NA	NA		TIC
9/15/2021	8270	2109151355B	Unknown	9	ug/L	NA	NA		TIC
9/15/2021	8270	2109151355B	Benzenesulfonamide, N-butyl-	2400	ug/L	NA	NA		TIC
9/15/2021	8270	2109151425B	1,4-Dioxane	1.1	ug/L	0.04	0.027		
9/15/2021	METALS	2109151426B	Potassium, Total	3.2	mg/L	2	0.4		
9/15/2021	METALS	2109151426B	Sodium, Total	38.6	mg/L	1	0.2		
9/15/2021	METALS	2109151426B	Strontium, Total	2.55	mg/L	0.1	0.002		
9/15/2021	METALS	2109151426B	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
9/15/2021	METALS	2109151426B	Zinc, Total	0.005	mg/L	0.02	0.003		J
9/15/2021	METALS	2109151426B	Barium, Total	0.026	mg/L	0.02	0.003		
9/15/2021	METALS	2109151426B	Boron, Total	0.06	mg/L	0.2	0.02		J
9/15/2021	METALS	2109151426B	Cobalt, Total	0.002	mg/L	0.05	0.0009		J
9/15/2021	METALS	2109151426B	Iron, Total	0.58	mg/L	0.1	0.07		
9/15/2021	METALS	2109151426B	Magnesium, Total	67.3	mg/L	1	0.03		
9/15/2021	METALS	2109151426B	Manganese, Total	0.085	mg/L	0.01	0.004		
9/15/2021	METALS	2109151426B	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
9/15/2021	METALS	2109151426B	Nickel, Total	0.151	mg/L	0.04	0.003		
9/15/2021	METALS	2109151426B	Calcium, Total	104	mg/L	1	0.3		

Analytical Results for Sampling Events at ST-6-678

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/16/2021	8260_LL	2109161310B	Toluene	0.31	ug/L	0.5	0.2		J
9/16/2021	607	2109161312B	Bromacil	0.038	µg/L	0.0095	0.0048	130.4	
9/16/2021	8270	2109161345B	Unknown	180	ug/L	NA	NA		TIC
9/16/2021	8270	2109161345B	Unknown Hydrocarbon	6.5	ug/L	NA	NA		TIC
9/16/2021	8270	2109161345B	Unknown Hydrocarbon	5.4	ug/L	NA	NA		TIC
9/16/2021	8270	2109161345B	Unknown Hydrocarbon	7	ug/L	NA	NA		TIC
9/16/2021	8270	2109161345B	Unknown Hydrocarbon	4.4	ug/L	NA	NA		TIC
9/16/2021	8270	2109161345B	Benzenesulfonamide, N-butyl-	260	ug/L	NA	NA		TIC
9/16/2021	8270	2109161510B	1,4-Dioxane	1	ug/L	0.04	0.027		QD
9/16/2021	8270	2109161511B	1,4-Dioxane	1.3	ug/L	0.04	0.027		QD
9/16/2021	METALS	2109161512B	Cobalt, Total	0.009	mg/L	0.05	0.0009		J
9/16/2021	METALS	2109161512B	Potassium, Total	4	mg/L	2	0.4		
9/16/2021	METALS	2109161512B	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
9/16/2021	METALS	2109161512B	Barium, Total	0.031	mg/L	0.02	0.003		
9/16/2021	METALS	2109161512B	Boron, Total	0.07	mg/L	0.2	0.02		J
9/16/2021	METALS	2109161512B	Calcium, Total	86.1	mg/L	1	0.3		
9/16/2021	METALS	2109161512B	Copper, Total	0.014	mg/L	0.02	0.004		J
9/16/2021	METALS	2109161512B	Lead, Total	0.013	mg/L	0.05	0.003		J
9/16/2021	METALS	2109161512B	Zinc, Total	0.149	mg/L	0.02	0.003		
9/16/2021	METALS	2109161512B	Vanadium, Total	0.004	mg/L	0.05	0.0007		J
9/16/2021	METALS	2109161512B	Strontium, Total	2.65	mg/L	0.1	0.002		
9/16/2021	METALS	2109161512B	Sodium, Total	53.7	mg/L	1	0.2		
9/16/2021	METALS	2109161512B	Mercury, Total	0.0001	mg/L	0.0002	0.00008		J
9/16/2021	METALS	2109161512B	Magnesium, Total	51.5	mg/L	1	0.03		
9/16/2021	METALS	2109161512B	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
9/16/2021	METALS	2109161512B	Nickel, Total	0.411	mg/L	0.04	0.003		
9/16/2021	METALS	2109161512B	Manganese, Total	0.265	mg/L	0.01	0.004		

Analytical Results for Sampling Events at ST-6-824

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/16/2021	8260_LL	2109161325B	Toluene	0.49	ug/L	0.5	0.2		J
9/16/2021	NDMA_LL	2109161328B	N-Nitrosodimethylamine	1.3	ng/L	0.47	0.4		RB * FB
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	5.2	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	19	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	25	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown	16	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	17	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	8.9	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	4.2	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Benzenesulfonamide, N-butyl-	81	ug/L	NA	NA		TIC
9/16/2021	8270	2109161405B	Unknown Hydrocarbon	22	ug/L	NA	NA		TIC
9/16/2021	METALS	2109161445B	Strontium, Total	2.38	mg/L	0.1	0.002		
9/16/2021	METALS	2109161445B	Nickel, Total	0.286	mg/L	0.04	0.003		
9/16/2021	METALS	2109161445B	Calcium, Total	62	mg/L	1	0.3		
9/16/2021	METALS	2109161445B	Boron, Total	0.12	mg/L	0.2	0.02		J
9/16/2021	METALS	2109161445B	Barium, Total	0.016	mg/L	0.02	0.003		J
9/16/2021	METALS	2109161445B	Arsenic, Total	0.002	mg/L	0.001	0.0004		
9/16/2021	METALS	2109161445B	Magnesium, Total	39	mg/L	1	0.03		
9/16/2021	METALS	2109161445B	Vanadium, Total	0.013	mg/L	0.05	0.0007		J
9/16/2021	METALS	2109161445B	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
9/16/2021	METALS	2109161445B	Potassium, Total	4.7	mg/L	2	0.4		
9/16/2021	METALS	2109161445B	Sodium, Total	80.8	mg/L	1	0.2		
9/16/2021	METALS	2109161445B	Chromium, Total	0.003	mg/L	0.01	0.002		J
9/16/2021	METALS	2109161445B	Zinc, Total	0.1	mg/L	0.02	0.003		
9/16/2021	METALS	2109161445B	Manganese, Total	0.019	mg/L	0.01	0.004		

Analytical Results for Sampling Events at ST-6-970

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/16/2021	8260_LL	2109161335B	Toluene	0.27	ug/L	0.5	0.2		J
9/16/2021	NDMA_LL	2109161338B	N-Nitrosodimethylamine	0.83	ng/L	0.48	0.4		RB * FB
9/16/2021	8270	2109161420B	Unknown Hydrocarbon	5.2	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Benzene, 1-chloro-4-(trifluorometh	4.3	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Unknown Hydrocarbon	8.6	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Unknown Hydrocarbon	12	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Unknown Hydrocarbon	14	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Unknown Hydrocarbon	11	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Unknown Hydrocarbon	7.7	ug/L	NA	NA		TIC
9/16/2021	8270	2109161420B	Benzenesulfonamide, N-butyl-	220	ug/L	NA	NA		TIC
9/16/2021	METALS	2109161500B	Nickel, Total	0.039	mg/L	0.04	0.003		J
9/16/2021	METALS	2109161500B	Strontium, Total	1.82	mg/L	0.1	0.002		
9/16/2021	METALS	2109161500B	Zinc, Total	0.066	mg/L	0.02	0.003		
9/16/2021	METALS	2109161500B	Thallium, Total	0.00007	mg/L	0.001	0.00004		J
9/16/2021	METALS	2109161500B	Potassium, Total	5.3	mg/L	2	0.4		
9/16/2021	METALS	2109161500B	Vanadium, Total	0.016	mg/L	0.05	0.0007		J
9/16/2021	METALS	2109161500B	Lead, Total	0.004	mg/L	0.05	0.003		J
9/16/2021	METALS	2109161500B	Magnesium, Total	28.4	mg/L	1	0.03		
9/16/2021	METALS	2109161500B	Chromium, Total	0.003	mg/L	0.01	0.002		J
9/16/2021	METALS	2109161500B	Manganese, Total	0.018	mg/L	0.01	0.004		
9/16/2021	METALS	2109161500B	Molybdenum, Total	0.012	mg/L	0.025	0.003		J
9/16/2021	METALS	2109161500B	Calcium, Total	58.5	mg/L	1	0.3		
9/16/2021	METALS	2109161500B	Arsenic, Total	0.0037	mg/L	0.001	0.0004		
9/16/2021	METALS	2109161500B	Barium, Total	0.02	mg/L	0.02	0.003		J
9/16/2021	METALS	2109161500B	Boron, Total	0.19	mg/L	0.2	0.02		J
9/16/2021	METALS	2109161500B	Mercury, Total	0.00009	mg/L	0.0002	0.00008		J
9/16/2021	METALS	2109161500B	Sodium, Total	120	mg/L	1	0.2		

Analytical Results for Sampling Events at ST-7-453

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/4/2021	8260_LL	2110041415B	Benzene	0.24	ug/L	0.5	0.2		J
10/4/2021	8270	2110041515B	Benzenesulfonamide, N-butyl-	540	ug/L	NA	NA		TIC
10/4/2021	METALS	2110041535B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/4/2021	METALS	2110041535B	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
10/4/2021	METALS	2110041535B	Barium, Total	0.043	mg/L	0.02	0.003		
10/4/2021	METALS	2110041535B	Boron, Total	0.06	mg/L	0.2	0.02		J
10/4/2021	METALS	2110041535B	Calcium, Total	106	mg/L	1	0.3		
10/4/2021	METALS	2110041535B	Cobalt, Total	0.003	mg/L	0.05	0.0009		J
10/4/2021	METALS	2110041535B	Iron, Total	0.17	mg/L	0.1	0.07		
10/4/2021	METALS	2110041535B	Manganese, Total	0.402	mg/L	0.01	0.004		
10/4/2021	METALS	2110041535B	Nickel, Total	0.121	mg/L	0.04	0.003		
10/4/2021	METALS	2110041535B	Sodium, Total	42.2	mg/L	1	0.2		
10/4/2021	METALS	2110041535B	Strontium, Total	2.41	mg/L	0.1	0.002		
10/4/2021	METALS	2110041535B	Zinc, Total	0.005	mg/L	0.02	0.003		J
10/4/2021	METALS	2110041535B	Magnesium, Total	66.9	mg/L	1	0.03		
10/4/2021	METALS	2110041535B	Potassium, Total	3.5	mg/L	2	0.4		

Analytical Results for Sampling Events at ST-7-544

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/4/2021	8260_LL	2110041430B	Chloromethane	0.31	ug/L	0.5	0.28		J
10/4/2021	8260_LL	2110041430B	Unknown	7.4	ug/L	NA	NA		TIC RB FB
10/4/2021	8260_LL	2110041430B	Trichlorofluoromethane (CFC 11)	0.81	ug/L	0.5	0.24		
10/4/2021	8260_LL	2110041430B	Toluene	0.24	ug/L	0.5	0.2		J
10/4/2021	8260_LL	2110041430B	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.56	ug/L	0.5	0.2		
10/4/2021	8260_LL	2110041430B	Trichloroethene (TCE)	0.76	ug/L	0.5	0.2		
10/4/2021	NDMA_LL	2110041520B	N-Nitrosodimethylamine	0.45	ng/L	0.51	0.42		J FB
10/4/2021	8270	2110041545B	Unknown	15	ug/L	NA	NA		TIC
10/4/2021	8270	2110041545B	Unknown	20	ug/L	NA	NA		TIC
10/4/2021	8270	2110041545B	Benzenesulfonamide, N-butyl-	5100	ug/L	NA	NA		TIC
10/4/2021	METALS	2110041610B	Calcium, Total	106	mg/L	1	0.3		
10/4/2021	METALS	2110041610B	Sodium, Total	41.1	mg/L	1	0.2		
10/4/2021	METALS	2110041610B	Barium, Total	0.024	mg/L	0.02	0.003		
10/4/2021	METALS	2110041610B	Boron, Total	0.06	mg/L	0.2	0.02		J
10/4/2021	METALS	2110041610B	Zinc, Total	0.024	mg/L	0.02	0.003		
10/4/2021	METALS	2110041610B	Strontium, Total	2.72	mg/L	0.1	0.002		
10/4/2021	METALS	2110041610B	Potassium, Total	3.4	mg/L	2	0.4		
10/4/2021	METALS	2110041610B	Nickel, Total	0.071	mg/L	0.04	0.003		
10/4/2021	METALS	2110041610B	Molybdenum, Total	0.005	mg/L	0.025	0.003		J
10/4/2021	METALS	2110041610B	Manganese, Total	0.011	mg/L	0.01	0.004		
10/4/2021	METALS	2110041610B	Magnesium, Total	69.3	mg/L	1	0.03		
10/4/2021	METALS	2110041610B	Iron, Total	0.14	mg/L	0.1	0.07		
10/4/2021	METALS	2110041610B	Chromium, Total	0.003	mg/L	0.01	0.002		J
10/4/2021	METALS	2110041610B	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
10/4/2021	METALS	2110041611B	Iron, Total	0.14	mg/L	0.1	0.07		
10/4/2021	METALS	2110041611B	Strontium, Total	2.73	mg/L	0.1	0.002		
10/4/2021	METALS	2110041611B	Boron, Total	0.06	mg/L	0.2	0.02		J
10/4/2021	METALS	2110041611B	Calcium, Total	106	mg/L	1	0.3		
10/4/2021	METALS	2110041611B	Barium, Total	0.024	mg/L	0.02	0.003		
10/4/2021	METALS	2110041611B	Zinc, Total	0.024	mg/L	0.02	0.003		
10/4/2021	METALS	2110041611B	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
10/4/2021	METALS	2110041611B	Sodium, Total	41.2	mg/L	1	0.2		
10/4/2021	METALS	2110041611B	Potassium, Total	3.4	mg/L	2	0.4		
10/4/2021	METALS	2110041611B	Nickel, Total	0.07	mg/L	0.04	0.003		
10/4/2021	METALS	2110041611B	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
10/4/2021	METALS	2110041611B	Magnesium, Total	69.7	mg/L	1	0.03		
10/4/2021	METALS	2110041611B	Chromium, Total	0.003	mg/L	0.01	0.002		J
10/4/2021	METALS	2110041611B	Manganese, Total	0.011	mg/L	0.01	0.004		

Analytical Results for Sampling Events at ST-7-779

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/6/2021	8260_LL	2110061326B	Unknown	7.8	ug/L	NA	NA		TIC RB FB
10/6/2021	8270	2110061445B	Unknown	4.7	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061445B	Unknown Hydrocarbon	14	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061445B	Unknown Hydrocarbon	18	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061445B	Unknown Hydrocarbon	15	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061445B	Sulfurous acid, dodecyl 2-propyl e	11	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061445B	Unknown	7	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061445B	Benzenesulfonamide, N-butyl-	23	ug/L	NA	NA		TIC
10/6/2021	8270	2110061445B	n-Hexadecanoic acid	4.5	ug/L	NA	NA		TIC
10/6/2021	8270	2110061445B	Unknown Hydrocarbon	9.8	ug/L	NA	NA		TIC RB
10/6/2021	METALS	2110061515B	Lead, Total	0.006	mg/L	0.05	0.003		J
10/6/2021	METALS	2110061515B	Arsenic, Total	0.0014	mg/L	0.001	0.0004		
10/6/2021	METALS	2110061515B	Barium, Total	0.044	mg/L	0.02	0.003		
10/6/2021	METALS	2110061515B	Boron, Total	0.11	mg/L	0.2	0.02		J
10/6/2021	METALS	2110061515B	Calcium, Total	61.1	mg/L	1	0.3		
10/6/2021	METALS	2110061515B	Copper, Total	0.022	mg/L	0.02	0.004		
10/6/2021	METALS	2110061515B	Magnesium, Total	37.5	mg/L	1	0.03		
10/6/2021	METALS	2110061515B	Molybdenum, Total	0.011	mg/L	0.025	0.003		J
10/6/2021	METALS	2110061515B	Potassium, Total	4.8	mg/L	2	0.4		
10/6/2021	METALS	2110061515B	Sodium, Total	85.1	mg/L	1	0.2		
10/6/2021	METALS	2110061515B	Strontium, Total	2.65	mg/L	0.1	0.002		
10/6/2021	METALS	2110061515B	Vanadium, Total	0.012	mg/L	0.05	0.0007		J
10/6/2021	METALS	2110061515B	Zinc, Total	0.262	mg/L	0.02	0.003		
10/6/2021	METALS	2110061515B	Chromium, Total	0.002	mg/L	0.01	0.002		J

Analytical Results for Sampling Events at ST-7-970

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/6/2021	8260_LL	2110061341B	Unknown	7.1	ug/L	NA	NA		TIC RB FB
10/6/2021	8270	2110061500B	Unknown Hydrocarbon	7.4	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061500B	Unknown	4.5	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061500B	Unknown	5.8	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061500B	Unknown Hydrocarbon	6.4	ug/L	NA	NA		TIC RB
10/6/2021	8270	2110061500B	Unknown	4.5	ug/L	NA	NA		TIC RB
10/6/2021	METALS	2110061525B	Strontium, Total	1.43	mg/L	0.1	0.002		
10/6/2021	METALS	2110061525B	Zinc, Total	0.166	mg/L	0.02	0.003		
10/6/2021	METALS	2110061525B	Thallium, Total	0.00008	mg/L	0.001	0.00004		J
10/6/2021	METALS	2110061525B	Sodium, Total	105	mg/L	1	0.2		
10/6/2021	METALS	2110061525B	Potassium, Total	3.9	mg/L	2	0.4		
10/6/2021	METALS	2110061525B	Nickel, Total	0.01	mg/L	0.04	0.003		J
10/6/2021	METALS	2110061525B	Molybdenum, Total	0.024	mg/L	0.025	0.003		J
10/6/2021	METALS	2110061525B	Magnesium, Total	23.5	mg/L	1	0.03		
10/6/2021	METALS	2110061525B	Lead, Total	0.01	mg/L	0.05	0.003		J
10/6/2021	METALS	2110061525B	Chromium, Total	0.003	mg/L	0.01	0.002		J
10/6/2021	METALS	2110061525B	Calcium, Total	40.1	mg/L	1	0.3		
10/6/2021	METALS	2110061525B	Boron, Total	0.22	mg/L	0.2	0.02		
10/6/2021	METALS	2110061525B	Barium, Total	0.015	mg/L	0.02	0.003		J
10/6/2021	METALS	2110061525B	Arsenic, Total	0.003	mg/L	0.001	0.0004		
10/6/2021	METALS	2110061525B	Vanadium, Total	0.017	mg/L	0.05	0.0007		J

Analytical Results for Sampling Events at WB-14-520

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/23/2021	8260_LL	2108231025Y	Trichloroethene (TCE)	0.26	ug/L	0.5	0.2		J
8/23/2021	8260_LL	2108231025Y	Vinyl Chloride	0.29	ug/L	0.5	0.2		J
8/23/2021	8260_LL	2108231025Y	Tetrahydrofuran (THF)	9.9	ug/L	5	1.7		
8/23/2021	8260_LL	2108231025Y	Chloromethane	0.34	ug/L	0.5	0.28		J A TB
8/23/2021	8260_LL	2108231025Y	2-Propanol	11	ug/L	40	3.4		J TB
8/23/2021	METALS	2108231105Y	Barium, Total	0.004	mg/L	0.02	0.003		J
8/23/2021	METALS	2108231105Y	Zinc, Total	0.006	mg/L	0.02	0.003		J
8/23/2021	METALS	2108231105Y	Vanadium, Total	0.011	mg/L	0.05	0.0007		J
8/23/2021	METALS	2108231105Y	Strontium, Total	0.51	mg/L	0.1	0.002		
8/23/2021	METALS	2108231105Y	Sodium, Total	96.6	mg/L	1	0.2		
8/23/2021	METALS	2108231105Y	Potassium, Total	1.9	mg/L	2	0.4		J
8/23/2021	METALS	2108231105Y	Molybdenum, Total	0.019	mg/L	0.025	0.003		J
8/23/2021	METALS	2108231105Y	Magnesium, Total	12	mg/L	1	0.03		
8/23/2021	METALS	2108231105Y	Arsenic, Total	0.0013	mg/L	0.001	0.0004		
8/23/2021	METALS	2108231105Y	Boron, Total	0.17	mg/L	0.2	0.02		J
8/23/2021	METALS	2108231105Y	Calcium, Total	33.2	mg/L	1	0.3		

Analytical Results for Sampling Events at WB-5-250

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/19/2021	8260	2108191500Y	Unknown	44	ug/L	NA	NA		TIC
8/19/2021	8260	2108191500Y	Carbon Disulfide	24	ug/L	1	0.42		
8/19/2021	8260	2108191500Y	Ethylbenzene	0.66	ug/L	1	0.2		J
8/19/2021	8260	2108191500Y	Styrene	0.3	ug/L	1	0.2		J
8/19/2021	8260	2108191500Y	Unknown	11	ug/L	NA	NA		TIC
8/19/2021	8260	2108191500Y	Sulfur Dioxide	150	ug/L	NA	NA		TIC EB
8/19/2021	METALS	2108191525Y	Manganese, Total	0.037	mg/L	0.01	0.004		
8/19/2021	METALS	2108191525Y	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
8/19/2021	METALS	2108191525Y	Barium, Total	0.08	mg/L	0.02	0.003		
8/19/2021	METALS	2108191525Y	Boron, Total	0.13	mg/L	0.2	0.02		J
8/19/2021	METALS	2108191525Y	Calcium, Total	111	mg/L	1	0.3		
8/19/2021	METALS	2108191525Y	Chromium, Total	0.01	mg/L	0.01	0.002		
8/19/2021	METALS	2108191525Y	Magnesium, Total	70	mg/L	1	0.03		
8/19/2021	METALS	2108191525Y	Potassium, Total	3.2	mg/L	2	0.4		
8/19/2021	METALS	2108191525Y	Sodium, Total	46.9	mg/L	1	0.2		
8/19/2021	METALS	2108191525Y	Strontium, Total	9.49	mg/L	0.1	0.002		
8/19/2021	METALS	2108191525Y	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
8/19/2021	METALS	2108191525Y	Zinc, Total	0.03	mg/L	0.02	0.003		
8/19/2021	METALS	2108191525Y	Iron, Total	0.14	mg/L	0.1	0.07		
8/19/2021	ANIONS	2108191526Y	Alkalinity, Total as CaCO3	619	mg/L	2	1.8		
8/19/2021	ANIONS	2108191526Y	Chloride	38.2	mg/L	2	0.5		
8/19/2021	ANIONS	2108191526Y	Fluoride, undistilled	0.82	mg/L	0.1	0.01		
8/19/2021	ANIONS	2108191526Y	Sulfate	2.4	mg/L	0.2	0.04		
8/19/2021	SM2540C	2108191548Y	Total Dissolved Solids (TDS)	706	mg/L	11	10		
8/19/2021	353.2	2108191550Y	Nitrate+Nitrite as Nitrogen	0.007	mg/L	0.05	0.002		J

Analytical Results for Sampling Events at WB-5-280

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/18/2021	8260	2108191305Y	Carbon Disulfide	17	ug/L	1	0.42		
8/18/2021	8260	2108191305Y	Unknown	20	ug/L	NA	NA		TIC
8/18/2021	8260	2108191305Y	Ethylbenzene	0.59	ug/L	1	0.2		J
8/18/2021	8260	2108191305Y	Sulfur Dioxide	77	ug/L	NA	NA		TIC
8/18/2021	METALS	2108191330Y	Barium, Total	0.028	mg/L	0.02	0.003		
8/18/2021	METALS	2108191330Y	Magnesium, Total	74.3	mg/L	1	0.03		
8/18/2021	METALS	2108191330Y	Boron, Total	0.13	mg/L	0.2	0.02		J
8/18/2021	METALS	2108191330Y	Potassium, Total	3.3	mg/L	2	0.4		
8/18/2021	METALS	2108191330Y	Sodium, Total	48.3	mg/L	1	0.2		
8/18/2021	METALS	2108191330Y	Strontium, Total	13.5	mg/L	0.5	0.009		
8/18/2021	METALS	2108191330Y	Zinc, Total	0.015	mg/L	0.02	0.003		J
8/18/2021	METALS	2108191330Y	Calcium, Total	126	mg/L	1	0.3		
8/18/2021	METALS	2108191330Y	Manganese, Total	0.009	mg/L	0.01	0.004		J
8/18/2021	METALS	2108191330Y	Chromium, Total	0.002	mg/L	0.01	0.002		J
8/18/2021	METALS	2108191330Y	Iron, Total	0.23	mg/L	0.1	0.07		

Analytical Results for Sampling Events at WB-5-345

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/17/2021	8260	2108180845Y	Sulfur Dioxide	35	ug/L	NA	NA		TIC
8/17/2021	8260	2108180845Y	Unknown	110	ug/L	NA	NA		TIC
8/17/2021	8260	2108180845Y	Ethylbenzene	0.29	ug/L	1	0.2		J
8/17/2021	8260	2108180845Y	Carbon Disulfide	20	ug/L	1	0.42		
8/17/2021	607	2108180846Y	N-Nitrosodimethylamine	0.0078	µg/L	0.0097	0.0049	44	J
8/17/2021	METALS	2108180920Y	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
8/17/2021	METALS	2108180920Y	Sodium, Total	50.1	mg/L	1	0.2		
8/17/2021	METALS	2108180920Y	Zinc, Total	0.054	mg/L	0.02	0.003		
8/17/2021	METALS	2108180920Y	Strontium, Total	14	mg/L	1	0.02		
8/17/2021	METALS	2108180920Y	Nickel, Total	0.004	mg/L	0.04	0.003		J
8/17/2021	METALS	2108180920Y	Manganese, Total	0.013	mg/L	0.01	0.004		
8/17/2021	METALS	2108180920Y	Magnesium, Total	76.9	mg/L	1	0.03		
8/17/2021	METALS	2108180920Y	Boron, Total	0.14	mg/L	0.2	0.02		J
8/17/2021	METALS	2108180920Y	Potassium, Total	3.5	mg/L	2	0.4		
8/17/2021	METALS	2108180920Y	Barium, Total	0.028	mg/L	0.02	0.003		
8/17/2021	METALS	2108180920Y	Calcium, Total	131	mg/L	1	0.3		
8/17/2021	METALS	2108180920Y	Iron, Total	0.38	mg/L	0.1	0.07		
8/17/2021	ANIONS	2108180921Y	Alkalinity, Total as CaCO3	400	mg/L	2	1.8		
8/17/2021	ANIONS	2108180921Y	Chloride	37.2	mg/L	2	0.5		
8/17/2021	ANIONS	2108180921Y	Fluoride, undistilled	1.8	mg/L	0.1	0.01		
8/17/2021	ANIONS	2108180921Y	Sulfate	282	mg/L	8	1.6		
8/17/2021	SM2540C	2108180922Y	Total Dissolved Solids (TDS)	898	mg/L	17	15		
8/17/2021	353.2	2108180924Y	Nitrate+Nitrite as Nitrogen	0.019	mg/L	0.05	0.002		J

Analytical Results for Sampling Events at WW-1-452

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/1/2021	NDMA_LL	2109091420B	N-Nitrosodimethylamine	0.55	ng/L	0.47	0.4		RB * FB

Analytical Results for Sampling Events at WW-2-489

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/8/2021	8260_LL	2109080955B	Chloromethane	0.28	ug/L	0.5	0.28		J RB A

Analytical Results for Sampling Events at WW-2-664

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/8/2021	NDMA_LL	2109081427B	N-Nitrosodimethylamine	1.8	ng/L	0.47	0.4		RB * FB

Analytical Results for Sampling Events at WW-3-469

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/1/2021	NDMA_LL	2109091500Y	N-Nitrodimethylamine	0.34	ng/L	0.49	0.2		J
9/1/2021	NDMA_LL	2109091500Y	N-Nitrosodimethylamine	2.3	ng/L	0.49	0.41		RB EB *

Analytical Results for Sampling Events at WW-3-569

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/1/2021	NDMA_LL	2109071555Y	N-Nitrosodimethylamine	7.1	ng/L	0.48	0.4		QD
9/1/2021	NDMA_LL	2109071555Y	N-Nitrodimethylamine	1.1	ng/L	0.48	0.2		
9/1/2021	NDMA_LL	2109071556Y	N-Nitrosodimethylamine	0.69	ng/L	0.48	0.4		RB EB QD

Analytical Results for Sampling Events at WW-5-459

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/19/2021	8260_LL	2110191046B	Toluene	0.86	ug/L	0.5	0.2		
10/19/2021	NDMA_LL	2110191310B	N-Nitrodimethylamine	0.35	ng/L	0.49	0.2		J
10/19/2021	NDMA_LL	2110191310B	N-Nitrosodimethylamine	4.5	ng/L	0.49	0.41		
10/19/2021	8270	2110191315B	Bis(2-ethylhexyl) Phthalate	56	ug/L	25	20		D
10/19/2021	8270	2110191315B	Unknown	180	ug/L	NA	NA		TIC
10/19/2021	8270	2110191315B	Unknown	4.4	ug/L	NA	NA		TIC RB
10/19/2021	METALS	2110191350B	Zinc, Total	0.656	mg/L	0.02	0.003		
10/19/2021	METALS	2110191350B	Boron, Total	0.1	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191350B	Sodium, Total	59.6	mg/L	1	0.2		
10/19/2021	METALS	2110191350B	Vanadium, Total	0.007	mg/L	0.05	0.0007		J
10/19/2021	METALS	2110191350B	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
10/19/2021	METALS	2110191350B	Thallium, Total	0.00007	mg/L	0.001	0.00004		J
10/19/2021	METALS	2110191350B	Calcium, Total	82.4	mg/L	1	0.3		
10/19/2021	METALS	2110191350B	Arsenic, Total	0.0017	mg/L	0.001	0.0004		
10/19/2021	METALS	2110191350B	Magnesium, Total	64.2	mg/L	1	0.03		
10/19/2021	METALS	2110191350B	Lead, Total	0.025	mg/L	0.05	0.003		J
10/19/2021	METALS	2110191350B	Strontium, Total	2.92	mg/L	0.1	0.002		
10/19/2021	METALS	2110191350B	Potassium, Total	3.5	mg/L	2	0.4		
10/19/2021	METALS	2110191350B	Barium, Total	0.026	mg/L	0.02	0.003		
10/19/2021	METALS	2110191350B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/19/2021	353.2	2110191351B	Nitrate+Nitrite as Nitrogen	1.05	mg/L	0.05	0.002		

Analytical Results for Sampling Events at WW-5-579

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/19/2021	8260_LL	2110191101B	Toluene	1.3	ug/L	0.5	0.2		
10/19/2021	607	2110191103B	Bromacil	0.0057	µg/L	0.0095	0.0048	111	J
10/19/2021	NDMA_LL	2110191325B	N-Nitrosodimethylamine	4.1	ng/L	0.49	0.41		
10/19/2021	METALS	2110191410B	Sodium, Total	70.9	mg/L	1	0.2		
10/19/2021	METALS	2110191410B	Lead, Total	0.016	mg/L	0.05	0.003		J
10/19/2021	METALS	2110191410B	Potassium, Total	3.4	mg/L	2	0.4		
10/19/2021	METALS	2110191410B	Magnesium, Total	55.2	mg/L	1	0.03		
10/19/2021	METALS	2110191410B	Strontium, Total	3.17	mg/L	0.1	0.002		
10/19/2021	METALS	2110191410B	Vanadium, Total	0.011	mg/L	0.05	0.0007		J
10/19/2021	METALS	2110191410B	Arsenic, Total	0.0013	mg/L	0.001	0.0004		
10/19/2021	METALS	2110191410B	Barium, Total	0.023	mg/L	0.02	0.003		
10/19/2021	METALS	2110191410B	Boron, Total	0.12	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191410B	Calcium, Total	76.9	mg/L	1	0.3		
10/19/2021	METALS	2110191410B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/19/2021	METALS	2110191410B	Zinc, Total	0.409	mg/L	0.02	0.003		QD
10/19/2021	METALS	2110191411B	Boron, Total	0.12	mg/L	0.2	0.02		J
10/19/2021	METALS	2110191411B	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
10/19/2021	METALS	2110191411B	Lead, Total	0.008	mg/L	0.05	0.003		J
10/19/2021	METALS	2110191411B	Magnesium, Total	53.4	mg/L	1	0.03		
10/19/2021	METALS	2110191411B	Calcium, Total	74.6	mg/L	1	0.3		
10/19/2021	METALS	2110191411B	Potassium, Total	3.3	mg/L	2	0.4		
10/19/2021	METALS	2110191411B	Sodium, Total	68.8	mg/L	1	0.2		
10/19/2021	METALS	2110191411B	Strontium, Total	3.09	mg/L	0.1	0.002		
10/19/2021	METALS	2110191411B	Vanadium, Total	0.011	mg/L	0.05	0.0007		J
10/19/2021	METALS	2110191411B	Zinc, Total	0.179	mg/L	0.02	0.003		QD
10/19/2021	METALS	2110191411B	Arsenic, Total	0.0014	mg/L	0.001	0.0004		
10/19/2021	METALS	2110191411B	Barium, Total	0.022	mg/L	0.02	0.003		

Analytical Results for Sampling Events at WW-5-809

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/20/2021	8260_LL	2110201051B	Silane, methoxytrimethyl-	5.7	ug/L	NA	NA		TIC FB
10/20/2021	8260_LL	2110201051B	Toluene	1.8	ug/L	0.5	0.2		
10/20/2021	NDMA_LL	2110201054B	N-Nitrosodimethylamine	1.3	ng/L	0.47	0.4		QD
10/20/2021	NDMA_LL	2110201055B	N-Nitrosodimethylamine	4.5	ng/L	0.49	0.41		QD
10/20/2021	NDMA_LL	2110201055B	N-Nitrodimethylamine	0.38	ng/L	0.49	0.2		J
10/20/2021	8270	2110201303B	Unknown Hydrocarbon	12	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201303B	Unknown	71	ug/L	NA	NA		TIC
10/20/2021	8270	2110201303B	Unknown Hydrocarbon	5.8	ug/L	NA	NA		TIC
10/20/2021	8270	2110201303B	Bis(2-ethylhexyl) Phthalate	14	ug/L	4.9	3.9		
10/20/2021	8270	2110201303B	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201303B	Unknown Hydrocarbon	10	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201303B	Unknown Hydrocarbon	7.2	ug/L	NA	NA		TIC
10/20/2021	8270	2110201303B	Unknown Hydrocarbon	9	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201303B	Unknown	7.1	ug/L	NA	NA		TIC RB
10/20/2021	METALS	2110201352B	Molybdenum, Total	0.011	mg/L	0.025	0.003		J
10/20/2021	METALS	2110201352B	Zinc, Total	0.105	mg/L	0.02	0.003		
10/20/2021	METALS	2110201352B	Vanadium, Total	0.017	mg/L	0.05	0.0007		J
10/20/2021	METALS	2110201352B	Strontium, Total	2.05	mg/L	0.1	0.002		
10/20/2021	METALS	2110201352B	Potassium, Total	3.8	mg/L	2	0.4		
10/20/2021	METALS	2110201352B	Magnesium, Total	35.3	mg/L	1	0.03		
10/20/2021	METALS	2110201352B	Arsenic, Total	0.0027	mg/L	0.001	0.0004		
10/20/2021	METALS	2110201352B	Chromium, Total	0.004	mg/L	0.01	0.002		J
10/20/2021	METALS	2110201352B	Sodium, Total	90.5	mg/L	1	0.2		
10/20/2021	METALS	2110201352B	Calcium, Total	61.3	mg/L	1	0.3		
10/20/2021	METALS	2110201352B	Boron, Total	0.22	mg/L	0.2	0.02		
10/20/2021	METALS	2110201352B	Barium, Total	0.022	mg/L	0.02	0.003		
10/20/2021	METALS	2110201352B	Lead, Total	0.006	mg/L	0.05	0.003		J

Analytical Results for Sampling Events at WW-5-909

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/20/2021	8260_LL	2110201032B	Toluene	1.5	ug/L	0.5	0.2		
10/20/2021	NDMA_LL	2110201104B	N-Nitrosodimethylamine	1.7	ng/L	0.48	0.4		
10/20/2021	NDMA_LL	2110201104B	N-Nitrodimethylamine	0.25	ng/L	0.48	0.2		J
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	11	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201328B	Benzenesulfonamide, N-butyl-	1100	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	9.2	ug/L	NA	NA		TIC
10/20/2021	8270	2110201328B	Unknown	6.4	ug/L	NA	NA		TIC
10/20/2021	8270	2110201328B	Unknown	6.9	ug/L	NA	NA		TIC
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	7	ug/L	NA	NA		TIC
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	14	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	17	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	13	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201328B	Unknown Hydrocarbon	4.2	ug/L	NA	NA		TIC
10/20/2021	8270	2110201328B	Unknown	5.9	ug/L	NA	NA		TIC RB
10/20/2021	8270	2110201328B	Unknown	15	ug/L	NA	NA		TIC
10/20/2021	METALS	2110201400B	Magnesium, Total	38.7	mg/L	1	0.03		
10/20/2021	METALS	2110201400B	Vanadium, Total	0.013	mg/L	0.05	0.0007		J
10/20/2021	METALS	2110201400B	Strontium, Total	2.4	mg/L	0.1	0.002		
10/20/2021	METALS	2110201400B	Sodium, Total	137	mg/L	1	0.2		
10/20/2021	METALS	2110201400B	Boron, Total	0.25	mg/L	0.2	0.02		
10/20/2021	METALS	2110201400B	Barium, Total	0.018	mg/L	0.02	0.003		J
10/20/2021	METALS	2110201400B	Arsenic, Total	0.0032	mg/L	0.001	0.0004		
10/20/2021	METALS	2110201400B	Potassium, Total	5.3	mg/L	2	0.4		
10/20/2021	METALS	2110201400B	Manganese, Total	0.036	mg/L	0.01	0.004		
10/20/2021	METALS	2110201400B	Chromium, Total	0.002	mg/L	0.01	0.002		J
10/20/2021	METALS	2110201400B	Calcium, Total	85.1	mg/L	1	0.3		
10/20/2021	METALS	2110201400B	Zinc, Total	0.013	mg/L	0.02	0.003		J
10/20/2021	METALS	2110201400B	Molybdenum, Total	0.009	mg/L	0.025	0.003		J

Appendix A.3
PFTS Indicator Parameters

Summary of Water Quality Parameters
for the Plume Front Sampling Events in this Reporting Period

Well ID	B650-EFF-1	Event Date	8/12/2021	
Sample	**Parameter**		**Result**	**Units**
2108120915	Conductivity		1123	µS/cm
2108120915	pH		7.56	NA
2108120915	Temperature		24.9	ºC
2108120915	Turbidity		0.34	NTU
2108161330	Conductivity		1142	µS/cm
2108161330	pH		7.54	NA
2108161330	Temperature		25.3	ºC
2108161330	Turbidity		0.29	NTU

Well ID	B650-EFF-1	Event Date	9/27/2021	
Sample	**Parameter**		**Result**	**Units**
2109270915	Conductivity		1116	µS/cm
2109270915	pH		8.52	NA
2109270915	Temperature		24.2	ºC
2109270915	Turbidity		0.75	NTU

Well ID	B650-EFF-1	Event Date	10/13/2021	
Sample	**Parameter**		**Result**	**Units**
2110131300	Conductivity		1110	µS/cm
2110131300	pH		8.40	NA
2110131300	Temperature		23.2	ºC
2110131300	Turbidity		0.64	NTU

Well ID	B650-INF-1	Event Date	8/12/2021	
Sample	**Parameter**		**Result**	**Units**
2108120935	Conductivity		1198	µS/cm
2108120935	pH		7.30	NA
2108120935	Temperature		24.6	ºC
2108120935	Turbidity		0.55	NTU

Well ID	B650-INF-1	Event Date	9/27/2021	
Sample	**Parameter**		**Result**	**Units**
2109270945	Conductivity		1122	µS/cm
2109270945	pH		7.92	NA
2109270945	Temperature		22.8	ºC
2109270945	Turbidity		1.22	NTU

Well ID	B650-INF-1	Event Date	10/13/2021	
Sample	**Parameter**		**Result**	**Units**
2110131306	Conductivity		1118	µS/cm
2110131306	pH		7.88	NA
2110131306	Temperature		22.4	ºC
2110131306	Turbidity		1.28	NTU

Well ID	PFE-1	Event Date	9/30/2021	
Sample	**Parameter**		**Result**	**Units**
2109301525	Conductivity		1225	µS/cm
2109301525	pH		8.55	NA
2109301525	Temperature		23.5	ºC
2109301525	Turbidity		2.49	NTU

Well ID	PFE-1	Event Date	10/18/2021	
Sample	**Parameter**		**Result**	**Units**
2110180901	Conductivity		1052	µS/cm
2110180901	pH		7.33	NA
2110180901	Temperature		24.6	ºC
2110180901	Turbidity		3.72	NTU

Well ID	PFE-2	Event Date	10/18/2021	
Sample	**Parameter**		**Result**	**Units**
2110180935	Conductivity		1154	µS/cm
2110180935	pH		7.44	NA
2110180935	Temperature		26.2	ºC
2110180935	Turbidity		0.34	NTU

Well ID	PFE-4A	Event Date	10/20/2021	
Sample	**Parameter**		**Result**	**Units**
2110200822	Conductivity		1093	µS/cm
2110200822	pH		7.40	NA
2110200822	Temperature		23.2	ºC
2110200822	Turbidity		1.37	NTU

Well ID	PFE-5	Event Date	10/20/2021	
Sample	**Parameter**		**Result**	**Units**
2110200757	Conductivity		1052	µS/cm
2110200757	pH		7.42	NA
2110200757	Temperature		24.5	ºC
2110200757	Turbidity		1.39	NTU

Well ID	PFE-7	Event Date	10/20/2021	
Sample	**Parameter**		**Result**	**Units**
2110200859	Conductivity		1112	µS/cm
2110200859	pH		7.14	NA
2110200859	Temperature		23.2	ºC
2110200859	Turbidity		0.32	NTU

Appendix A.4
PFTS Analytical Data

Detections for Plume Front Treatment System Sampling Events in this Reporting Period

Analytical Results for Sampling Events at B650-EFF-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/12/2021	607	2108120922	Bromacil	0.0058	µg/L	0.0096	0.0048	109	J
8/12/2021	NDMA_LL	2108120923	N-Nitrosodimethylamine	0.71	ng/L	0.48	0.44		RB * A FB
8/12/2021	NDMA_LL	2108120924	N-Nitrosodimethylamine	0.54	ng/L	0.49	0.45		RB * A FB
9/27/2021	8260_LL	2109270916	Chloromethane	0.42	ug/L	0.5	0.28		J RB FB
9/27/2021	607	2109270918	Bromacil	0.037	µg/L	0.0096	0.0048	136	
9/27/2021	NDMA_LL	2109270919	N-Nitrosodimethylamine	0.69	ng/L	0.48	0.4		RB * TB FB
10/13/2021	607	2110131303	Bromacil	0.018	µg/L	0.0094	0.0047	132	

Analytical Results for Sampling Events at B650-INF-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/12/2021	8260	2108120940	Trichloroethene (TCE)	35	ug/L	1	0.2		
8/12/2021	8260	2108120940	1,1,2-Trichloro-1,2,2-Trifluoroethane	72	ug/L	1	0.2		
8/12/2021	8260	2108120940	Tetrachloroethene (PCE)	1.6	ug/L	1	0.21		
8/12/2021	8260	2108120940	Trichlorofluoromethane (CFC 11)	36	ug/L	1	0.24		
8/12/2021	8260	2108120940	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.25	ug/L	1	0.2		J
8/12/2021	607	2108120942	N-Nitrodimethylamine	0.061	µg/L	0.0097	0.0049	93	
8/12/2021	607	2108120942	Bromacil	0.032	µg/L	0.0097	0.0049	109	
8/12/2021	607	2108120942	N-Nitrosodimethylamine	0.087	µg/L	0.0097	0.0049	43	
9/27/2021	8260	2109270946	Trichloroethene (TCE)	13	ug/L	1	0.2		
9/27/2021	8260	2109270946	Tetrachloroethene (PCE)	0.57	ug/L	1	0.21		J
9/27/2021	8260	2109270946	1,1,2-Trichloro-1,2,2-Trifluoroethane	14	ug/L	1	0.2		
9/27/2021	8260	2109270946	Trichlorofluoromethane (CFC 11)	8.3	ug/L	1	0.24		
9/27/2021	607	2109270948	N-Nitrosodimethylamine	0.068	µg/L	0.0099	0.005	61	
9/27/2021	607	2109270948	N-Nitrodimethylamine	0.053	µg/L	0.0099	0.005	110	
9/27/2021	607	2109270948	Bromacil	0.05	µg/L	0.0099	0.005	136	
10/13/2021	8260	2110131307	1,1,2-Trichloro-1,2,2-Trifluoroethane	2	ug/L	1	0.2		
10/13/2021	8260	2110131307	2-Propanol	3.4	ug/L	50	3.4		J
10/13/2021	8260	2110131307	Trichloroethene (TCE)	2.7	ug/L	1	0.2		
10/13/2021	8260	2110131307	Trichlorofluoromethane (CFC 11)	1.7	ug/L	1	0.24		
10/13/2021	607	2110131309	N-Nitrodimethylamine	0.017	µg/L	0.0097	0.0049	101	
10/13/2021	607	2110131309	N-Nitrosodimethylamine	0.033	µg/L	0.0097	0.0049	58	
10/13/2021	607	2110131309	Bromacil	0.0087	µg/L	0.0097	0.0049	132	J
10/13/2021	607	2110131310	N-Nitrosodimethylamine	0.03	µg/L	0.0098	0.0049	58	
10/13/2021	607	2110131310	N-Nitrodimethylamine	0.017	µg/L	0.0098	0.0049	101	
10/13/2021	607	2110131310	Bromacil	0.0069	µg/L	0.0098	0.0049	132	J

Analytical Results for Sampling Events at PFE-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
9/30/2021	8260	2109301530	Trichloroethene (TCE)	4	ug/L	1	0.2		
9/30/2021	8260	2109301530	Chloromethane	0.28	ug/L	2	0.28		J RB
9/30/2021	8260	2109301530	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.9	ug/L	1	0.2		
9/30/2021	8260	2109301530	Unknown	5.3	ug/L	NA	NA		TIC
9/30/2021	8260	2109301530	Unknown	5.5	ug/L	NA	NA		TIC
9/30/2021	8260	2109301530	Trichlorofluoromethane (CFC 11)	2.5	ug/L	1	0.24		
9/30/2021	607	2109301532	Bromacil	0.0048	µg/L	0.0095	0.0048	131	J
9/30/2021	607	2109301532	N-Nitrodimethylamine	0.03	µg/L	0.0095	0.0048	99	
9/30/2021	607	2109301532	N-Nitrosodimethylamine	0.055	µg/L	0.0095	0.0048	55	
10/18/2021	8260	2110180907	2-Propanol	5.8	ug/L	50	3.4		J
10/18/2021	8260	2110180907	Tetrachloroethene (PCE)	0.32	ug/L	1	0.21		J
10/18/2021	8260	2110180907	Trichloroethene (TCE)	5.9	ug/L	1	0.2		
10/18/2021	8260	2110180907	Trichlorofluoromethane (CFC 11)	3.8	ug/L	1	0.24		
10/18/2021	8260	2110180907	Silane, fluorotrimethyl-	5.7	ug/L	NA	NA		TIC
10/18/2021	8260	2110180907	Silane, methoxytrimethyl-	5.9	ug/L	NA	NA		TIC
10/18/2021	8260	2110180907	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.5	ug/L	1	0.2		
10/18/2021	8260	2110180908	Trichloroethene (TCE)	5.2	ug/L	1	0.2		
10/18/2021	8260	2110180908	Trichlorofluoromethane (CFC 11)	3.5	ug/L	1	0.24		
10/18/2021	8260	2110180908	Tetrachloroethene (PCE)	0.25	ug/L	1	0.21		J
10/18/2021	8260	2110180908	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.3	ug/L	1	0.2		
10/18/2021	607	2110180911	Bromacil	0.026	µg/L	0.0096	0.0048	120	
10/18/2021	607	2110180911	N-Nitrodimethylamine	0.031	µg/L	0.0096	0.0048	89	
10/18/2021	607	2110180911	N-Nitrosodimethylamine	0.063	µg/L	0.0096	0.0048	53	
10/18/2021	METALS	2110180912	Zinc, Total	0.04	mg/L	0.02	0.003		
10/18/2021	METALS	2110180912	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
10/18/2021	METALS	2110180912	Potassium, Total	4.3	mg/L	2	0.4		
10/18/2021	METALS	2110180912	Sodium, Total	57.6	mg/L	1	0.2		
10/18/2021	METALS	2110180912	Strontium, Total	2.42	mg/L	0.1	0.002		
10/18/2021	METALS	2110180912	Vanadium, Total	0.006	mg/L	0.05	0.0007		J
10/18/2021	METALS	2110180912	Iron, Total	0.08	mg/L	0.1	0.07		J
10/18/2021	METALS	2110180912	Copper, Total	0.006	mg/L	0.02	0.004		J
10/18/2021	METALS	2110180912	Calcium, Total	88.6	mg/L	1	0.3		
10/18/2021	METALS	2110180912	Boron, Total	0.09	mg/L	0.2	0.02		J
10/18/2021	METALS	2110180912	Magnesium, Total	54.5	mg/L	1	0.03		
10/18/2021	METALS	2110180912	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
10/18/2021	METALS	2110180912	Barium, Total	0.03	mg/L	0.02	0.003		

Analytical Results for Sampling Events at PFE-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/18/2021	ANIONS	2110180913	Sulfate	353	mg/L	8	1.6		
10/18/2021	ANIONS	2110180913	Alkalinity, Total as CaCO3	193	mg/L	2	1.8		
10/18/2021	ANIONS	2110180913	Chloride	45.3	mg/L	2	0.5		
10/18/2021	ANIONS	2110180913	Fluoride, undistilled	0.53	mg/L	0.1	0.01		
10/18/2021	SM2540C	2110180914	Total Dissolved Solids (TDS)	719	mg/L	10	9		
10/18/2021	6850	2110180915	Perchlorate	0.33	ug/L	0.2	0.06		
10/18/2021	353.2	2110180916	Nitrate+Nitrite as Nitrogen	0.999	mg/L	0.05	0.002		

Analytical Results for Sampling Events at PFE-2

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/18/2021	8260	2110180941	Tetrachloroethene (PCE)	3.1	ug/L	1	0.21		
10/18/2021	8260	2110180941	Trichloroethene (TCE)	67	ug/L	1	0.2		
10/18/2021	8260	2110180941	Trichlorofluoromethane (CFC 11)	62	ug/L	1	0.24		
10/18/2021	8260	2110180941	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.41	ug/L	1	0.2		J
10/18/2021	8260	2110180941	1,1,2-Trichloro-1,2,2-Trifluoroethane	120	ug/L	1	0.2		
10/18/2021	8260	2110180941	Dichlorofluoromethane (CFC 21)	0.23	ug/L	1	0.2		J
10/18/2021	607	2110180943	N-Nitrosodimethylamine	0.2	µg/L	0.0095	0.0048	53	
10/18/2021	607	2110180943	N-Nitrodimethylamine	0.11	µg/L	0.0095	0.0048	89	
10/18/2021	607	2110180943	Bromacil	0.027	µg/L	0.0095	0.0048	120	

Analytical Results for Sampling Events at PFE-4A

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/20/2021	8260	2110200827	Trichlorofluoromethane (CFC 11)	1.1	ug/L	1	0.24		
10/20/2021	8260	2110200827	Trichloroethene (TCE)	1.2	ug/L	1	0.2		
10/20/2021	8260	2110200827	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.5	ug/L	1	0.2		
10/20/2021	607	2110200829	N-Nitrodimethylamine	0.007	µg/L	0.01	0.005	91	J
10/20/2021	607	2110200829	N-Nitrosodimethylamine	0.009	µg/L	0.01	0.005	50	J
10/20/2021	607	2110200829	Bromacil	0.021	µg/L	0.01	0.005	111	

Analytical Results for Sampling Events at PFE-5

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/20/2021	8260	2110200804	Dichlorofluoromethane (CFC 21)	0.51	ug/L	1	0.2		J
10/20/2021	8260	2110200804	Trichlorofluoromethane (CFC 11)	38	ug/L	1	0.24		
10/20/2021	8260	2110200804	Tetrachloroethene (PCE)	3.3	ug/L	1	0.21		
10/20/2021	8260	2110200804	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.66	ug/L	1	0.2		J
10/20/2021	8260	2110200804	Chloromethane	0.28	ug/L	2	0.28		J RB
10/20/2021	8260	2110200804	2-Propanol	5.3	ug/L	50	3.4		J FB
10/20/2021	8260	2110200804	1,1,2-Trichloro-1,2,2-Trifluoroethane	28	ug/L	1	0.2		
10/20/2021	8260	2110200804	Trichloroethene (TCE)	74	ug/L	1	0.2		
10/20/2021	607	2110200806	Bromacil	0.09	µg/L	0.0095	0.0048	111	
10/20/2021	607	2110200806	N-Nitrosodimethylamine	0.53	µg/L	0.0095	0.0048	50	
10/20/2021	607	2110200806	N-Nitrodimethylamine	0.29	µg/L	0.0095	0.0048	91	

Analytical Results for Sampling Events at PFE-7

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
10/20/2021	8260	2110200907	1,1,2-Trichloro-1,2,2-Trifluoroethane	5.5	ug/L	1	0.2		
10/20/2021	8260	2110200907	Trichloroethene (TCE)	4.9	ug/L	1	0.2		
10/20/2021	8260	2110200907	Trichlorofluoromethane (CFC 11)	4.6	ug/L	1	0.24		
10/20/2021	NDMA_LL	2110200910	N-Nitrosodimethylamine	1.6	ng/L	0.48	0.4		FB
10/20/2021	NDMA_LL	2110200910	N-Nitrodimethylamine	0.61	ng/L	0.48	0.2		
10/20/2021	NDMA_LL	2110200911	N-Nitrosodimethylamine	1.5	ng/L	0.5	0.42		FB

Appendix A.5
MPITS Indicator Parameters

Summary of Water Quality Parameters
for the Mid-plume Sampling Events in this Reporting Period

Well ID **B655-EFF-2** **Event Date** **8/12/2021**

Sample	Parameter	Result	Units
2108121000	Conductivity	1122	µS/cm
2108121000	pH	7.71	NA
2108121000	Temperature	24.7	ºC
2108121000	Turbidity	0.49	NTU

Well ID **B655-EFF-2** **Event Date** **9/13/2021**

Sample	Parameter	Result	Units
2109130940	Conductivity	1140	µS/cm
2109130940	pH	7.48	NA
2109130940	Temperature	25.6	ºC
2109130940	Turbidity	0.11	NTU

Well ID **B655-EFF-2** **Event Date** **10/19/2021**

Sample	Parameter	Result	Units
2110191006	Conductivity	1436	µS/cm
2110191006	pH	8.22	NA
2110191006	Temperature	23.0	ºC
2110191006	Turbidity	0.74	NTU

Well ID **B655-INF-2** **Event Date** **8/12/2021**

Sample	Parameter	Result	Units
2108121020	Conductivity	1218	µS/cm
2108121020	pH	7.75	NA
2108121020	Temperature	25.7	ºC
2108121020	Turbidity	2.35	NTU

Well ID **B655-INF-2** **Event Date** **9/13/2021**

Sample	Parameter	Result	Units
2109130934	Conductivity	1148	µS/cm
2109130934	pH	7.88	NA
2109130934	Temperature	25.8	ºC
2109130934	Turbidity	0.48	NTU

Well ID **B655-INF-2** **Event Date** **10/19/2021**

Sample	Parameter	Result	Units
2110191020	Conductivity	1064	µS/cm
2110191020	pH	7.18	NA
2110191020	Temperature	22.9	ºC
2110191020	Turbidity	1.90	NTU

Well ID	MPE-1	Event Date	8/16/2021	
Sample	**Parameter**		**Result**	**Units**
2108160920	Conductivity		1248	µS/cm
2108160920	pH		7.31	NA
2108160920	Temperature		25.1	ºC
2108160920	Turbidity		0.65	NTU

Well ID	MPE-10	Event Date	8/16/2021	
Sample	**Parameter**		**Result**	**Units**
2108161215	Conductivity		1202	µS/cm
2108161215	pH		8.13	NA
2108161215	Temperature		28.3	ºC
2108161215	Turbidity		1.03	NTU

Well ID	MPE-11	Event Date	8/16/2021	
Sample	**Parameter**		**Result**	**Units**
2108161235	Conductivity		930	µS/cm
2108161235	pH		8.10	NA
2108161235	Temperature		28.7	ºC
2108161235	Turbidity		2.92	NTU

Well ID	MPE-8	Event Date	8/16/2021	
Sample	**Parameter**		**Result**	**Units**
2108160940	Conductivity		1214	µS/cm
2108160940	pH		8.01	NA
2108160940	Temperature		25.7	ºC
2108160940	Turbidity		1.40	NTU

Well ID	MPE-9	Event Date	8/16/2021	
Sample	**Parameter**		**Result**	**Units**
2108160950	Conductivity		1191	µS/cm
2108160950	pH		8.16	NA
2108160950	Temperature		26.1	ºC
2108160950	Turbidity		0.96	NTU

Appendix A.6
MPITS Analytical Data

Detections for MPITS Sampling Events in this Reporting Period

Analytical Results for Sampling Events at B655-EFF-2

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/12/2021	8260_LL	2108121005	Bromomethane	0.87	ug/L	1	0.7		J
8/12/2021	8260_LL	2108121005	Chloromethane	0.56	ug/L	0.5	0.28		RB A FB
8/12/2021	8260_LL	2108121005	Trichloroethene (TCE)	2.2	ug/L	0.5	0.2		
8/12/2021	8260_LL	2108121005	Trichlorofluoromethane (CFC 11)	7.5	ug/L	0.5	0.24		
8/12/2021	8260_LL	2108121005	1,1,2-Trichloro-1,2,2-Trifluoroethane	9.7	ug/L	0.5	0.2		
8/12/2021	NDMA_LL	2108121009	N-Nitrosodimethylamine	1.4	ng/L	0.48	0.44		RB * A FB
9/13/2021	8260_LL	2109130941	Chloromethane	0.33	ug/L	0.5	0.28		J A
9/13/2021	607	2109130943	Bromacil	0.016	µg/L	0.0096	0.0048	140	
9/13/2021	NDMA_LL	2109130944	N-Nitrosodimethylamine	0.51	ng/L	0.49	0.41		RB FB
10/19/2021	607	2110191011	Bromacil	0.42	µg/L	0.0096	0.0048	111	
10/19/2021	NDMA_LL	2110191012	N-Nitrosodimethylamine	0.66	ng/L	0.48	0.4		

Analytical Results for Sampling Events at B655-INF-2

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/12/2021	8260	2108121025	Trichloroethene (TCE)	72	ug/L	1	0.2		
8/12/2021	8260	2108121025	1,1,2-Trichloro-1,2,2-Trifluoroethane	240	ug/L	2.5	0.5		
8/12/2021	8260	2108121025	Trichlorofluoromethane (CFC 11)	140	ug/L	1	0.24		
8/12/2021	8260	2108121025	Tetrachloroethene (PCE)	3.4	ug/L	1	0.21		
8/12/2021	8260	2108121025	Dichlorofluoromethane (CFC 21)	1.4	ug/L	1	0.2		
8/12/2021	8260	2108121025	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.2	ug/L	1	0.2		
8/12/2021	607	2108121027	N-Nitrosodimethylamine	2.6	µg/L	0.0099	0.005	43	
8/12/2021	607	2108121027	N-Nitrodimethylamine	1.3	µg/L	0.0099	0.005	93	
8/12/2021	607	2108121027	Bromacil	0.42	µg/L	0.0099	0.005	109	
9/13/2021	8260	2109130935	Chloromethane	0.28	ug/L	2	0.28		J A
9/13/2021	8260	2109130935	Dichlorofluoromethane (CFC 21)	1.2	ug/L	1	0.2		
9/13/2021	8260	2109130935	Tetrachloroethene (PCE)	2	ug/L	1	0.21		
9/13/2021	8260	2109130935	Trichloroethene (TCE)	40	ug/L	1	0.2		
9/13/2021	8260	2109130935	Trichlorofluoromethane (CFC 11)	89	ug/L	1	0.24		
9/13/2021	8260	2109130935	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.3	ug/L	1	0.2		
9/13/2021	8260	2109130935	1,1,2-Trichloro-1,2,2-Trifluoroethane	190	ug/L	1	0.2		
9/13/2021	607	2109130937	N-Nitrosodimethylamine	1.6	µg/L	0.0094	0.0047	58	
9/13/2021	607	2109130937	N-Nitrodimethylamine	0.82	µg/L	0.0094	0.0047	102.6	
9/13/2021	607	2109130937	Bromacil	0.3	µg/L	0.0094	0.0047	140	
10/19/2021	8260	2110191025	1,1,2-Trichloro-1,2,2-Trifluoroethane	190	ug/L	1	0.2		
10/19/2021	8260	2110191025	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.3	ug/L	1	0.2		
10/19/2021	8260	2110191025	Dichlorofluoromethane (CFC 21)	1.1	ug/L	1	0.2		
10/19/2021	8260	2110191025	Tetrachloroethene (PCE)	2.2	ug/L	1	0.21		
10/19/2021	8260	2110191025	Trichloroethene (TCE)	39	ug/L	1	0.2		
10/19/2021	8260	2110191025	Trichlorofluoromethane (CFC 11)	79	ug/L	1	0.24		
10/19/2021	607	2110191027	N-Nitrosodimethylamine	1.3	µg/L	0.0095	0.0048	50	
10/19/2021	607	2110191027	N-Nitrodimethylamine	0.67	µg/L	0.0095	0.0048	91	
10/19/2021	607	2110191027	Bromacil	0.22	µg/L	0.0095	0.0048	111	

Analytical Results for Sampling Events at MPE-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260	2108160925	Dichlorofluoromethane (CFC 21)	1.6	ug/L	1	0.2		
8/16/2021	8260	2108160925	1,1,2-Trichloro-1,2,2-Trifluoroethane	350	ug/L	2.5	0.5		
8/16/2021	8260	2108160925	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.6	ug/L	1	0.2		
8/16/2021	8260	2108160925	Trichlorofluoromethane (CFC 11)	150	ug/L	1	0.24		
8/16/2021	8260	2108160925	Tetrachloroethene (PCE)	3.3	ug/L	1	0.21		
8/16/2021	8260	2108160925	Dichlorodifluoromethane (CFC 12)	0.37	ug/L	1	0.21		J
8/16/2021	8260	2108160925	Chloromethane	0.38	ug/L	2	0.28		J RB A FB
8/16/2021	8260	2108160925	Trichloroethene (TCE)	75	ug/L	1	0.2		
8/16/2021	8260	2108160926	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.4	ug/L	1	0.2		
8/16/2021	8260	2108160926	1,1,2-Trichloro-1,2,2-Trifluoroethane	360	ug/L	2.5	0.5		
8/16/2021	8260	2108160926	2-Propanol	8.3	ug/L	50	3.4		J
8/16/2021	8260	2108160926	Chloromethane	0.46	ug/L	2	0.28		J RB A FB
8/16/2021	8260	2108160926	Dichlorofluoromethane (CFC 21)	1.4	ug/L	1	0.2		
8/16/2021	8260	2108160926	Tetrachloroethene (PCE)	3	ug/L	1	0.21		
8/16/2021	8260	2108160926	Trichloroethene (TCE)	70	ug/L	1	0.2		
8/16/2021	8260	2108160926	Trichlorofluoromethane (CFC 11)	140	ug/L	1	0.24		
8/16/2021	8260	2108160926	Unknown	9.7	ug/L	NA	NA		TIC
8/16/2021	8260	2108160926	Silane, methoxytrimethyl-	6.2	ug/L	NA	NA		TIC
8/16/2021	8260	2108160926	cis-1,2-Dichloroethene	0.34	ug/L	1	0.23		J
8/16/2021	607	2108160928	N-Nitrosodimethylamine	3.2	µg/L	0.0095	0.0048	44	
8/16/2021	607	2108160928	N-Nitrodimethylamine	1.8	µg/L	0.0095	0.0048	100	
8/16/2021	607	2108160928	Bromacil	0.62	µg/L	0.0095	0.0048	109	

Analytical Results for Sampling Events at MPE-10

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260	2108161220	1,1,2-Trichloro-1,2,2-Trifluoroethane	160	ug/L	1	0.2		
8/16/2021	8260	2108161220	Chloromethane	0.32	ug/L	2	0.28		J RB A
8/16/2021	8260	2108161220	Dichlorofluoromethane (CFC 21)	1.8	ug/L	1	0.2		
8/16/2021	8260	2108161220	Tetrachloroethene (PCE)	2.6	ug/L	1	0.21		
8/16/2021	8260	2108161220	Trichloroethene (TCE)	61	ug/L	1	0.2		
8/16/2021	8260	2108161220	Trichlorofluoromethane (CFC 11)	81	ug/L	1	0.24		
8/16/2021	8260	2108161220	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.7	ug/L	1	0.2		
8/16/2021	607	2108161222	N-Nitrosodimethylamine	3	µg/L	0.0095	0.0048	44	
8/16/2021	607	2108161222	N-Nitrodimethylamine	1.5	µg/L	0.0095	0.0048	100	
8/16/2021	607	2108161222	Bromacil	0.37	µg/L	0.0095	0.0048	109	
8/16/2021	607	2108161223	N-Nitrosodimethylamine	2.9	µg/L	0.0095	0.0048	44	
8/16/2021	607	2108161223	N-Nitrodimethylamine	1.5	µg/L	0.0095	0.0048	100	
8/16/2021	607	2108161223	Bromacil	0.36	µg/L	0.0095	0.0048	109	

Analytical Results for Sampling Events at MPE-11

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260	2108161240	1,1,2-Trichloro-1,2,2-Trifluoroethane	12	ug/L	1	0.2		
8/16/2021	8260	2108161240	Chloromethane	0.3	ug/L	2	0.28		J RB A FB
8/16/2021	8260	2108161240	Dichlorofluoromethane (CFC 21)	0.67	ug/L	1	0.2		J
8/16/2021	8260	2108161240	Trichloroethene (TCE)	4.3	ug/L	1	0.2		
8/16/2021	8260	2108161240	Trichlorofluoromethane (CFC 11)	8	ug/L	1	0.24		
8/16/2021	8260	2108161240	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.83	ug/L	1	0.2		J
8/16/2021	8260	2108161241	Trichloroethene (TCE)	4	ug/L	1	0.2		
8/16/2021	8260	2108161241	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.83	ug/L	1	0.2		J
8/16/2021	8260	2108161241	Tetrachloroethene (PCE)	0.27	ug/L	1	0.21		J
8/16/2021	8260	2108161241	Dichlorofluoromethane (CFC 21)	0.65	ug/L	1	0.2		J
8/16/2021	8260	2108161241	Chloromethane	0.4	ug/L	2	0.28		J RB A FB
8/16/2021	8260	2108161241	1,1,2-Trichloro-1,2,2-Trifluoroethane	10	ug/L	1	0.2		
8/16/2021	8260	2108161241	Trichlorofluoromethane (CFC 11)	7	ug/L	1	0.24		
8/16/2021	607	2108161243	N-Nitrosodimethylamine	0.13	µg/L	0.0095	0.0048	44	
8/16/2021	607	2108161243	N-Nitrodimethylamine	0.062	µg/L	0.0095	0.0048	100	
8/16/2021	607	2108161243	Bromacil	0.0076	µg/L	0.0095	0.0048	109	J
8/16/2021	607	2108161244	N-Nitrosodimethylamine	0.13	µg/L	0.0095	0.0048	44	
8/16/2021	607	2108161244	N-Nitrodimethylamine	0.065	µg/L	0.0095	0.0048	100	
8/16/2021	607	2108161244	Bromacil	0.0067	µg/L	0.0095	0.0048	109	J

Analytical Results for Sampling Events at MPE-8

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260	2108160945	Trichloroethene (TCE)	71	ug/L	1	0.2		
8/16/2021	8260	2108160945	Trichlorofluoromethane (CFC 11)	150	ug/L	1	0.24		
8/16/2021	8260	2108160945	Dichlorofluoromethane (CFC 21)	1.4	ug/L	1	0.2		
8/16/2021	8260	2108160945	1,1,2-Trichloro-1,2,2-Trifluoroethane	350	ug/L	2.5	0.5		
8/16/2021	8260	2108160945	Tetrachloroethene (PCE)	3.4	ug/L	1	0.21		
8/16/2021	8260	2108160945	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.3	ug/L	1	0.2		
8/16/2021	607	2108160947	N-Nitrosodimethylamine	2.3	µg/L	0.0096	0.0048	44	
8/16/2021	607	2108160947	N-Nitrodimethylamine	1.2	µg/L	0.0096	0.0048	100	
8/16/2021	607	2108160947	Bromacil	0.37	µg/L	0.0096	0.0048	109	

Analytical Results for Sampling Events at MPE-9

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
8/16/2021	8260	2108160955	1,1,2-Trichloro-1,2,2-Trifluoroethane	52	ug/L	1	0.2		
8/16/2021	8260	2108160955	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.7	ug/L	1	0.2		
8/16/2021	8260	2108160955	Trichlorofluoromethane (CFC 11)	54	ug/L	1	0.24		
8/16/2021	8260	2108160955	Trichloroethene (TCE)	87	ug/L	1	0.2		
8/16/2021	8260	2108160955	Tetrachloroethene (PCE)	3.2	ug/L	1	0.21		
8/16/2021	8260	2108160955	Chloromethane	0.38	ug/L	2	0.28		J RB A FB
8/16/2021	8260	2108160955	Dichlorofluoromethane (CFC 21)	1.7	ug/L	1	0.2		
8/16/2021	607	2108160957	Bromacil	0.51	µg/L	0.0097	0.0049	109	
8/16/2021	607	2108160957	N-Nitrosodimethylamine	4.2	µg/L	0.0097	0.0049	44	
8/16/2021	607	2108160957	N-Nitrodimethylamine	2.2	µg/L	0.0097	0.0049	100	

Appendix A.7
Drinking Water Sampling Events

Summary of Water Quality Parameters
for the Drinking Water Well Sampling Events in this Reporting Period

Well ID WELL K **Event Date** 11/13/2020

Sample	Parameter	Result	Units
2011130930	Conductivity	1005	µS/cm
2011130930	pH	7.64	NA
2011130930	Temperature	23.3	ºC
2011130930	Turbidity	0.79	NTU

Well ID WELL K **Event Date** 12/3/2020

Sample	Parameter	Result	Units
2012031315	Conductivity	996	µS/cm
2012031315	pH	7.67	NA
2012031315	Temperature	19.6	ºC
2012031315	Turbidity	1.77	NTU

Well ID WELL K **Event Date** 1/8/2021

Sample	Parameter	Result	Units
2101080910	Conductivity	1108	µS/cm
2101080910	pH	8.27	NA
2101080910	Temperature	22.5	ºC
2101080910	Turbidity	0.52	NTU

Well ID WELL K **Event Date** 2/5/2021

Sample	Parameter	Result	Units
2102050800	Conductivity	1092	µS/cm
2102050800	Temperature	19.8	ºC
2102050800	Turbidity	0.56	NTU

Well ID WELL K **Event Date** 3/1/2021

Sample	Parameter	Result	Units
2103011000	Conductivity	1288	µS/cm
2103011000	pH	7.64	NA
2103011000	Temperature	22.7	ºC
2103011000	Turbidity	0.16	NTU

Well ID WELL K **Event Date** 4/2/2021

Sample	Parameter	Result	Units
2104020740	Conductivity	1348	µS/cm
2104020740	pH	8.27	NA
2104020740	Temperature	19.2	ºC
2104020740	Turbidity	0.98	NTU

Well ID WELL K **Event Date** 5/3/2021

Sample	Parameter	Result	Units

2105030705	Conductivity	1062	µS/cm
2105030705	pH	7.99	NA
2105030705	Temperature	22.6	ºC
2105030705	Turbidity	1.34	NTU

Well ID WELL K **Event Date** 6/2/2021

Sample	Parameter	Result	Units
2106020715	Conductivity	1260	µS/cm
2106020715	pH	7.82	NA
2106020715	Temperature	23.5	ºC
2106020715	Turbidity	1.52	NTU

Well ID WELL K **Event Date** 7/6/2021

Sample	Parameter	Result	Units
2107061250	Conductivity	1052	µS/cm
2107061250	pH	7.84	NA
2107061250	Temperature	30.3	ºC
2107061250	Turbidity	0.44	NTU

Well ID WELL K **Event Date** 8/9/2021

Sample	Parameter	Result	Units
2108090715	Conductivity	1118	µS/cm
2108090715	pH	7.42	NA
2108090715	Temperature	24.2	ºC
2108090715	Turbidity	1.53	NTU

Well ID WELL K **Event Date** 9/13/2021

Sample	Parameter	Result	Units
2109131315	Conductivity	1045	µS/cm
2109131315	pH	8	NA
2109131315	Temperature	29.6	ºC
2109131315	Turbidity	0.27	NTU

Well ID WELL K **Event Date** 10/12/2021

Sample	Parameter	Result	Units
2110120825	Conductivity	1021	µS/cm
2110120825	pH	7.05	NA
2110120825	Temperature	20.4	ºC
2110120825	Turbidity	1.19	NTU

Well ID	WELL M	Event Date	11/10/2020	
Sample	**Parameter**		**Result**	**Units**
2011100730	Conductivity		890	µS/cm
2011100730	pH		7.35	NA
2011100730	Temperature		23.1	ºC
2011100730	Turbidity		1.18	NTU

Well ID	WELL M	Event Date	12/1/2020	
Sample	**Parameter**		**Result**	**Units**
2012010850	Conductivity		1054	µS/cm
2012010850	pH		7.87	NA
2012010850	Temperature		21	ºC
2012010850	Turbidity		2.6	NTU

Well ID	WELL M	Event Date	1/13/2021	
Sample	**Parameter**		**Result**	**Units**
2101130725	Conductivity		1043	µS/cm
2101130725	pH		7.75	NA
2101130725	Temperature		23.7	ºC
2101130725	Turbidity		1.84	NTU

Well ID	WELL M	Event Date	2/23/2021	
Sample	**Parameter**		**Result**	**Units**
2102230950	Conductivity		1072	µS/cm
2102230950	pH		7.48	NA
2102230950	Temperature		23.5	ºC
2102230950	Turbidity		0.51	NTU

Well ID	WELL M	Event Date	3/2/2021	
Sample	**Parameter**		**Result**	**Units**
2103020715	Conductivity		1280	µS/cm
2103020715	pH		7.72	NA
2103020715	Temperature		22.5	ºC
2103020715	Turbidity		2.66	NTU

Well ID	WELL M	Event Date	4/6/2021	
Sample	**Parameter**		**Result**	**Units**
2104060745	Conductivity		1074	µS/cm
2104060745	pH		7.9	NA
2104060745	Temperature		23.8	ºC
2104060745	Turbidity		0.86	NTU

Well ID	WELL M	Event Date	5/4/2021	
Sample	**Parameter**		**Result**	**Units**
2105040710	Conductivity		1071	µS/cm
2105040710	pH		7.89	NA

2105040710	Temperature	23.2	ºC
2105040710	Turbidity	2.34	NTU

Well ID WELL M **Event Date** 6/1/2021

Sample	Parameter	Result	Units
2106010710	Conductivity	1105	µS/cm
2106010710	pH	7.9	NA
2106010710	Temperature	23.9	ºC
2106010710	Turbidity	1.53	NTU

Well ID WELL M **Event Date** 7/7/2021

Sample	Parameter	Result	Units
2107070710	Conductivity	1136	µS/cm
2107070710	pH	8.19	NA
2107070710	Temperature	23.7	ºC
2107070710	Turbidity	1.57	NTU

Well ID WELL M **Event Date** 8/10/2021

Sample	Parameter	Result	Units
2108100725	Conductivity	1073	µS/cm
2108100725	pH	7.24	NA
2108100725	Temperature	24.3	ºC
2108100725	Turbidity	0.38	NTU

Well ID WELL M **Event Date** 9/14/2021

Sample	Parameter	Result	Units
2109140710	Conductivity	1040	µS/cm
2109140710	pH	8.61	NA
2109140710	Temperature	22.9	ºC
2109140710	Turbidity	0.64	NTU

Well ID WELL M **Event Date** 10/19/2021

Sample	Parameter	Result	Units
2110190920	Conductivity	1175	µS/cm
2110190920	pH	7.68	NA
2110190920	Temperature	23.5	ºC
2110190920	Turbidity	0.39	NTU

Appendix A.8
Detections for Drinking Water Sampling Events

Detections for Drinking Water Well Sampling Events in this Reporting Period

Analytical Results for Sampling Events at WELL K

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
11/13/2020	NDMA_LL	2011130947	N-Nitrosodimethylamine	0.23	ng/L	0.47	0.22		J FB
2/5/2021	NDMA_LL	2102050807	N-Nitrosodimethylamine	0.54	ng/L	0.48	0.33		FB
5/3/2021	8260_LL	2105030710	Unknown	5.2	ug/L				TIC RB FB
5/3/2021	8270	2105030715	Unknown	12	ug/L				TIC RB
5/3/2021	8270	2105030715	Unknown	160	ug/L				TIC RB
5/3/2021	8270	2105030715	Cyclohexane	51	ug/L				TIC RB
6/2/2021	8260_LL	2106020725	Chloromethane	0.31	ug/L	0.5	0.28		J
9/13/2021	8260_LL	2109131320	Chloromethane	0.29	ug/L	0.5	0.28		J A
9/13/2021	8260_LL	2109131320	2-Propanol	3.6	ug/L	40	3.4		J
10/12/2021	8260_LL	2110120830	Unknown	6	ug/L				TIC RB FB
10/12/2021	NDMA_LL	2110120832	N-Nitrosodimethylamine	0.74	ng/L	0.47	0.4		FB

Analytical Results for Sampling Events at WELL M

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/4/2021	8260_LL	2105040715	2-Propanol	5.8	ug/L	40	3.4		J
5/4/2021	8270	2105040720	Unknown	160	ug/L				TIC RB
5/4/2021	8270	2105040720	Cyclohexane	41	ug/L				TIC RB

Appendix B
Sampling Event Logbook Entries and Internal CoC Forms

Lacous Avalos & Robert Burrows present. Weather is cloudy & warm. This zone ill be sampled using 5 triple rinsed stainless steel sampling tubes. Surface ecks performed on probe # 2213 prior to sampling. Carboy G-2

30 Min Equipment Blanks

ample #	Analysis	Preserve	Container	lot	Lab
210812 0850 Y	VOA by 8260	HCl/Ice	(3) 40 ml vials	2596	ALS
— 0851 Y	Total Metals	HNO3/Ice	(2) 125 ml poly	0103501G	"

itial Parameters	Final
me - 210812 0935 Y	210812 1042 Y
- 7.02	7.55
mp - 22.8°C	27.4 (°C)
d - 1119 µS/cm	1278 (µS/cm)
rb - 0.86 NTU	0.56 (NTU's)
pre - 7.00/10.01 (23.2°)	6.95/9.73 (28.6°C)
post - 7.03/10.02	7.05/9.73
TW - 79.12'	79.30
	IDW - /gal

Meter ID	
PH/Cond	# 12
Turb	# 7
STD	44.3 NTU
RDG	46.4 NTU
LOT	9107
EXP	8/30/21

Buffers	lot	Exp
7	4007947	12/21
10	4101456	7/22

SAMPLES

ample #	Analysis	Preserve	Container	lot	lab
210812 1000 Y	VOA by 8260	HCl/Ice	(3) 40 ml vials	2596	ALS
— 1001 Y	607/Bromacil	Ice	(1) 1L Amber	0103561G	SPL
— 1085 Y	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS
— 1036 Y	Anions/Alk	Ice/Zero HS	"	NA	"
— 1037 Y	Perchlorate 6850	Ice/1/3 HS	(1) 125 ml poly	"	"

ans 1) 79.49	2) 79.42	3) 79.38	
41.77	41.79	41.75	
41.77	41.74	41.76	
79.47	79.42	79.36	

Continued from page

Read and Understood By

Signed — Date: 8/12/21

Signed — Date: 8-16-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/12/21 Page 1 of 1

Sample Location: 200-H-225

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	T. Metals	Anions/Alk	Perchlorate			Charge Number
210812085OY (EB)	3	A	X							XGMD
0851Y (EB)	2				X					
1000Y	3		X							
1001Y	1			X						
1035Y	2				X					
1036Y	2					X				
1037Y	1						X			

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/12/21 @ 1115		[signature]	8-16-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 202-H-331 ENV-0020

Notebook No. D64 # 128 y

Continued from page ____

Dan Halvorsen & Tony Torrez present. Weather is cloudy and cool. This well zone will be sampled using 5 triple rinsed Stainless Steel Sampling tubes. Surface checks performed on Probe # 2213 prior to Samplings. Carboy 62 in use.

30 minute equipment blanks

Sample #	Analysis	Preserv.	Container	Lot	Lab
210811 0820 y	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
—— 0821 y	Total metals	Ice/HNO3	(2) 125 ml Poly	21-01-21	"

Initial Parameters

Time = 210811 0905 y
pH = 7.85
Temp = 22.3 °C
DO = 2.31 mg/L
ORP = 1.04 mV's
pHpre = 7.04-10.03 (21.2°C)
pHpost = 7.03-10.04
Pmos = 12.57 psig
FLW =

Final Parameters

210811 1022 y
7.80
22.4
2.43
1.01
7.02-10.04
7.02-10.03
12.56

Meter ID

pH/Cond = 12
Turb = 7
SAL = 49.3
ORP = 49.6
Lot = 9/017
Exp = 8/21

Buffer	Lot	Exp
7		
10		

SAMPLES

Sample #	Analysis	Preserv.	Container	Lot	Lab
210811 0935 y	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
—— 0936 y	NDMA/DMS Bromacil by 607	Ice	(1) 1L Amber	108501	SRL
—— 1005 y	Total metals	Ice/HNO3	(2) 125 ml Poly	21-01-21	ALS
—— 1006 y	" (Dup)	"	"	"	"

PMS - 1) 126.41 2) 126.39 3) 126.38
100.17 100.16 100.16
100.08 100.09 100.14
126.40 126.40 126.38

Continued from page

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Signed

8-11-2021
Date

Signed

8-12-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-11-2021 Page 1 of 1

Sample Location: 200-H-331

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 300	600	multi 5					Charge Number: XBMD
210811 0820Y	EB	3	A	X							
0821Y	EB	2				X					
0935Y		3		X							
0936Y		1			X						
1005Y		2				Y					
1006Y	(D)	2				Y					

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-11-2021 1035		[signature]	8-12-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Tony Torrez present. Weather is cloudy and warm. This zone will be sampled using 5 tripple rinsed Stainless Steel Sampling tubes. Surface checks performed on probe #2213 prior to sampling.

30 minute equipment blanks (Comp 62)

Sample #	Analysis	Preserve	Container	LOT	LAB
210811 1415 y	VOA by 8260 NONHALOGEN	Ice/HCl	(3) 40 ml Vial	2583	ALS
—— 1416 y	Bromacil by 607	Ice	(1) 1L Amber	108501	SRL

Initial Parameters	Final Parameters	meter #0
Time = 210811 1450 y		pH/Cond = 12
pH = 7.29		Turb = 7
Temp = 24.3°C	*NO PARAMETERS TAKEN	" STD = 4/9.3
Cond = 2.33 ms/cm		" pOS = 4/9.7
Turb = 0.61 ntu's		" LOT = 9/1017
pH STD = 7.09. 10.10		" Exp = 8/21
pH pOS = 7.10 - 10.11 (33.8°C)		Buffer / LOT / Exp.
Temp = 12.56		7
ORP =		10

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
210811 1510 y	VOA by 8260 NONHALOGEN	Ice/HCl	(3) 40 ml Vial	2583	ALS
—— 1514	Bromacil by 607	Ice	(1) 1L Amber	108501	SRL
—— 1535 y	Total metals	Ice/HNO3	(3) 125 ml Poly	21-0121	ALS

Runs - 1) 170.12, 187.06, 187.06, 170.11
2) 170.06, 187.06, 187.05, 170.06
3) 170.04, 187.05, 187.03, 170.04

Continued from page

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WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-11-2021 Page 1 of 1

Sample Location: 200-H 433

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOC	607	metals					Charge Number
										XGMD
210811 1415 y EB	3	A	X							
1416 y EB	1	W		X						
1510 y	3		X							
1511 y	1			X						
1535 y	2				X					

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8-11-2021 1600			8-12-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Weather is cloudy & warm. This zone will be sampled using 5 triple sleeved stainless steel sample tubes. Surface checks performed on probe #2213 prior to sampling. Carboy G·2. Gen in use.

30. Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210816152OY	VOA by 8260LL	HCl/Ice	(3) 40 ml vials	2583	ALS

Initial Parameters		Final	Meter ID		
Time	210816155OY	210817105OY	PH/Cond	#12	
PH	7.97	8.14	Turb	# 7	
Temp	24.9°C	25.3°C		STD - 49.3 NTU	
Cond	412 uS/cm	453 uS/cm		20% - 48.9 NTU	
Turb	0.86 NTU	1.04 NTU		LOT - 91017	
PH pre	7.05/10.05 (30.8°C)	7.02/10.08 (26.3°C)		EXP - 8/30/21	
PH post	7.07/10.06	7.04/10.09			
Atmos	12.52 psia	12.64 psia	Buffers	lot	Exp
DTW	205.80'	205.90'	7	4007947	12/21
		IDW - 1 gal	10	4101E56	7/22

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210817085OY	VOA by 8260LL	HCl/Ice	(3) 40ml vials	2583	ALS
——— 0855Y	607/ Bromacil	Ice	(1) 1L Amber	0103501G	SRI
——— 1043Y	Total Metals	HNO3/Ice	(2) 125 ml poly	216121	ALS

Zone	1)	2)	3)	4)
	12.49	12.50	12.62	12.61
	31.11	31.20	29.46	26.22
	18.07	18.10	17.48	17.16
	12.59	12.63	12.62	12.62

Continued from page

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WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: ~~210~~ 8/16/21 Page 1 of 1

Sample Location: 400 · D · 195

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260 LL							Charge Number
Sample Number										
2108161520 4 (GB)	3	A	X							X6MD

Sample Location:

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*								Charge Number
Sample Number										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MS CH	8/16/21 @ 1600		Lori W Jumah	8-17-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/16/21 Page 1 of 1

Sample Location: 400 · D · 145

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	607/Bro	T. Metals					Charge Number
210817085014	3	A	X							VGMD
08514	1	↓		X						↓
10434	2	↓			X					

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/17/21 @ 1115		[signature]	8-18-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Arvalos & Robert Burrows present. Weather is partly cloudy & warm. This zone will be sampled using 5 triple rinsed stainless steel sampling tubes. Surface checks performed on probe # 2213 prior to sampling. Carboy C-2. Gen in use.

Trip Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210816 0800 Y	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2583	ALS

30-Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210816 0930 Y	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2583	ALS

Initial Parameters	Final	Meter ID
Time - 210816 1020 Y	210816 1410 Y	pH/Cond - # 12
pH - 8.24	7.58	Turb - # 7
Temp - 25.0 °C	25.7 °C	= STD - 49.3 NTU
Cond - 718 uS/cm	735 uS/cm	= EOD - 48.9 NTU
Turb - 0.71 NTU	0.53 NTU	= LOT - 91017
pH pre - 7.07 / 10.04 (25.2 °C)	7.05 / 10.06 (30.5 °C)	= exp - 8/30/21
pH post - 7.06 / 10.05	7.02 / 10.07	
DTW - 205.53'	205.80'	Buffers: 7 lot 4007947 exp 12/21; 10 lot 4101656 exp 7/22
Atmos - 12.50 psia	~~MS~~ ~~DUP~~ 12.52 psia	
	IDW - 1 gal	

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210816 1050 Y	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2583	ALS
— 1051 Y	607/Bromacil	Ice	(1) 1L Amber	0103501G	SRS
— 1325 Y	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS
— 1326 Y	Anions/Alk	Ice/Zero HS	"	N/A	"
— 1327 Y	TDS by SM2540C	Ice	(1) "	"	"
— 1328 Y	Perchlorate 6850	Ice/1/3 HS	"	"	"
— 1329 Y	NO2, NO3 by 353.2	H2SO4/Ice	(1) 250 ml poly	210430	"

Runs	1)	2)	3)	4)
	46.55	46.57	46.57	46.55
	61.57	61.35	61.40	61.24
	61.24	60.90	61.05	60.99
	46.67	46.68	46.60	46.56

Continued from page

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Signed — Date 8-17-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/16/21 Page 1 of 1

Sample Location: 400.0.175

Analytical Requirement: 8260 11 | L07 | T. Metals | Anion/Alk | TDS

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 11	L07	T. Metals	Anion/Alk	TDS			Charge Number
210816 0800Y (TB)	3	A	X							
0930Y (EB)	3		X							
1050Y	3		X							
1051Y	1			X						
1325Y	2				X					
1326Y	2					X				
1327Y	1	⊥					X			

Sample Location:

Analytical Requirement: Perchlorate | N02N03

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Perchlorate	N02N03						Charge Number
210816 1328Y	1	A	X							
1329Y	1	⊥		X						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MF WF	8/16/21 @ 1600		[signature]	8-17-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Weather is partly cloudy & hot. This zone will be sampled using 5 triple rinsed stainless steel sampling tubes. Surface checks performed on probe # 2213 prior to sampling. Carboy G·1.

30·Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210812143014	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2516	ALS

Initial Parameters		Final	Meter ID
Time	- 210812150014	210812155014	pH/Cond - #12
pH	- 8.30	8.19	Turb - #7
Temp	- 24.4°C	24.9°C	= STD - 99.3 NTU
Cond	- 689 µs/cm	764 µs/cm	= RDG - 46.4 NTU
Turb	- 1.40 NTU	1.97 NTU	= LOT - 9101K7
pH pre	- 7.04/10.02 (32.9°C)	7.04/10.06 (33.6°C)	= EXP. 8/30/21
pH post	- 7.06/10.07	7.07/10.07	
DTW	- 205.15'	205.53'	
		IDW · 1 gal	

Buffers	lot	Exp
7	4007947	12/21
10	4101E56	7/22

SAMPLES

Sample #	Analysis	Preserve	Container	lot	lab
210812152514	VOA by 8260 LL	HCl/Ice	(3) 40ml vials	2516	ALS
152614	= (MS)	=	=	=	=
152714	607/Bromacil	Ice	(1) 1L Amber	0143501G	SRL
154514	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS

Runs 1) 81.16 2) 81.08 3) 81.07
96.22 95.96 95.74
95.75 95.40 95.14
81.17 81.14 81.07

Continued from page

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WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/12/21 Page 1 of 1

Sample Location: 400-D-335

Analytical Requirement: 8260 LL | 607 | T. Metals

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	607	T. Metals					Charge Number
2108121430Y (EB)	3	A	X							XGMD
1525Y	3		X							
1526Y (MS)	3		X							
1527Y	1			X						
1545Y	2	—			X					

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/12/21 @ 1610		[signature]	8-16-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is cloudy and warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a dedicated Tygon discharge hose. Water quality parameters will be monitored using a QED MP 20 flowcell and water analyzer. Carboy #5 in use.

Initial DTW = 142.80 ft.
Final " = 143.17 ft.
FPW = ½ gal.

alibrations:
O Sensor = In Saturated air @ 642 mm/Hg.
H Sensor: using a 3 pt. (4,7,10) Buffer method.
onductivity: using a 1413 us/cm STD. Solution.
eedtek meter = #20 STD: 6.06 ROG: 6.10 LOT #9101? Exp: 8/21

Readings (T.mw)	Temp	Cond.	DO	PH	ORP	Turb.	DTW (ft)
210802 0950 c	28.07	1490	5.68	8.45	25	2.32	
— 0953 c	28.09	1486	5.66	8.41	23	2.20	
— 0955 c	28.13	1489	5.68	8.39	25	2.23	

SAMPLES

Matrix	Analysis	Preserv.	Container	LOT	LAB
210802 1000 c	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
— 1001 c	" " (Dup)	"	"	"	"
— 1002 c	" " (FB)	"	"	"	"
— 1003 c	DOM1/DOM2 Bromacil by 607	Ice	(1) 1L Amber	108501	SRL
— 1004 c	Total Metals	Ice/HNO3	(2) 125 ml Poly	N/A	ALS
— 1005 c	Anions/DIK	Ice	(2) "	"	"
— 1006 c	TDS by SM2540C	"	(1) "	"	"
— 1007 c	Perchlorate by 6850	"	(1) "	"	"
— 1008 c	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

NOTE: Well pumps water periodically. May be 40 ml. per purge.

Continued from page

Read and Understood By

Signed — 8-2-2021 Date — Signed — 8-3-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8.2.2021 Page 1 of 1

Sample Location: 400-EV-131

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	VOC	607	Metals	Anions/Alk	TDS			Charge Number
										X6M0
210802 1000 c	3	A	4							
1001 c	3		4							
1002 c FD	3		4							
1003 c	1			4						
1004 c	2				4					
1005 c	2					4				
1006 c	1						4			

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO3 / NO2						Charge Number
210802 1007 c	1	A	4							
1008 c	1			4						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8.2.2021 1115			8-3-21 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

n Halvorsen & Robert Burrows present. Weather is clear and warm. This
ll will be purged and sampled using a dedicated bladder pump. Samples
ll be Collected using a dedicated Tygon hose. Water quality parameters
ll be monitored using a QED MP-20 Flowcell and water analyzer.
day 65 in use.

Initial DTW = 131.58 ft
Final " = 131.90
IDW = 1 gal.

ibrations:
Sensor = In saturated air @ 642 mm Hg.
Sensor: Using a 3pt (4,7,10) Buffer Method.
ductivity = Using a 1413 us/cm STD. Solution.
idity Meter # 20 STD = 6.06 ROG = 6.10 LOT # 91017 Exp: 8/21

Markers (Time)	Temp	Cond	DO	pH	ORP	Turb	DTW (ft)
210803 0855 c	22.57	151	5.94	8.29	26	1.69	
— 0857 c	22.54	163	5.90	8.22	25	1.73	
— 0859 c	22.55	158	5.91	8.26	25	1.70	

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
210803 0900 c	VOCs by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
-0901 c	" " (FB)	"	"	"	"
-0902 c	Bromacil by 607	Ice	(1) 1L Amber	10850	SRL
-0903 c	Total Metals	Ice/HNO3	(2) 125 ml Poly	N/A	ALS
-0904 c	Anions/AIK	Ice	(2) "	"	"
-0905 c	TDS by SM2540 C	"	(1) "	"	"
-0906 c	Perchlorate by 6850	"	(1) "	"	"
-0907 c	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

Continued from page

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Signed — 8-3-2021 Date

Signed — 8-4-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-3-2021 Page 1 of 1

Sample Location: 400-GV-125

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	VOC	607	Metals	Anions/Alk	TDS	Perchlorate		Charge Number
										X6MD
210803090oc	3	A	Y							
0901c (FB)	3		Y							
0902c	1			Y						
0903c	2				Y					
0904c	2					Y				
0905c	1						Y			
0906c	1							Y		

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	NO3/NO3							Charge Number
210803090 7c	1	A	Y							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-3-2021 0950		[signature]	8-4-21 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is cloudy and hot. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a dedicated Tygon discharge hose. Water quality parameters will be monitored using a QED · mp20 Flowcell and water analyzer. Canbay 6.5 in use.

Calibrations:

Initial DTW = 146.50 ft.
Final " = 147.10
IDW = 1 gal.

DO Sensor = In saturated air @ 642 mm/Hg.
pH Sensor: using a 3 pt. (4,7,10) Buffer method.
conductivity = using a 1413 us/cm STD. Solution.
Turbidity meter = #20 STD = 6.06 RDG = 6.10 LOT #: 91017 Exp = 8/21

Parameters (Time)	Temp	Cond	DO	pH	ORP	Turb	DTW (ft)
210802 1408 c	24.67	225	3.07	8.26	9	3.82	
—— 1410 c	24.63	220	3.10	8.25	11	3.76	
—— 1412 c	24.66	226	3.10	8.28	11	3.80	

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
210802 1418 c	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
—— 1419 c	" " (FB)	"	"	"	"
—— 1420 c	DOMA/DMN Bromacil by 507	Ice	(1) 1L Amber	108501	SRL
—— 1421 c	" " (Dup)	"	"	"	"
—— 1422 c	Total metals	Ice/HNO3	(2) 125 ml Poly	N/A	ALS
—— 1423 c	Anions/Alk	Ice	"	"	"
—— 1424 c	TDS by SM 2540c	"	(1) "	"	"
—— 1425 c	Perchlorate by 6850	"	(1) "	"	"
—— 1426 c	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

Continued from page

Read and Understood By

8-2-2021 — 8-3-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8.2.2021 Page 1 of 1

Sample Location: 400-JV-150

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	UOR	LOT	metals	anions/alk	TDS			Charge Number
210802 1418 c	3	A	X							
1419 c	3		X							
1420 c	1			X						
1421 c	1			X						
1422 c	2				X					
1423 c	2					X				
1424 c	1						X			

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO3/NO2						Charge Number
210802 1425 c	1	A	X							
1426 c	1			X						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8.2.2021 1520		Jon W Lunch	8-3-21 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will purged using a dedicated bladder pump. Samples will be collected using a flon discharge hose. Water quality parameters will be monitored using a ED MP-20 flow cell and water analyzer. Carboy G3 in use.

alibrations
O - calibrated in saturated air @ 638 mm/Hg.
onductivity - calibrated using 1413 us/cm std solution.
H - calibrated using Oakton buffers (7-10).
rbidity meter #21 std - 57.3 rdg - 58.0 Lot - 91017 Exp - 8/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
210818 0730C	VOA by 8260	ice/HCl	(3)40ml vials	2598	ALS
—— 0731C	Low Level NDMA	ice	(1)1L Amber	0103501G	SRL

arameters (time)	temp (°C)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
) 210818 0915C	22.40	0.808	4.51	-88	9.37	1.30	311.79
) —— 0918C	22.41	0.816	4.44	-90	9.43	1.16	311.82
) —— 0921C	22.47	0.819	4.29	-90	9.48	1.09	311.86

Samples

ample	Analysis	Preservative	Container	Lot	Lab
210818 0925C	VOA by 8260	ice/HCl	(3)40ml vials	2598	ALS
—— 0926C	" (FB)	"	"	"	"
—— 0927C	607/Bromacil	ice	(1)1L Amber	0103501G	SRL
—— 0940C	Low Level NDMA	"	"	"	"
—— 0941C	" (FB)	"	"	"	"
—— 0952C	Total Metals	ice/HNO_3	(2)125ml poly's	21-01-21	ALS
—— 0953C	" (FB)	"	"	"	"
—— 0954C	Anions/Alk.	ice	N/A		"
—— 1005C	TDS by SM2540C	"	(1)125ml poly	"	"
—— 1006C	Perchlorate by 6850	"	"	"	"
—— 1007C	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1)250ml poly	~~21-03-05~~ 21-04-30	"

Initial DTW - 310.73 ft. Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 8/18/21 Date

Signed — 8-18-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/18/21 Page 1 of 1

Sample Location: 700-E-458

Sample Number	# of Containers	Sample Matrix*	8260	607	LL NDMA					Charge Number
210818 0730C (TB)	3	A	✓							XGMD
0731C (TB)	1	A			✓					"
0925C	3	A	✓							"
0926C (FB)	3	A	✓							"
0927C	1	A		✓						"
0940C	1	A			✓					"
0941C (FB)	1	A			✓					"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Total Metals	Anions/Alk.	TDS	Perchlorate	NO_3/NO_2			Charge Number
210818 0952C	2	A	✓							XGMD
0953C (FB)	2	A	✓							"
0954C	2	A		✓						"
1005C	1	A			✓					"
1006C	1	A				✓				"
1007C	1	A					✓			"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Tenno	8/18/21 1120 hrs.		Jon Munch	8-19-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

Tim Kondl + AL Montes present. Samples will be collected from dedicated sample port on EFF side of system. Sample port will be purged 1 min. prior to param. + sample collec Carboy G-3 in use.

Parameter	
Time	210812 0915
pH	7.56
Temp. (°C)	~~23~~ 24.9
Cond (uS/cm)	1123
TURB (NTU's)	0.34
pH pre	7.01 - 10.10
pH post	7.03 - 10.12

Meter ID	
pH/cond	73
TURB	21
" Std	57.3
" Rdg	56.4
" Lot#	91017
" Exp.	8-31-21

Buff	Lot#	Exp
7	400269[illegible]	8-
10	4001005	6-

Samples

Sample #	Analysis	Preserv	Cont.	Lot #	Lab
210812 0900	8260 LL (TB)	Ice HCl	(3) 40 ml Vial		ALS
— 0901	LL NDMA (TB)	Ice	(1) 1 LT Amber		SRL
— ~~0920~~	~~8260 LL~~	~~Ice HCl~~	~~(3) 40 ml Vial~~	8-16-21	ALS
— 0921	" (FB)	"	"		"
— 0922	NDMA/DMA/Biomass/1607	Ice	(1) 1 LT Amber		SRL
— 0923	LL NDMA	"	"		"
— 0924	" (Dup)	"	"		"
— 0925	" (FB)	"	"		"

* CANCELLED BOTH #210812 0920 / 210812 0921 BECAUSE ALL SAMPLES FOR 8260 LL WERE LABELED WITH THE SAME TIME. RESAMPLE FOR THOSE SAMPLES ONLY.

Continued from page

Read and Understood By

Signed — Date 8-12-2021 — Signed — Date 8-16-21

Tim Kondl + AL Montes present. Samples will be collected from a dedicated sample port on EFF side of system. Sample port will be purged for 1 hr prior to collecting parameters and samples. Cooler G-3

Parameters
Time — 210816 1330
pH - 7.54
Temp (°C) - 25.3
cond (uS/cm) - 1142
TURB (NTUs) - 0.29
pH pre - 7.05 - 10.11
pH post - 7.07 - 10.15

Meter ID
pH/Cond - 13
TURB - 21
" Std - 57.3
" Rdg - 56.5
" Lot* - 91017
" Exp - 8-31-21

Buff Lot*
7 - 4002691
10 - 4001005

Exp
8-22
6-22

Samples

Sample*	Analysis	Preserv	Cont.	Lot*	Lab
210816 1335	8260 22	ICE, HCL	(3) 40 ml Vial		ACS
— 1336	" FB	"	"		"

Continued from page

Read and Understood By

Tim Kondl — Signed — 8-16-2021 — Date
Lori Munch — Signed — 8-17-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-12-2021 Page _____ of _____

Sample Location: BG50-EFF

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	LCNDMA					Charge Number
210812 0900	3	A	X							
— 0901	1				X					
0920	3		X							
0921 (FB)	3		X							
0922	1			X						
0923	1				X					
0924 (Dup)	1				X					

SAMPLES DUMPED BECAUSE THEY WERE LABELED W/ SAME TIME.

Sample Location: BG50-EFF

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: LCNDMA							Charge Number
210812 0925	1	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8-12-21			

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-16-2021 Page _____ of _____

Sample Location: B650-EFF-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260							Charge Number
210816 1335	3	A	X							
1336 (FB)	3	A	X							

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Tom Kandy	8-16-2021		[signature]	8-17-21 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

* Parameters + Samples collected from detected port on INF side of system

Parameters

Time - 210812 0935
pH - 7.30
Cond (uS/cm) - 1198
Temp (°C) - 24.6
TURB (NTUs) - 0.55
pH pre - 7.01 - 10.10
pH post - 7.03 - 10.12

Sample #	Analysis	Samples Preserv.	Cont.	Lot #	Lab
210812 0940	8260	Ice, HCl	(3) 40 ml Vial		ALS
— 0941	" FB	"	"		"
— 0942	NDMA/PNP/Bromide/1607	Ice	(1) 1 Lt Amber		SRI

* Meter Info on previous page

Continued from page

Read and Understood By

Signed 8-12-2021 Date

Signed 8-16-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-12-2021 Page _____ of _____

Sample Location: B650 - INF-1

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
210812-0940		3	A	X							
— 0941		3		X							
— 0942		1			X						

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-12-21		[signature]	8-16-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Tim Kondy + AL Montes present. Samples will be collected from dedicated sample port on EFF side of system. Well to be purged 1 min prior to parameter and Sample collection.

Parameters	Meter ID		Buff	Lot #	Exp
Time - 210812 1000	pH/cond - 61		7	4002691	8-22
pH - 7.71	TURB - 21		10	4001005	6-22
Temp (C) - 24.7	" STD - 57.3				
cond (us/cm) - 1122	" Rdg - 56.4				
TURB (NTU's) - 0.49	" Lot # - 910 17				
pH pre - 7.05-10.12	" Exp - 8-31-21				
pH post - 7.06-10.15					

Sample #	Analysis	Samples Preserv	cont.	Lot #	Lab
210812 1005	8260 24	Ice, HCL	(3) 40 ml Vial		ALS
— 1006	" FB	"	"		"
— 1007	NDMA/DMA/Bromacil (60)	Ice	(1) 1 LT Amber		SRF
— 1008	" (FB)	"	"		"
— 1009	LL NDMA	"	"		"
— 1010	" (FB)	"	"		"

Continued from page

Read and Understood By

Signed — Date: 8-12-2021

Signed — Date: 8-16-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-12-2021 Page _____ of _____

Sample Location: B655 EFF

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	LC NH4					Charge Number
210812 1005	3	A	X							
1006 (FB)	3		X							
1007	1			X						
1008 (FB)	1			X						
1009	1				X					
1010 (FB)	1				X					

Sample Location: B655 - INF

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
210812 1025	3	A	X							
1026	3		X							
1027	1			X						

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	8-12-2021	[signature]	8-16-21 /0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Parameters + Samples collected FROM FWF dedicated port

Parameters

Time - ~~Post~~ 210812 1020
pH - 7.75
Temp (C) - 25.7
cond (us/cm) 1218
TURB (NTUs) 2.35
pH ~~Post~~ 7.05 - 10.12
pH post 7.06 - 10.15

Samples

Sample #	Analysis	Preserv	Cont.	Lot #	Lab
210812 1025	8260	ice, HCl	(3) 40 ml Vial		ACL
" 1026	" FB	"	"		"
" 1027	NDMA/PDMA/Promacil/607	ice	(1) 1 LT Amber		SRI

1 WIPE Refer notes on previous Page

Continued from page

Read and Understood By

Signed — Date 8-12-2021

Signed — Date 8-16-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-12-2021 Page _____ of _____

Sample Location: B655 EFF

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	2 metals					Charge Number
210812 1005	3	A	X							
— 1006 (FB)	3		X							
— 1007	1			X						
— 1008 (FB)	1			X						
— 1009	1				X					
— 1010 (FB)	1				X					

Sample Location: B655 - INF

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
210812-1025	3	A	X							
1026	3		X							
1027	1			X						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8-12-2021			8-16-21 /0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. This event will be a modified sampling procedure which requires minimal purging, but immediately collecting 3 sets of parameters.

Carboy G5 in use.

Calibrations

DO - calibrated in saturated air @ 639 mm/Hg.
Conductivity - calibrated using Oakton 1413 us/cm std. solution.
pH - calibrated using Oakton buffers (7+10).
Turbidity meter #20 std - 6.06 rdg - 6.13 lot-91017 Exp - 8/31/21

Parameters (time)	Temp (°C)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 210805 0850B	21.76	1.133	8.17	-24	8.40	2.20	339.12
2) ——— 0851B	21.85	1.148	7.83	-20	8.44	2.06	339.19
3) ——— 0852B	21.98	1.157	7.29	-18	8.45	1.75	339.27

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210805 0853B	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
——— 0854B	" (FB)	"	"	"	"
——— 0855B	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
——— 0856B	" (Dupl.)	"	"	"	"

Initial DTW - 338.64ft. Total gallons purged - 1/4

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 8/5/21 — Date

Peter W Munch — Signed — 8-5-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/5/21 Page 1 of 1

Sample Location: BLM-21-400

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
210805085 3B	3	A	✓							XGMD
0854B (FB)	3	A	✓							u
0855B	1	A		✓						u
0856B (Dupl.)	1	A		✓						u

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fierro	8/5/21 0950hrs		[signature]	8-9-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is partly cloudy and hot. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a dedicated Tygon discharge hose. Water quality parameters will be monitored using a QED MP-20 flowcell and water analyzer. Env Day 65 in use.

Initial DTW = 331.80 ft.
Final " = 332.15 ft.
1 DV = 4 gal

Calibrations:
Do Sensor = In Saturated air @ 642 mm/Hg.
PH Sensor = using a 3pt (4,7,10) Buffer method.
Conductivity = using a 1413 us/cm STD. Solution.
Turbidity Meter = #20 STD = 6.06 ROG = 6.10 LOT # = 9100 Exp = 8/21

Parameters (Time)	Temp	Cond	Do	PH	ORP	Turb	DTW (ft.)
210803 1410 C	22.46	1381	153	8.58	-2	1.33	
—— 1412 C	22.42	1380	157	8.53	-2	1.36	
—— 1414 C	22.43	1383	154	8.50	-3	1.31	

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
210803 1420 C	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
—— 1421 C	" " (Dup)	"	"	"	"
—— 1422 C	" " (FB)	"	"	"	"
—— 1423 C	NDMA/NDMN Bromacil by 607	Ice	(1) 1L Amber	108501	SRI
—— 1424 C	Total metals	Ice/HNO3	(2) 125 ml Poly	N/A	ALS

Blind Controls

Sample #	Analysis	Preserve	Container	LOT	LAB
210803 1426 C	VOA by 8260	Ice/HCl	(3) 40 ml Vial	21ERM125A	ALS
—— 1427 C	NDMA/NDMN Bromacil by 607	Ice	(1) 1L Amber	" B	SRI
—— 1428 C	Total metals	Ice/HNO3	(2) 125 ml Poly	" C	ALS

Continued from page

Read and Understood By

Signed 8-3-2021 Date Signed 8-4-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-3-2021 Page 1 of 1

Sample Location: Blm. 23-431

Sample Number	# of Containers	Sample Matrix*	VOC	607	metals					Charge Number
Pertinent Notes (if any)										XGMD
210803 1420 c	3	A	X							
1421 c	3		X							
1422 c FB	3		X							
1423 c	1			X						
1424 c	2				X					

Sample Location:

Sample Number	# of Containers	Sample Matrix*	VOC	607	metals					Charge Number
Pertinent Notes (if any)										
210803 1426 c BC	3	A	X							
1427 c BC	1	|		X						
1425 c BC	2	|			X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[illegible]	8-3-2021 1600		[signature]	8-4-21 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BLM-25-455 WJI ENV-0053

Notebook No. D32#119(B)

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be monitored using a standard PH/Cond. meter. DO & ORP will not be monitored during this event. Carboy G2 in use.

PH/Cond. meter # 13

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

PH pre - 7.03/10.06(22.1°)
PH post - 6.97/10.03

Turbidity meter # 21
Std - 57.3
rdg - 56.6
lot - 9107
Exp - 8/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
210803 0740B	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
—— 0741B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRL

Parameters (time)	temp (°c)	cond (us/cm)	PH	Turb (NTU's)	DTW (ft.)
210803 0950B	23.1	1028	7.49	0.73	339.45
—— 0953B	23.5	1020	7.53	0.65	339.51
—— 0956B	23.6	1017	7.57	0.62	339.58

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210803 1000B	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
—— 1001B	" (FB)	"	"	"	"
—— 1002B	GRO by 8015D	"	"	"	"
—— 1003B	607/Bromacil	ice	(1) 1L Amber	0103501G	SRL
—— 1004B	Low Level NDMA	"	"	"	"
—— 1005B	" (FB)	"	"	"	"
—— 1006B	SVOA by 8270D	"	(2) 1L Ambers	121420-1DK	ALS
—— 1007B	DRO by 8015D	"	(1) 1L Amber	"	"
—— 1008B	Total Metals	ice/HNO_3	(2) 125ml polys	21-01-21	"

Initial DTW - 339.00ft.

Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 8/3/21 — Date

Tom Unruh — Signed — 8-4-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/3/21 Page 1 of 1

Sample Location: BLM-25-455

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	GRO	607	LL NDMA				Charge Number
210803074OB (TB)	3	A	✓							XGMD
0741B (TB)	1	A				✓				u
1000B	3	A	✓							u
1001B (FB)	3	A	✓							u
1002B	3	A		✓						u
1003B	1	A			✓					u
1004B	1	A				✓				u

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	LL NDMA	SVOA	DRO	Total Metals				Charge Number
210803 1005B (FB)	1	A	✓							XGMD
1006B	2	A		✓						u
1007B	1	A			✓					u
1008B	2	A				✓				u

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeFeno	8/3/21 1120hrs.			8-4-21 /0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ny Torrez, Dan Halvorsen, Bob Tufts, & Craig Del Ferraro present. Weather is oudy & warm. This well will be purged and sampled using a FLUTe system. his zone will be purged 4-6 times every 15-30 minutes prior to sampling. amples will be collected using a dedicated teflon discharge hose. Purge essure set @ 281 psi and sample pressure set @ 252 psi. Bubbler set at psi and stable @ 8 psi. The first 350 ml collected just prior to sampling ill be discarded. Carboy G2 in use.

Initial Parameters
Time - 210809 1300B
H - 8.27
mp - 26.2 °C
ond - 1009 us/cm
urb - 0.47 NTU's
H pre - 6.92/9.94 (30.7 °C)
H post - 6.90/9.93

Final
Time - 210809 1659B
PH - ~~7.02~~ 7.37
Temp - 24.7 °C
Cond - 1021 us/cm
Turb - 0.60 NTU's
pH pre - 6.94/9.92 (32.8 °C)
pH post - 6.92/9.96
IDW - 7 gals.

Meter ID
pH/cond - 12
Turb - 7
" Std - 49.3
" rdg - 48.7
" lot - 91017
" Exp - 8/31/21

Buffers

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210809 1435B	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
1436B	" (FB)	"	"	"	"
1437B	607/Bromacil	ice	(1) 1L Amber	0103501G	SPL
1505B	Low Level NDMA	"	"	"	"
1550B	" (Dupl.)	"	"	"	"
1506B	" (FB)	"	"	"	"
1630B	SVOA by 8270D	"	(2) 1L Ambers	110920-1DK	ALS
1655B	Anions/Alk	"	(2) 125ml poly's	N/A	"
1656B	TDS by SM2540C	"	(1) 125ml poly	"	"
1657B	Perchlorate by 6850	"	"	"	"
1658B	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 8/9/21 — Date

Jon Munch — Signed — 8-10-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-9-21 Page 1 of 1

Sample Location: BIm-32-543

Analytical Requirement

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260	LINDA	607	SUOA				Charge Number
210809 1435 B		3	A	X							XGMD
1436 B	(FB)	3		X							
1437 B		1				X					
1505 B		1			X						
1506 B	(FB)	1			X						
1550 B	(Dup)	1			X						
1630 B		2					X				

Sample Location:

Analytical Requirement

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	ANIONS/ALK	TDS	PERCHLORATE	NO2/NO3				Charge Number
210809 1655 B		2	A	X							XGMD
1656 B		1			X						
1657 B		1				X					
1658 B		1					X				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeTemmerman	8/9/21 1720 hrs.		[signature]	8-10-21 / 1000 Hrs.

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Tony Torrez, Dan Halvorsen, Bob Tufts, and Craig Del Ferraro present. Weather is cloudy & warm. This well will be purged and sampled using a FLUTe system. This zone will be purged 4-6 times every 15-30 minutes prior to sampling. Samples will be collected using a dedicated teflon discharge hose. Purge pressure set @ 28 psi. and sample pressure set @ 25 psi. Bubbler set @ 3psi and stable @ 8psi. The first 350ml collected just prior to sampling will be discarded. Carboy G2 in use.

Initial Parameters

Time - 210809 1306B
PH - 8.11
Temp - 25.8°c
Cond - 947 us/cm
Turb - 0.53 NTU's
pH pre - 6.91/9.95 (30.9°c)
pH post - 6.88/9.94

Final

Time - 210809 1559B
PH - 7.95
Temp - 24.9°c
Cond - 959 us/cm
Turb - 0.54 NTU's
pH pre - 6.98/9.93 (32.0°c)
pH post - 6.95/9.93
IDW - 7 gals.

Meter ID

pH/Cond - 12
Turb - 7
" Std - 49.3
" rdg - 48.7
" lot - 91017
" Exp - 8/31/21

Buffers

	Lot	Exp
7	4007947	12/21
10	410E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210809 1445B	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
——— 1446B	" (FB)	"	"	"	"
——— 1447B	607/Bromacil	ice	(1) 1L Amber	0103501G	SRL
——— 1510B	Low Level NDMA	"	"	"	"
——— 1511B	" (FB)	"	"	"	"
——— 1535B	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
——— 1555B	Anions/Alk.	ice	"	N/A	"
——— 1556B	TDS by SM2540C	"	(1) 125ml poly	"	"
——— 1557B	Perchlorate by 6850	"	"	"	"
——— 1558B	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 8/9/21 — Date

Lori W Munch — Signed — 8-10-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-9-21 Page 1 of 1

Sample Location: Blm. 32. 571

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	CLNDA	TOTAL METALS	ANIONS			Charge Number
										X6MS
210809 1445B	3	A	X							
1446B (FB)	3	|	X							
1447B	1	|		X						
1510B	1	|			X					
1511B (FB)	1	|			X					
1535B	2	|				X				
1555B	2	|					X			

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: TDS	PERCHLORATES	NO2/NO3					Charge Number
										XGMD
210809 1556B	1	A	X							
1557B	1	|		X						
1558B	1	|			X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelZenno	8/9/21 1720hrs.		Jon W Munch	8-10-21 / 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Tony Torrez, Dan Halvorsen, Bob Tufts, and Craig Del Ferraro present. Weather is cloudy & warm. This well will be purged & sampled using a FLUTe system, this zone will be purged at least 4-6 times every 15-30 minutes prior to sampling. Samples will be collected using a dedicated teflon discharge hose. Purge pressure set @ 281 psi and sample pressure set @ 252 psi. Bubbler set @ 3psi and stable @ 8 psi. The first 350ml collected just prior to sampling will be discarded. Carboy G2 in use.

Initial Parameters
Time - 2108091515B
pH - 8.04
Temp - 25.5 °C
Cond - 976 us/cm
Turb - 0.45 NTU's
pH pre - 6.87/9.95 (31.5 °C)
pH post - 6.98/9.95

Final
Time - 2108091620B
PH - 7.58
Temp - 25.1 °C
Cond - 989 us/cm
Turb - 0.51 NTU's
pH pre - 6.95/9.96 (33.8 °C)
pH post - 6.93/9.97
IDW - 7 gals.

Meter ID
pH/cond - 12
Turb - 7
" Std - 49.3
" rdg - 48.7
" Lot - 91017
" Exp - 8/31/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2108091455B	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
1456B	" (FB)	"	"	"	"
1457B	607/Bromacil	ice	(1) 1L Amber	0103501G	SPL
1515B	Low Level NDMA	"	"	"	"
1516B	" (FB)	"	"	"	"
1542B	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
1616B	Anions/Alk.	ice	"	N/A	"
1617B	TDS by SM2540C	"	(1) 125ml poly	"	"
1618B	Perchlorate by 6850	"	"	"	"
1619B	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"
1615B	Total Metals (Dupl.)	ice/HNO_3	(2) 125ml poly's	21-01-21	"

Continued from page

Read and Understood By

Craig Del Ferro — Signed
8/9/21 — Date
Lori Munch — Signed
8-10-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-9-21 Page 1 of 1

Sample Location: B/n. 32-632

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260	607	BNAs	METALS				Charge Number
										X6MD
210809 1455B	3		X							
1456B (FB)	3		X							
1457B	1			X						
1515B	1				X					
1516B (FB)	1				X					
1542B	2					X				
1615B (Dup)	2					X				

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	AN-20.2 / ALK	TDS	PERCHLORATE	NO2/NO3				Charge Number
										XGMD
1616B	2	A	X							
1617B	1	|		X						
1618B	1	|			X					
1619B	1	|				X				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fierro	8/9/21 1720hrs			8-10-21 / 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Tom Kanoy + Al Mouts present. Wells will be purged for 11 min prior to parameters and samples taken. They are taken from a dedicated discharge tube
Carboy G3

Parameters
Time - 210816 0920
pH - ~~25.1 C~~ 7.31
Temp (C) - 25.1 C
Cond (uS/cm) - 1248
TURB (NTUs) - 065
pH pre - - 7.11 - 10.05
pH post - - 7.13 - 10.07

Meter ID
pH/Cond - 61
TURB - 21
" Std - 57.3
" Rdg - 56.9
" Lot # - 91017
" Exp. - 8.3-21

BUFF | Lot #
7 | 400269
10 | 400105

MPE-1

Sample #	Analysis	Preserv	cont.	Lot #
210816 0925	8260	Ice HCL	(3) 40 ml Vial	
0926	" (Dup)	"	"	
0927	" (FB)	"	"	
0928	NDMA/DMA/Bromide/1607	Ice	Ice	

Lot # | Lot
AC
"
"
SR

Continued from page 95

Read and Understood By

T Kanoy
Signed
8-16-21
Date
Signed
8-17-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-16-21 Page _____ of _____

Sample Location: MPE-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
210816 0925	3	A	X							
— 0926 (Dup)	3		X							
— 0927 (FD)	3		X							
— 0928	1			X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Tim Kowal	8-16-21		Jon Munch	8-17-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

MPE-8

Sample #	Analysis	Preserv	cont.	Lot #	Lab
210816 0945	8260	Ice, HCl	(3) 40 ml Vial		ALS
" 0946	" (FB)	"	"		"
" 0947	NDMA/DMD/Bromac./1607	Ice	(1) 1 LT Amber		SRL

Parameters

Carboy G-3

Time - 210816 0940
pH - 8.01
Temp (°C) - 25.7
Cond (µS/cm) - 1214
TURB (NTU's) - 1.40
pH pre - 7.10 - 10.12
pH post - 7.09 - 10.12

~~Param.~~ Meter NOTES on page 94

Continued from page 96

Read and Understood By

Signed — Date: 8-16-2021

Signed — Date: 8-17-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-16-2021 Page _____ of _____

Sample Location: MPE-8

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
210816 0945	3	A	X							
— 0946 (FB)	3		X							
— 0947	1	✱		X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-16-21		[signature]	8-17-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT MPE-9 Samples

Notebook No. PFS # 9

Continued from page

MPE-9

Sample #	Analysis	Preserv	cont.	Lot #	Lo
210816 0955	8260 + FB	ice, HCl	(3) 40 ml Vial		Ac
" 0956	"	"	"		"
" 0957	NDMA/Bnd/Broad/1607	ice	(1) 1 LT Amber		SR

Parameters

Time - 210816 0950
pH - 8.16
Temp (°C) - 26.1
cond (uS/cm) - 1191
TURB (NTU) - 0.96
pH pre - 7.05 - 10.10
pH post - 7.07 - 10.13

Carboy G3

* Make notes on Page 94

Continued from page

Read and Understood By

Signed

8-16-2021
Date

Signed

8-17-2
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-16-2021 Page _____ of _____

Sample Location: MPE-9

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
			8260	607						
210816 0955	3	A	X							
— 0956 (FD)	3		X							
— 0957	1			X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Tim Kelly	8-16-21		Jeremy Mund	8-17-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Tim Kowal + AL Montes present. Well will be purged for 1 min prior to parameters and sample taken they are taken from a dedicated discharge tube.

Carboy 63

Parameters

Time - 210816 1215
pH - 8.13
Temp(C) 28.3
cond (uS/cm) 1202
TURB (NTU's) 1.03
pH pre - 7.05 - 10.10
pH post - 7.06 - 10.12

Meter ID

pH/Cond - 61
TURB - 21
" Std - 57.3
" Rdg - 56.9
" Lot# - 91017
" Exp. - 8-3-21

Buff	Lot #	Exp
7	400 2691	8-22
10	400 1005	6-22

MPE-10

Sample #	Analysis	Preserv	cont.	Lot #	Lab
210816 1220	8260	ice/HCL	(3) 40 ml Vial		ALS
— 1221	" TB	"	"		"
— 1222	NPH/Phen/Bromo/1607	ice	(1) LT Amber		ERI
— 1223	" (Dup)	"	"		"

Continued from page

Read and Understood By

Tim Kowal — Signed — 8.16.2021 — Date

Yoni Munch — Signed — 8-17-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-16-2021 Page 1 of 1

Sample Location: MPE-10

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	Analytical Requirement: 607						Charge Number
210816 1220	3	A	X							
— 1221	3		X							
— 1222	1			X						
— 1223	1			X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-16-2021		[signature]	8-17-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT MPE-1)

Notebook No. PFTS # 10

Continued from page 1

MPE-11

Samples	Analysis	Preserv	Cont.	Lot #	Lab
210816 1240	8260	1:1 HCl	(3) 40 ml Vial		ALS
1241	" (Dup)	"	"		"
1242	" (FB)	"	"		"
1243	VOA/DAM/Bromide 1/007	1:1	(1) 1 LT Amber		SRF
1244	" (Dup)	"	"		"

Parameters

Time — 210816 1235
pH — 8.10
Temp(C) — 28.7
cond (mS/cm) — 930
TURB (NTUs) — 2.92
pH pre — 7.05 - 10.12
pH post — 7.06 - 10.15

* Meter Notes on page 1

Continued from page

Read and Understood By

T Tomsk
Signed

8-16-2021
Date

Jon Munck
Signed

8-17-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8.16.21 Page 1 of 1

Sample Location: MPE.11

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 VOA	6074 DMW						Charge Number
210816 1240	3	A	X							
1241 (DUP)	3	A	X							
1242 (FB)	3	A	X							
1243	1	A		X						
1244 (DUP)	1	A		X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8-16-21			8-17-21 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Aviles & Robert Burrows present. Weather is clear & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell & water analyzer. Carboy Ca-3 in use.

Calibrations

Initial DTW - 122.75'

D.O. Cal in saturated air @ Cell mm/Hg.
pH - Cal using Oakton Buffers (4,7,10)
Conductivity - Cal using 1413 us/cm STD solution.
Turbidity Meter - #21 STD - 57.3 NTU RDG - 56.8 NTU Lot - 91017 Exp - 8/21

Trip Blanks

Sample #	Analysis	Preserve	Container	Lot	Lab
210809 0700C	VOA by 8260 LL	HCl / Ice	(3) 40 ml vials	2583	ALS
— 0701C	Low Level NDMA	Ice	(1) 1L Amber	108501	SRI

Parameters (time)	Temp (°C)	Cond (ms/cm)	DO	pH	ORP	Turb (NTU)	DTW (ft)
210809 0940C	23.04	0.981	5.99	8.63	-31	1.66	125.10'
— 0942C	23.06	0.983	5.87	8.65	-31	0.90	"
— 0944C	23.01	0.984	5.45	8.66	-30	0.72	"

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
210809 0950C	VOA by 8260 LL	HCl / Ice	(3) 40 ml vials	2583	ALS
— 0951C	= (FB)	"	"	"	"
— 0952C	607 / Bromacil	Ice	(1) 1L Amber	108501	SRI
— 0953C	Low Level NDMA	"	"	"	"
— 0954C	= (FB)	"	"	"	"
— 0955C	SVOA by 8270D	"	(2) 1L Amber	01252110K	ALS
— 0956C	Pesticides 8081B	"	(1) "	"	"
— 0957C	Herbicides 8151A	"	"	"	"
— 0958C	Dioxins/Furans 8290	"	"	"	"
— 0959C	PCBs 8082A	"	"	"	"
— 1000C	Phenolics 9066	H_2SO_4 / Ice	(1) 250 ml Amber	267253	"
— 1001C	Anions / Alk	Ice / Zero HS	(2) 125 ml poly	N/A	"
— 1002C	TDS SM2540C	Ice	(1) "	"	"
— 1003C	Perchlorate 6850	Ice / 1/3 HS	"	"	"

Continued from page

Read and Understood By

Signed — Date 8/9/21 — Signed — Date 8-10-21

Samples Cont.

Sample #	Analysis	Preserve	Container	lot	lab
210809100 4C	NO2, NO3 353.2	H_2SO_4 / Ice	(1) 250 ml poly	210303	ALS
100 5C	Cyanide 9012B	NaOH / Ice	"	208305	"
100 6C	Sulfide 9030	Zinc / NaOH / Zero Hs / Ice	(1) 250 ml poly	0129182AAW	"

Blind Controls

Sample #	Analysis	Preserve	Container	lot	lab
210809185 0C	Low Level NDMA	Ice	(1) 1L Amber	21ERM126A	SRI

[redacted] NDMA 0.005 µg/L

21ERM126A

Continued from page

Read and Understood By

MS CJ — Signed — 8/9/21 Date

Jon Munch — Signed — 8-10-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/9/21 Page 1 of 2

Sample Location: NASA 3

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA					Charge Number
Pertinent Notes (if any)										
210809070OC (TB)	3	A	X							XGMD
0701C (TB)	1	↓			X					↓
0950C	3		X							
0951C (FB)	3		X							
0952C	1			X						
0953C	1				X					
0954C (FB)	1	↓			X					↓

Sample Location:

Sample Number	# of Containers	Sample Matrix*	SVOA 8270	Pesticide	Herbicide	Dioxin / Furan	PCB	Phenolics	Anions / AIK	Charge Number
Pertinent Notes (if any)										
210809095 5C	2	A	X							XGMD
0956C	1	↓		X						↓
0957C	1				X					
0958C	1					X				
0959C	1						X			
1000C	1							X		
1001C	2	↓							X	↓

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/9/21 @ 1600			

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/9/21 Page 2 of 2

Sample Location: NASA 3

Sample Number	# of Containers	Sample Matrix*	Pertinent Notes (if any)	TOS	Perchlorate	NO2 NO3	Cyanide	Sulfide	LC NDMA		Charge Number
2108091002C	1	A		X							YGMD
1003C	1				X						
1004C	1					X					
1005C	1						X				
1006C	1							X			
1550C (BC)	1								X		

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Pertinent Notes (if any)								Charge Number

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/9/21 @ 1600			

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT P1-7-480

Continued from page

DAN HALVORSEN & TONY TORRES PRESENT. THE WEATHER IS OVERCAST & COOL. THIS ZONE WILL BE SAMPLED WITH 5 MP-38 SAMPLE TUBES. PROBE #2213 IN USE AND SYSTEM CHECKED PRIOR TO SAMPLING. GEN IN USE: CARBOY G-2.

Trip Blanks

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210810070oy	8260 LL	ICE/HCl	2583	(3) 40ml VIALS	ALS
—— 071y	LL NONA	ICE	0103501G	(1) LIT AMBER	SRL

30 min E.B's

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210810083oy	8260 LL	ICE/HCl	2583	(3) 40ml VIALS	ALS
—— 083y	LL NONA	ICE	0103501G	(1) LIT AMBER	SRL

INITIAL	FINAL
210810093oy	210810140oy
pH 8.23	8.05
TEMP 23.6°c	23.8°c
COND 1043 µs/cm	1038 µs/cm
TURB 1.16 NTU's	1.43
pH PRE 7.05/10.07 (23.8°c)	7.03/10.07 (24.6°c)
pH POST 7.07/10.05	7.05/10.07
ATMOS 12.63	
IDW 0.5 gallons	

METER ID's
PH/COND #12
TURB #7
" STD = 49.3 NTUs
" 2nd = 45.8 NTUs
" LOT # = 91017
" EXP = 08/30/21

Samples

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210810100oy	8260 LL	ICE/HCl	2583	(3) 40ml VIALS	ALS
—— 100y	LL NONA	ICE	0103501G	(1) LIT AMBER	SRL

	1)	2)	3)	4)	5)	6)
Run 1	16.83	16.79	16.79	16.77	16.70	16.71
	14.32	14.34	14.35	14.36	14.30	14.31
	14.36	14.36	14.35	14.35	14.35	14.36
	16.84	16.83	16.82	16.80	16.77	16.75

Continued from page

Read and Understood By

T. D. — Signed — 8-10-21 — Date

Tom Wunch — Signed — 8-11-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-10-21 Page 1 of 1

Sample Location: PL-7-480

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	Analytical Requirement: 1,4-D						Charge Number
										XGMD
210810 0700Y (TB)			X							
— 0701Y (TB)				X						
— 0830Y (EB)			X							
— 0831Y (EB)				X						
— 1000Y			X							
— 1001Y				X						

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	8/10/21 / 1600		[signature]	8-11-21 / 0845

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

OJECT PC-7-560 ENV.9020

Notebook No. D64# 1286(y)
Continued from page

ROBERT BURROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE SAMPLED USING 5' DECONED AND TRIPLE RINSED SAMPLE TUBES. PROBE # 2213 SYSTEM CHECKED @ SURFACE PRIOR TO SAMPLING. GEN IN USE. CARBOY G-3

TRIP BLANKS (VOA VIALS)

Sample #	Analysis	Preserv	Lot #	Cont	Lab
210805 1030y	8260 LL	ICE/HCl	2583	(3) 40ml vials	ALS
—— 1031y	CLNOMA	ICE	0103501G	(1) 1LT Amber	SRL

30 min E.B's

Sample #	Analysis	Preserv	Lot #	Cont.	Lab
210805 1330y	8260 LL	ICE/HCl	2583	(3) 40ml vials	ALS
—— 1331y	CLNOMA	ICE	0103501G	(1) 1LT Amber	SRL

INITIAL		FINAL	METER ID's
210805 1415y		210805 1458y	pH/COND = 12
pH	7.88	7.46	Tray # 7
TEMP	25.8 °C	25.5 (C)	~~11~~ 11STD = 49.3
COND	960 µs/cm	1076 µs/cm	RDG = 49.1
TURB	1.61 NTU's	1.03	LOT # = 91017
pHPRE	6.97/9.93 (34.3°C	6.93/9.95 (36.3)	EXP = 8.30.21
pHPOST	7.07/9.95	7.04/9.98	
ATMOS	12.80		
IDW	DTW 480.60	480.71 FT	

SAMPLES

Sample #	Analysis	Preserv	Lot #	Cont	Lab
210805 1450y	8260 LL	ICE/HCl	2583	(3) 40ml vials	ALS
—— 1451y	CLNOMA	ICE	0103501G	(1) 1LT Amber	SRL

	1)	2)	3)
RUN	51.57	51.58	51.57
	48.48	48.54	48.56
	48.56	48.57	46.12
	51.61	51.61	51.61

Continued from page

Read and Understood By

T. D — Signed — 8-5-21 Date

Ron Munch — Signed — 8-9-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-5-21 Page 1 of 1

Sample Location: P1-7-560

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260 Lcold	Lingma						Charge Number
										XGmD
210805 1030y (TB)			X							
1031y (TB)				X						
1330y (EB)			X							
1331y (EB)				X						
1450y										
1451y										

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Dg	8-5-21 / 1600		[signature]	8-9-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is clear and warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a Teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 Flowcell and water analyzer. Carboy is in use.

Initial DTW = 484.10 ft.
Final " = 484.21
TDW = 2 gal.

alibrations:
O Sensor = In Saturated air @ 642 mm/Hg.
H Sensor = using a 3pt (4, 7, 10) Buffer method.
nductivity = using a 1413 µs/cm STD. Solution.
rbidity meter # 20 STD: 6.06 ROG: 6.10 LOT #: 91017 Exp: 8/21

arameters (Time)	Temp	Cond	DO	pH	ORP	Turb	DTW (ft)
210803 0930 c	21.61	1100	5.80	8.38	6	1.19	
— 0932 c	21.61	1102	5.77	8.33	7	1.16	
— 0933 c	21.62	1105	5.81	8.40	7	1.15	

SAMPLES

MPLE #	Analysis	Preserve	Container	LOT	LAB
210804 0940 c	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
— 0941 c	" " (FD)	"	"	"	"
— 0942 c	NDMA/DMN Bromacil by 401	Ice	(1) 1L Amber	109501	JRT
— 0943 c	NDMA LL	"	"	"	"
— 0944 c	" " (FB)	"	(2)1 "	"	"
— 0945 c	SVOC by 8270	"	(2) "	N/A	ALS
— 0946 c	Total metals	Ice/HNO3	(2) 125 ml Poly		"
— 0947 c	Anions/NIK	Ice	(2) "		"
— 0948 c	TDS by SM2540C	"	(1) "		"
— 0949 c	Perchlorate by 6850	"	(1) "		"
— 0950 c	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly		"

Packer PSI = Begining (42 psi)
" " After (42 psi)

Continued from page

Read and Understood By

Signed — 8-4-2021 Date — Signed — 9-5-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-4-2021 Page 1 of 1

Sample Location: PL-12-570

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	VOA	607	NDMA LL	5005	Metals			Charge Number
											XGMO
210804 0940 c		3	A	X							
0941 c	FB	3		X							
0942 c					X						
0943 c						X					
0944 c	FB					X					
0945 c		2					X				
0946 c		2						X			

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Anions/DIK	TDS	Perchlorate	ClO2/ClO3				Charge Number
210804 0947 c		2	A	X							
0948 c		1			X						
0949 c		1				X					
0950 c		1					X				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-4-2021 1100		[signature]	8-5-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is partly cloudy and hot. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon hose. Water quality parameters will be monitored using a QED MP-20 flowcell and water analyzer. Cardog GS in use.

Calibrations:

Initial DTW = 484.10 ft.
Final " = 484.21
TDW = 2.5 gal.

DO Sensor: In saturated air @ 642 mm/Hg.
pH Sensor: Using a 3pt (4, 7, 10) Buffer method.
Conductivity: Using a 1413 us/cm STD. Solution.
Turbidity Meter # 20 STD: 6.06 RDG: 6.10 LOT # 91017 Exp: 8/21

Parameters (Time)	Temp	Cond	DO	pH	ORP	Turb	DTW (ft.)
210803 1425 C	22.27	1104	8.48	9.35	-61	1.80	
1427 C	22.24	1101	8.39	9.26	-60	1.73	
1429 C	22.26	1105	8.42	9.17	-59	1.79	

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
210803 1435 C	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2583	ALS
1436 C	" " (FD)	"	"	"	"
1437 C	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber	108501	SRL
1438 C	NDMA LC	"	"	"	"
1439 C	" " (FD)	"	"	"	"
1440 C	SVOA by 8260	"	(2) "	N/A	ALS
1441 C	Total Metals	Ice/HNO3	(2) 125 ml Poly	"	"
1442 C	Anions/Alk	Ice	(1) "	"	"
1443 C	TDS by SM2540C	"	(1) "	"	"
1444 C	Perchlorate by 6850	"	(1) "	"	"
1445 C	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

Packer pressure (Start = 42 psi)
(Final 42 psi)

Continued from page

Read and Understood By

Signed — 8-4-2021 Date — Signed — 8-5-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8.4.2021 Page 1 of 1

Sample Location: PL-12-800

Analytical Requirement

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	VOC	607	LDMA 44	SVOC	Metals 15			Charge Number
210804 1435C		3	A	4							X6MD
1436C	FB	3		4							
1437C		1			4						
1438C		1				4					
1439C	FB	1				4					
1440C		2					4				
1441C		2						X			

Sample Location:

Analytical Requirement

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Anions/Alk	TDS	Perchlorate	NO3/NO2				Charge Number
210804 1442C		2	A	4							
1443C		1			4						
1444C		1				4					
1445C		1					4				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8.4.2021 1600		[signature]	8-5-21 /0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig DelFerraro present. Weather is cloudy & warm. This well will be purged ~~dry~~ OC using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be monitored using a standard PH/Cond. meter. DO and ORP will not be monitored during this event. Carboy GI in use.

PH/Cond meter # 13

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Turbidity meter # 21
std - 57.3
rdg - 57.0
lot - 9/017
Exp - 8/31/21

PH pre - 7.05/10.03 (24.0°C) pH post - 6.98/10.04

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
210802 0750B	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0751B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI

Parameters (time)	Temp (°C)	cond (us/cm)	PH	Turb (NTU's)	DTW (ft.)
210802 0925B	21.7	997	6.95	1.25	456.99
——— 0928B	21.9	990	6.98	1.16	456.99
——— 0931B	22.2	983	7.03	1.07	456.99

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210802 0935B	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0936B	" (FB)	"	"	"	"
——— 0937B	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
——— 0938B	* " (MS)*	"	"	"	"
——— 0939B	Low Level NDMA	"	"	"	"
——— 0940B	" (FB)	"	"	"	"
——— 0941B	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS

Initial DTW - 456.95ft. Total gallons purged - 2

Continued from page

Read and Understood By

Craig DelFerro 8/2/21 Lori Munch 8-3-21
Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/2/21 Page 1 of 1

Sample Location: ST-4-589

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607	LL NDMA					Charge Number
210802 0750 B (TB)	3	A	✓							XGMD
0751 B (TB)	1	A			✓					"
0935 B	3	A	✓							"
0936 B (FB)	3	A	✓							"
0937 B	1	A		✓						"
0938 B (MS)	1	A		✓						"
0939 B	1	A			✓					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA	Total Metals						Charge Number
210802 0940 B (FB)	1	A	✓							XGMD
0941 B	2	A		✓						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeKlerk	8/2/21 1115hrs.		Jon W Jurich	8-3-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #2213. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G2

Sample	Analysis	Preservative	Container	Lot	Lab
210804 0940 y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 0941 y	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRT

Initial Parameters
Time - 210804 1020 y
PH - 8.15
Temp - 23.6°C
Cond - 980 us/cm
Turb - 2.12 NTU's
pH pre - 7.04/10.06 (25.5°C)
pH post - 7.02/10.06
DTW - 472.36 ft.
Atmos - 12.73 psia

Final
Time - 210804 1315 y
PH - 8.23
Temp - 24.2°C
Cond - 992 us/cm
Turb - 1.50 NTU's
pH pre - 6.97/10.01 (30.1°C)
pH post - 6.95/9.98
DTW - 472.45 Ft.
Atmos - 12.70 psia
IDW - ½ gals

Meter ID
pH/cond - [illegible] 12
Turb - [illegible] 7
u std - 49.3
u rdg - 48.6
u lot - 91017
u Exp - 8/31/21

Buffers	Lot	Lab
7	4007847	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210804 1115 y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1116 y	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRT

Runs	1)	2)	3)
	22.12	22.19	22.25
	40.81	40.89	40.95
	40.77	40.91	40.93
	22.20	22.22	22.21

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 8/4/21 — Date

Jon Munch — Signed — 8-5-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/4/21 Page 1 of 1

Sample Location: ST-5-485

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL UDMH						Charge Number
210804094OY (EB)	3	A	✓							XGMD
0941Y (EB)	1	A		✓						"
1115Y	3	A	✓							"
1116Y	1	A		✓						"

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeFerron	8/4/21 1545hrs.		for W Munch	8-5-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

MARCUS AVALOS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE SAMPLED USING 5 DECONED & TRIPLE RINSED SAMPLE TUBES. PROBE #2213 SYSTEM CHECKED PRIOR TO SAMPLING. GEN IN USE. CANBOY 6-3

30 MIN E.B's

SAMPLE#	ANALYSIS	PRESERV	LOT #	CONT	LAB
210802 0900Y	8260 (11)	ICE/HCl	2583	(3) 40ml VIALS	ALS
— 0901Y	~~HEM~~ (UNOMA	ICE	01035016	(1) 1LT AMBER	SRI

	INITIAL	FINAL
	210802 0950Y	210802 1405Y
pH	8.09	7.79
Temp	24.6°C	~~25.03~~ 25.3°C
Cond	872 µs/cm	877
Turb	0.91 NTUs	0.69 NTUs
pH PRE	7.00/9.93 (27.8)	7.07/9.90 (29.1°C)
pH POST	7.06/9.91	7.06/9.94
DTW	471.90 FT	471.55 FT

METER ID's
pH/COND = 7
TURB # 12
" STD = 49.3
" RDG = 49.1
" LOT # = 91017
" EXP = 8.30.21

Samples

SAMPLE#	ANALYSIS	PRESERV	LOT #	CONT	LAB
210802 1320Y	8260 (11)	ICE/HCl	2583	(3) 40ml VIALS	ALS
— 1321Y	UNOMA	ICE	01035016	(1) 1LT AMBER	SRI

Run	1)	2)	3)
	96.87	96.85	96.84
	114.43	114.47	114.46
	114.47	114.48	114.46
	96.86	96.84	96.83

* NOTE: GENERATOR DIED ON OUR 2ND RUN. WE HAD TO FIND ONE & SWAP IT OUT WITH. GOT BACK TO WELL AFTER LUNCH TO FINISH THE ZONE. WILL GO FILL UP THE GENERATOR AFTER THIS ZONE IS DONE.

Continued from page

Read and Understood By

T. D. — Signed — 8-2-21 — Date

Lori L. Munch — Signed — 8-3-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-2-21 Page 1 of 1

Sample Location: ST-5-655

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	Analytical Requirement: 1 LVOM 4						Charge Number: X6MA
210802 0900Y (EB)		3	A	X							
0901Y (EB)		1			X						
210802 1320Y		3		X							
1321Y		1			X						

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	8-2-21 / 1600		Tom Mund	8-3-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Tony Torrez present. The weather is clear & Hot. The zone will be sampled using 5 Triple Rinsed MP-38 Sample Tubes. Probe #2213 System checked @ surface prior to sampling. Gen in use, Canbay G-3.

30 min E.B's

Sample #	Analysis	Preserv	Lot #	Cont	Lab
210803 1340Y	8260LL	HCl/Ice	2596	(3) 40mL vials	ALS
——— 1341Y	LL NORM A	Ice	0103501G	(1) 1LT Amber	SRI

	Initial	Final	Meter IDs
	210803 1430Y	210804 0854Y	pH/Cond 7
pH	8.38	8.23	Turb # 12
Temp	26.8°C	24.4°C	DTW - 472.36 ft.
Cond	799 ms/cm	810 us/cm	11 std = 49.3
Turb	1.07 NTU's	0.93 NTU's	11 Adj = 49.1
pH pre	7.11/10.09 (34.1)	7.09/10.13 (21.1°C)	11 Lot # 91017
pH post	7.15/10.11	7.06/10.14	11 Exp: 8-30-21

Samples

Sample #	Analysis	Preserv	Lot #	Cont	Lab
210803 1510Y	8260LL	Ice/HCl	2596	(3) 40mL vials	ALS
——— 1511Y	6010	Ice	0103501G	(1) 1LT Amber	SRI
210804 0825Y	LL NORM A	11	11	11 11	11
——— 0826Y	Total Metals	Ice/HNO3	21-01-21	(1) 125mL poly	ALS
——— 0850Y	Anions/Alk	Ice	N/A	11 11	11
——— 0851Y	TDS	11	11	(1) 11	11
——— 0852Y	Perchlorate	11	11	(1) 11	11
——— 0853Y	NO_2/NO_3	Ice/H_2SO_4	21-04-30	(1) 250mL poly	11

Run	1)	2)	3)	4)
	166.18	166.17	166.14	166.11
	183.48	183.53	183.57	183.53
	183.47	183.51	183.55	183.51
	166.17	166.18	166.13	166.05

*Bob Tufts & Craig Del Ferraro resumed Sampling event on 8/4.

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 8/4/21 — Date

Lori Munch — Signed — 8-5-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-3-21 Page 1 of 1

Sample Location: ST-5-815

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260C	300.0	NDMA 607					Charge Number
										XGMD
210803 1340y (EB)			X							
1341y (EB)				X						
1510y			X							
1511y				X	X					

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	8.3.21 1600			

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/4/21 Page 2 of 2

Sample Location: ST-5-815

Sample Number	# of Containers	Sample Matrix*	LL NDMA	Total Metals	Anions/Alk	TDS	Perchlorate	NO_2/NO_3	Charge Number
210804 0825Y	1	A	✓						XGMD
0826Y	2	A		✓					"
0850Y	2	A			✓				"
0851Y	1	A				✓			"
0852Y	1	A					✓		"
0853Y	1	A						✓	"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fierro	8/4/21 1120hrs.		Jon Munch	8-5-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT ST-5-985 ENV.0020 Notebook No. D64 #128(4)

Continued from page ____

MARCUS AVALOS & TONY TORCEZ PRESENT. THE WEATHER IS cloudy & warm. THIS ZONE WILL BE SAMPLED WITH 5 MP-38 WESTBAY TUBES. PROBE #2213 SYSTEM CHECKED PRIOR TO SAMPLING EVENT. GOOD TO USE CARBOY G-3.

30 min E.B's

SAMPLE#	ANALYSIS	PRESERV	LOT #	CONT	LAB
210802 1530y	8260 11	ICE/HCl	2583	(3) VOMLVIALS	ALS
" 1531y	11 NDMA	ICE	0103501G	(1) 1LAMBER	SNL

	INITIAL	FINAL
	210803 0810y	210803 1040y
pH	8.40	7.64
TEMP	23.2°C	25.7°C
COND	1323 µs/cm	1463 µs/cm
TURB	1.57 NTU's	1.07
pH pre	7.09 / 10.00 (16.2)	7.11 / 10.07 (25.4°C)
pH post	7.09 / 10.09	7.08 / 10.09
DTW	471.55	472.20 FT

METER ID's
pH / cond = 7
Turb # 12
" STD 49.7 49.3
" Rdg 49.1 49.1
" LOT # 91017
" EXP 8-30-21

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	LOT #	CONT	LAB
210803 0900y	8260 11	ICE/HCl	2583	(3) VOMLVIALS	ALS
" 0901y	6007	ICE	0103501G	(1) 1LAMBER	SNL
" 0950y	11 NDMA	"	"	"	"
" 0951y	TOTAL METALS	ICE/HNO3	N/A	(2) 125ml poly	ALS

Run	1)	2)	3)	4)
	240.41	240.43	240.37	240.35
	257.12	257.11	257.07	257.09
	257.01	257.05	257.03	257.04
	240.41	240.41	240.33	240.27

Continued from page

Read and Understood By

T. S. Signed 8-3-21 Date

Signed 8-4-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-2-21 Page 1 of 1

Sample Location: ST-5-~~[illegible]~~-985

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	Analytical Requirement: NDMA						Charge Number
										X6nD
210802 1530Y (EB)	3	A	X							
1531Y (EB)	1	A		X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Dy	8-2-21 / 1600		[signature]	8-3-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-3-21 Page 1 of 1

Sample Location: ST-5-985

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260	EtOH	607	TOTAL GAS				Charge Number
Sample Number										XGMD
210803 0900Y			X							
0901					X					
0930Y				X						
0951Y						X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*								Charge Number
Sample Number										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
TJ	8-3-21 / 1100		[signature]	8-4-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & hot. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #2213. Surface checks performed on probe prior to sampling.

Robert Burrows & Tony Torres present on 8-5-21

30 Min. Equipment Blanks - Carboy G2

Sample	Analysis	Preservative	Container	Lot	Lab
210804 1400 y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1401 y	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI

Parameters (initial)
Time - 210804 1440 y
PH - 8.27
Temp - 26.0 °C
Cond - 1549 us/cm
Turb - 1.18 NTU's
pH pre - 6.93/9.98 (32.7 °C)
pH post - 6.93/9.96
DTW - 472.45 ft.
Atmos - 12.64 psia

Final
Time - 210805 0945 y
PH - 7.82
Temp - 26.5
Cond - 1743 us/cm
Turb - 1.55 NTU's
pH pre - 7.09/10.03 (23.1 °C)
pH post - 7.04/9.98
DTW - 472.56 FT
Atmos - 12.69
IDW - 1.0 gal

Meter ID
pH/Cond - 600 12
Turb - 12 7
" Std - 49.3
" rdg - 48.6
" lot - 91017
" Exp - 8/31/21

Buffers	Lot	Exp
7	4007947	12/21
10	.4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210804 1510 y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1511 y	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
210805 0850 y	Low Level NDMA	"	"	"	"
——— 0851 y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
——— 0930 y	Anions/Alk.	ice	"	N/A	"
——— 0931 y	TDS by SM2540C	"	(1) 125ml poly	"	"
——— 0932 y	Perchlorate by 6850	"	"	"	"
——— 0933 y	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"

Runs	1)	2)	3)	4)
	322.65	322.62	322.51	322.51
	339.36	339.40	339.35	339.39
	339.36	339.37	339.34	339.36
	322.63	322.54	322.52	322.46

Continued from page

Read and Understood By

J. [signature] Signed 8-5-21 Date

[signature] Signed 8-9-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/4/21 Page 1 of 2

Sample Location: ST-5-1175

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607	LL NDMA					Charge Number
210804140oy (EB)	3	A	✓							XGMD
1401y (EB)	1	A			✓					"
1510y	3	A	✓							"
1511y	1	A		✓						"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig McFarland	8/4/21 1545hrs.		Jon Wunch	8-5-21 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-5-21 Page 1 of 1

Sample Location: ST-5-1175

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Total Metals	Anions / DIC	TDS	Perchlorate	NO2 / NO3	LCMS4		Charge Number
										XGMD
210805 0850Y	1	A	X					X		
0851Y	2		X	X						
0930Y	2			X	X					
0931Y	1				X	X				
0932Y	1					X				
0933Y	1						X			

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T.	8.5.21/1000			8-9-21 /0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Dan Halvorsen present. Weather is clear & hot. This zone will be sampled using 5 triple rinsed stainless steel sample tubes. Surface checks performed on probe # 1213 prior to sampling. Carboy G-2 Gen in use.

30-Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210819140IY	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	Als

Initial Parameters		Final	
Time	- 210819 1435Y	210819 1555Y	
pH	- 7.87	7.05	
Temp	- 25.2°C	25.7°C	
cond	- 1142 uS/cm	1238 uS/cm	
turb	- 67.5 NTU	31.9 NTU	
pH pre	- 7.10/10.06 (32.1°C)	7.09/10.04 (33.5°C)	
pH post	- 7.08/10.09	7.04/10.03	
Pmos	- 12.50 psia	12.52 psia	
TW	- 219.50'	219.63'	
		IDW - 1 gal	

Meter ID			
pH/Cond - #12			
Turb - #7			
= SN - 49.3 mm			
= Box - 48.2 NTU			
= Lot - 91017			
= Exp - 8/30/21			
Buffers	lot	Exp	
7	4007947	12/21	
10	4101656	7/22	

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210819150OY	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	Als
1501Y	607/Bromacil	Ice	(1) 1L Amber	0103501G	SPI
1525Y	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	Als
1526Y	Anions/Alk	Ice/Zero HS	"	N/A	"
1548Y	TDS SM2540C	Ice	(1) "	"	"
1549Y	Perchlorate 6850	Ice/1/3 HS	"	"	"
1550Y	NO2, NO3 353.2	H2SO4/Ice	(1) 250 ml poly	210430	"

Zone 1)	29.80	2) 29.86	3) 29.78	4) 29.79
	31.58	31.54	31.35	31.19
	31.49	31.40	31.27	31.08
	29.86	29.89	29.90	29.81

Continued from page

Read and Understood By

Signed — Date — Signed — Date

8/19/21 — 8-23-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/19/21 Page 1 of 1

Sample Location: WB.5.250

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	607	T. Metal	Anion/AHK	TDS	Perchlorate		Charge Number
210819141014 (EB)	3	A	X							XGMD
15004	3	A	X							
15014	1			X						
15254	2				X					
15264	2					X				
15484	1						X			
15494	1							X		

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	NO2 NO3							Charge Number
210819155014	1	A	Y							XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/19/21 @ 1610		[signature]	8-23-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Dan Halvorsen present. Weather is partly cloudy & warm. This zone will be sampled using 5 triple rinsed stainless steel sample tubes. Surface checks performed on probe # 2213 prior to sampling. Carboy Gr. 2. Gen in use.

30 Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210818134014	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	ALS

Initial Parameters		Final	
Time	210818 1525 Y	210819 1355 Y	
pH	7.88	7.62	
Temp	25.0 °C	24.7 °C	
Cond	1258 uS/cm	1318 uS/cm	
Turb	134 NTU	196 NTU	
pH pre	7.02 / 10.03 (30.6 °C)	7.05 / 10.07 (31.2 °C)	
pH post	7.05 / 10.07	7.07 / 10.07	
Atmos	12.58 psia	12.52 psia	
DTW	219.30'	219.50'	
		IDW: 1 gal	

Meter ID	
pH/Cond	# 12
Turb	# 7
= STD	49.3 NTU
= POC	48.2 NTU
= LOT	9/017
= Exp	8/30/21

Buffers	lot	Exp
7	4007947	12/21
10	4101656	7/22

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210819 1305 Y	VOA by 8260	HCl / Ice	(3) 40 ml vials	2583	ALS
— 1306 Y	607/Bromacil	Ice	(1) 1L Amber	0103501Gn	SCI
— 1330 Y	Total Metals	HNO3/Ice	(1) 125 ml poly	210121	ALS

Runs	1)	2)	3)
	43.04	43.10	43.01
	44.85	45.07	44.82
	44.69	44.92	44.67
	43.05	43.08	42.98

Continued from page

Read and Understood By

Signed _____ Date 8/19/21

Signed _____ Date 8-23-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/18/21 Page 1 of 1

Sample Location: WB · 5 · 280

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260							Charge Number
210818134041	3	A	X							XGMD

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/18/21 @ 1520		[signature]	8-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/19/21 Page 1 of 1

Sample Location: WB-5-280

Analytical Requirement: 8260 | 609 | 1,4-Dioxane

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	609	1,4-Dioxane					Charge Number
210819130514	3	A	X							IGMD
130614	1	"		X						"
133014	2	"			X					"

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/19/21 @ 1610		[signature]	8-23-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Anables & Dan Halvorsen present. Weather is partly cloudy, humid, & hot. This zone will be sampled using 5 triple rinsed stainless steel sample tubes. Surface checks performed on probe # 2213 prior to sampling. Carboy Gr. 2. Can in use.

30-Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	Lab
210817145OY	VOA by 8260	HCl / Ice	(3) 40 ml vials	2583	ALS

Initial Parameters

Time - 210817152SY
pH - 7.36
Temp - 24.9°C
Cond - 1219 uS/cm
Turb - 157 NTU
pHpre - 7.06 / 10.05 (33.5°C)
pHpost - 7.04 / 10.09
tmos - 12.58 psia
STW - ~~NA~~ 219.05

Final

210818101SY
7.07
23.6°C
1320 uS/cm
180 NTU
7.03 / 10.05 (23.3°C)
7.02 / 10.08
12.56 psia
219.30
IDW - 1 gal

Meter ID

pH/Cond - #12
Turb - #7
- STD - 49.3 NTU
- RDG - 48.9 NTU
- LOT - 91017
- EXP - 8/30/21

Buffers	lot	Exp
7	4007947	12/21
10	4101656	7/22

SAMPLES

Sample #	Analysis	Preserve	Container	lot	Lab
210818084SY	VOA by 8260	HCl / Ice	(3) 40 ml vials	2583	ALS
— 0846Y	607 / Bromacil	Ice	(1) 1L Amber	010350/6	SRI
— 0420Y	Total Metals	HNO3 / Ice	(2) 125 ml poly	210121	ALS
— 0921Y	Anions / Alk	Ice / Zero HS	"	N/A	"
— 0922Y	TDS by SM2540C	Ice	(1) "	"	"
— 0923Y	Perchlorate 6850	Ice / 1/3 HS	"	"	"
— 0924Y	NO2, NO3 353.2	H2SO4 / Ice	(1) 250 ml poly	210430	"

	1)	2)	3)	4)
Conc	71.48	71.46	71.41	71.39
	73.60	73.58	73.34	73.05
	73.50	73.31	73.12	72.93
	71.51	71.44	71.43	71.46

* High Turbidity

Continued from page

Read and Understood By

Signed — 8/18/21 Date

Signed — 8-23-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/17/21 Page 1 of 1

Sample Location: WB-5-345

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260							Charge Number
210817145041 (EB)	3	A	X							YGMD

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/17/21 @ 1600		[signature]	8-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/18/21 Page 1 of 1

Sample Location: WB-5-345

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607 / 8270	T. Metals	Anions / AIK	TDS	Perchlorate	NO2 NO3	Charge Number
210818 0845Y	3	A	X							XGMD
0846Y	1	↓		X						↓
0920Y	2				X					
0921Y	2					X				
0922Y	1						X			
0923Y	1							X		
0924Y	1	↓							X	↓

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MS	8/18/21 @ 1110		Jon W Munch	8-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Weather is clear & hot. This zone will be sampled using 5 triple rinsed stainless steel sample tubes. Surface checks performed on probe # 2213 prior to sampling. Carboy Gr. 3. Gen in use.

Trip Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210823073041	VOA by 8260 LL	HCl / Ice	(3) 40ml vials	2583	ALS

30-Min Equipment Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210823091541	VOA by 8260 LL	HCl / Ice	(3) 40ml vials	2583	ALS

Initial Parameters		Final	
Time	210823095541	210823110841	
pH	7.23	7.29	
Temp	26.4°C	26.7°C	
Cond	726 uS/cm	751 uS/cm	
Turb	4.77 NTU	1.76 NTU	
Apre	7.00 / 10.03 (28.1")	7.07 / 10.05 (35.2")	
Apost	7.01 / 10.02	7.09 / 10.06	
Hmax	12.56 psia	12.58 psia	
STW	306.72'	307.25'	
		IDW - 1 gal	

Meter ID

pH/Cond - # 12

Turb - # 7

= STD - 49.3 NTU

= RDG - 48.9 NTU

= LOT - 91047

= EXP - 8/30/21

Buffers	lot	Exp
7	4007947	12/21
10	410/656	7/22

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210823102541	VOA by 8260 LL	HCl / Ice	(3) 40ml vials	2583	ALS
102641	607 / Bromacil	Ice	(1) 1L Amber	01035016	SRI
110541	Total Metals	HNO3 / Ice	(2) 125ml poly	210121	ALS

Runs	1)	2)	3)
	109.40	109.41	109.30
	109.00	108.76	108.67
	108.49	107.52	107.90
	109.46	109.38	109.31

Continued from page

Read and Understood By

Signed _____ Date 8/23/21

Signed _____ Date 8-24-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/23/21 Page _____ of _____

Sample Location: WB-14-520

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 TC	607	T. Mehls					Charge Number
210823073O4 (TB)	3	A	X							XGMD
0915Y (EB)	3		X							
1025Y	3		X							
1026Y	1			X						
1105Y	2				X					

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8/23/21 @ 1120		[signature]	8-23-21 / 1130

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be collected using a standard pH/Cond. meter. DO and ORP will not be available. Carboy G5

PH/Cond meter # 11

pH/pre - 7.08/10.03 (20.6°c)

pH post - 7.06/10.04

Turb. meter # 6

" std - 3.17
" rdg - 3.27
" lot - 91017
" Exp - 9/30/21

Parameters (time)	temp (°c)	cond (us/cm)	PH	Turb (NTU's)	DTW (Ft.)
1) 210920 0845A	22.2	1304	8.24	1.24	121.18
2) ——— 0848A	22.1	1309	8.21	1.06	121.18
3) ——— 0851A	22.4	1311	8.18	1.03	121.18

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210920 0855A	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
——— 0856A	" (Dupl)	"	"	"	"
——— 0857A	" (FB)	"	"	"	"
——— 0858A	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
——— 0859A	" (FB)	"	"	"	"
——— 0900A	Total Metals	ice/HNO_3	(2) 125ml polys	21-01-21	ALS
——— 0901A	Anions/Alk.	ice	"	N/A	"
——— 0902A	TDS by SM2540C	"	(1) 125ml poly	"	"
——— 0903A	Perchlorate by 6850	"	"	"	"
——— 0904A	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"

Initial DTW - 120.97ft.

Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferraro 9/20/21 Signed Date

Pam Munch 9-20-21 Signature Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/20/21 Page 1 of 1

Sample Location: 200-JG-110

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	Anions/Alk.				Charge Number
Pertinent Notes (if any)			Analytical Requirement							
210920 0855A	3	A	✓							XGMD
0856A (Dupl.)	3	A	✓							"
0857A (FB)	3	A	✓							"
0858A	1	A		✓						"
0859A (FB)	1	A		✓						"
0900A	2	A			✓					"
0901A	2	A				✓				"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	TDS	Perchlorate	NO2/NO3					Charge Number
Pertinent Notes (if any)			Analytical Requirement							
210920 0902A	1	A	✓							XGMD
0903A	1	A		✓						"
0904A	1	A			✓					"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeTemple	9/20/21 0945hrs.		Jon W. Lund	9-21-21 /0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

sb Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will purged using a dedicated bladder pump. Samples will be collected using a flon discharge hose. Approx. purge volume ~ 2 gallons. Initial and final rameters will be collected using a standard pH/cond meter. Carboy G5 in use.

tal depth - 175.00ft.
nitial DTW - 158.86ft.
tart purge - 0800hrs.
top purge - 0850 hrs.
tal gallons purged - 2
nal DTW - 162.39ft.

Meter ID	
pH/Cond	63
Turb	7
" std	5.17
" rdg	5.25
" lot	91017
" Exp	9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

nitial Parameters
ime - 210914 0855C
H - 8.36
mp - 22.0°C
ond - 1780 us/cm
rb - 4.78 NTU's
pre - 7.09/10.05 (22.2°C)
post - 7.10/10.04
TW - 161.18ft.

Final
Time - 210914 0915C
PH - 8.16
Temp - 22.5°C
Cond - 1738 us/cm
Turb - 3.87 NTU's
pHpre - 7.04/10.01 (25.7°C)
pHpost - 7.05/9.99

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210914 0900C	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
—— 0901C	" (FB)	"	"	"	"
—— 0902C	~~607/8~~ " (Dpl.)	"	"	"	"
—— 0903C	607/Bromacil	ice	(1) 1L Amber	01035016	SRL
—— 0904C	Total Metals	ice/HNO_3	(2) 125ml poly	21-01-21	ALS
—— 0905C	" (FB)	"	"	"	"
—— 0906C	Anions/Alk.	ice	"	N/A	"
—— 0907C	TDS by SM2540C	"	(1) 125ml poly	"	"
—— 0908C	Perchlorate by 6850	"	"	"	"
—— 0909C	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	20-11-27	"

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/14/21 — Date

Jeri Mundt — Signed — 9-14-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/14/21 Page 1 of 1

Sample Location: 200-KV-150

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	Total Metals	Anions/Alk.				Charge Number
210914 0900C	3	A	✓							XGMD
0901C (FB)	3	A	✓							"
0902C (Dupl.)	3	A	✓							"
0903C	1	A		✓						"
0904C	2	A			✓					"
0905C (FB)	2	A			✓					"
0906C	2	A				✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: TDS	Perchlorate	NO_2/NO_3					Charge Number
210914 0907C	1	A	✓							XGMD
0908C	1	A		✓						"
0909C	1	A			✓					"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeFerrel	9/14/21 1100hrs.		Jon W Lund	9-15-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a dedicated tygon discharge hose. Carboy 61 in use.

Total depth - 138.29ft. (42.15m)
Initial DTW - 133.75ft. (40.77m)
start purge - 0945 hrs.
stop purge - 1045 hrs.
3 casing volumes - 2.4 gals.
purge rate ~~0.4 gpm~~ 0.04 gpm
Total gallons purged - 2.5
Final DTW - 134.60ft.

Meter ID
pH/cond - 61
Turb - 21
" std - 10.1
" rdg - 10.3
" lot - 91017
" Exp - 9/30/21

Buffers Lot Exp
7 4007947 12/21
10 4101E56 7/22

Initial Parameters
Time - 210907 1025B
PH - 7.36
Temp - 22.9°C
Cond - 1243 us/cm
Turb - 3.02 NTU's
pHpre - 7.04/10.07 (26.3°C)
pHpost - 7.03/10.07
DTW - 134.09ft.

Secondary
Time - 210907 1045B
PH - 7.27
Temp - 23.2°C
Cond - 1248 us/cm
Turb - 2.47 NTU's
pHpre - 7.04/10.06 (26.8°C)
pHpost - 7.02/10.07
DTW - 134.25ft.

Final
Time - 210907 1330B
PH - 7.40
Temp - 23.7°C
Cond - 1233 us/cm
Turb - 1.89 NTU's
pHpre - 6.99/9.97 (32.3°C)
pHpost - 7.01/9.94

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210907 1050B	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
—— 1051B	" (FB)	"	"	"	"
—— 1052B	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
—— 1100B	SVOA by 8270D	"	(2) 1L Ambers	110920-1DK	ALS
—— 1255B	Pesticides by 8081B	"	(1) 1L Amber	"	"
—— 1300B	Herbicides by 8151A	"	"	"	"
—— 1305B	PCB's by 8082A	"	"	"	"
—— 1310B	Dioxins/Furans by 8290	"	"	0103501G	SRI
—— 1315B	Phenolics by 9066	ice/H_2SO_4	(1) 250ml amber	080320-1BMC	ALS
—— 1318B	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	"
—— 1319B	Anions/Alk.	ice	"	N/A	"

Continued ~~from~~ page 96 on

Read and Understood By

Craig Del Ferro — Signed — 9/7/21 — Date

Jon Munch — Signed — 9-8-21 — Date

Samples (cont.)

Sample	Analysis	Preservative	Container	Lot	Lab
210907 1320B	TDS by SM2540C	ice	(1) 125ml poly	N/A	ALS
1321B	Perchlorate by 6850	"	"	"	"
1322B	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"
1323B	Cyanide by 9012B	ice/NaOH	(1) 125ml poly	208385	"
1324B	Sulfide by 9030	ice/ZA/NaOH	(1) 500ml poly	120417-2AAW	"

Continued from page

Read and Understood By

Craig Del Fenno — Signed — 9/7/21 — Date

Lori Munch — Signed — 9-8-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/7/21 Page 1 of 2

Sample Location: 200-SG-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	8270					Charge Number
210907 1050B	3	A	✓							XGMD
1051B (FB)	3	A	✓							"
1052B	1	A		✓						"
1100B	2	A			✓					"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Dolfenno	9/7/21 1125hrs.		Jon W Jund	9-8-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/7/21 Page 2 of 2

Sample Location: 200 - SG-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Pesticides	Herbicides	PCB's	Dioxins/Furans	Phenolics	Total Metals	Anions/Alk	Charge Number
210907 1255B	1	A	✓							XGMD
~~1256B~~ CO 1300B	1	A		✓						〃
1305B	1	A			✓					〃
1310B	1	A				✓				〃
1315B	1	A					✓			〃
1318B	2	A						✓		〃
1319B	2	A							✓	

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	TDS	Perchlorate	NO_2/NO_3	Cyanide	Sulfide			Charge Number
210907 1320B	1	A	✓							XGMD
1321B	1	A		✓						〃
1322B	1	A			✓					〃
1323B	1	A				✓				〃
1324B	1	A					✓			〃

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig McFerrell	9/7/21 1400 hrs.		Jon Munch	9-8-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Dan Halvorsen present. Weather is clear & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge hose. Water quality parameters will be monitored using a QED M.20 flow cell & water analyzer. Carboy G-1

Calibrations

Initial DTW - 127.95'

DO - Cal in saturated air @ 642 mm/Hg

Conductivity - Cal using 1413 us/cm STD solution.

IDW - 1.5 gal

pH - Cal using Oakton Buffers (4,7,10)

Turbidity Meter - #6 STD - 3.17 NTU 20G - 2.86 NTU Lot - 9/017 Exp - 9/30/21

Parameters (time)	Temp (°C)	Cond (us/cm)	pH	DO	ORP	Turb (NTU)	DTW (ft)
210913 0950A	21.43	800	8.47	1.05	47	2.09	128.25
〃 0952A	21.47	816	8.11	1.11	69	3.25	-
〃 0954A	21.44	863	8.27	0.94	70	2.84	-

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210913 1000A	VOA by 8260	HCl / Ice	(3) 40 ml vials	2583	ALS
1001A	" (Dup)	"	"	"	"
1002A	" (FB)	"	"	"	"
1003A	607 / Bromoil	Ice	(1) 1L Amber	0103501G	STL
1004A	" (Dup)	"	"	"	"
1005A	SVOA by 8270D	"	(2) "	121420 DK	ALS
1006A	Pesticide 8081B	"	(1) "	"	"
1007A	Herbicide 8151A	"	"	"	"
1008A	PCBs 8082A	"	"	"	"
1009A	Phenolics 9066	H_2SO_4 / Ice	(1) 250 ml Amber		"
1010A	Total Metals	HNO_3 / Ice	(2) 125 ml poly		"
1011A	Anions / Alk	Ice / ZeroHS	"	N/A	"
1012A	TDS by SM2540C	Ice	(1) "	"	"
1013A	Perchlorate 6850	Ice / 1/3 HS	"	"	"
1014A	NO_2, NO_3 353.2	H_2SO_4 / Ice	(1) 250 ml poly		ALS
1015A	Cyanide 9012B	NaOH / Ice	(1) 125 ml poly		"
1016A	Sulfide 9030	Zinc Acetate / NaOH / ZeroHS / Ice	(1) 250 ml poly		"
1017A	Dioxin / Furan	Ice	(1) 1L Amber		"

Continued from page

Read and Understood By

Signed — 9/13/21 Date

Signed — 9-14-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: ~~300-A~~ 9/13/21 Page _____ of _____

Sample Location: 300 · A · 120

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	5030A 8270	Pesticide				Charge Number
210913 1000A	3	A	X							XGMD
1001A (Dup)	3		X							
1002A (FB)	3		X							
1003A	1			X						
1004A (Dup)	1			X						
1005A	2				X					
1006A	1					X				

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Herbicide	PCB	Phenolics	T. Metals	Anions/Alk	TDS	Perchlorate	Charge Number
210913 1007A	1	A	X							XGMD
1008A	1			X						
1009A	1				X					
1010A	2					X				
1011A	2						X			
1012A	1							X		
1013A	1								X	

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9/13/21 @ 1110		[signature]	9-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/13/21 Page 2 of 2

Sample Location: 300.A.120

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	NO_2/NO_3	Chloride	Sulfide	DNS/Knapps				Charge Number
210913 1014A	1	A	X							VGMD
1015A	1			X						
1016A	1				X					
1017A						X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9/13/21 @1110		[signature]	9-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Carboy 65 in use.

Total depth - 181.59ft. (55.35m)
Initial DTW - 160.70ft. (48.98m)
start purge - 0800 hrs.
Stop purge - 1100 hrs.*
3 casing volumes - 48 gallons
purge rate - 0.167 gpm
Total gallons purged - 48
final DTW - 162.70ft.

Meter ID	
pH/cond	11
Turb	6
" rdg	3.17
" lot	91017
" std	3.17
" Exp	9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Initial Parameters
Time - 210916 1330C
PH - 7.53
Temp - 22.9°C
Cond - 1254 us/cm
Turb - 1.68 NTU's
pH pre - 7.03/10.06 (27.8°C)
pH post - 7.04/10.06
DTW - 162.41ft.

Secondary
Time - 210916 1440C
PH - 7.42
Temp - 22.8°C
Cond - 1271 us/cm
Turb - 1.35 NTU's
pH pre - 7.01/10.03 (29.0°C)
pH post - 6.98/10.04
DTW - 162.63ft.

Final
Time - 210916 1450C
PH - 7.38
Temp - 23.4°C
Cond - 1268 us/cm
Turb - 1.21 NTU's
pH pre - 7.01/9.94 (29.6°C)
pH post - 6.98/9.93

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210916 1441C	VOA by 8260	ice/HCL	(3)40ml vials	2596	ALS
——— 1442C	" (FB)	"	"	"	"
——— 1443C	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
——— 1444C	Total Metals	ice/HNO_3	(2)125ml poly's	21-01-21	ALS
——— 1445C	" (Dupl.)	"	"	"	"

* 30 gallons was purged between 8 & 11 before crew broke off for lunch. Purging resumed @ 1255 hrs. and continued on until the remaining 18 gallons was collected prior to sampling. Purging concluded @ 1440 hrs.

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/16/21 — Date

Jon Munch — Signed — 9-20-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/16/21 Page 1 of 1

Sample Location: 300-D-153

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	Total Metals					Charge Number
210916 1441C	3	A	✓							XGMD
1442C (FB)	3	A	✓							"
1443C	1	A		✓						"
1444C	2	A			✓					"
1445C (Dupl.)	2	A			✓					"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig McFerren	9/16/21 1520hrs.		Jon Munch	9-20-21 / 0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 700 A-253 ENV. 0053

Notebook No. D32 #121 (c)

Continued from page ____

Dan Halvorsen & Tony Tarver present. The weather is clear & cool. This well will be purged & sampled using a dedicated Teflon bladder pump. Samples collected from a Teflon discharge tube. Carboy G-1

	Initial	Final
	210929 0855c	210929 0945c
pH	7.48	7.41
Temp	21.9	22.8 °c
Cond	1129 µs/cm	1143 µs/cm
Turb	0.52	0.76 NTU's
pH pre	7.08/10.06 (22.6)	7.06/10.07 (22.8°c)
pH post	7.06/10.08	7.09/10.09
DTW		

Meter ID's
pH/cond #61
Turb # 21
" std = 10.1
" Mfg = 9.90
" Lot # 91017
" Exp = 9-30-21

WSTF Trip Banks (Nanopure)

Sample #	Analysis	Preserv	Cont	Lab
210929 0700c	8260 VOA MTBE 1,2,4-TCB	Ice/HCl	(2) 40ml vials	Heal
0701c	EDB/DBCP 504.1	Ice	(1) 40ml vial	"

WSTF FB set

Samples

Sample #	Analysis	Cont Preserv	Lot #	Preserv Cont	Lab
210929 0800c	8260	(3) 40ml vials		Ice/HCl	Als
0801c	" (FB)	"		"	"
0802c	607	(1) 1Lt Amber		Ice	Brl
0803c	Perchlorates	(1) 125ml poly		"	Als

Landfill Samples

Sample #	Analysis	Preserv.	Cont	Preserv	Lab
210929 0804c	8260 VOA MTBE 1,2,4-TCB	Ice/HCl	(4) 40ml vials	Met	Heal
0805c	" (FB)	"	"		"
0806c	EDB/DBCP 504.1	Ice/$Na_2S_2O_3$	(2) "		"
0807	" (FB)	"	(2) "		"
	SVOA, ATR, PCP, PAH, BNAs PCB, BEHP, 8270, 8310	Ice	(4) 1Lt Amber		
	" (FB)	"	"		
0808c	" (Dup)	"	(2) 40ml vials		Heal
0809c	SVOA, ATR, PCP, PAH, PCB BEHP, 8270, 8310, 8082	Ice	(4) 1Lt Amber		"
0810c	" (FB)	"	"		"

Continued from page N/A

Read and Understood By

T. D. Signed — 9-29-21 Date — Lori W Munck Signed — 9-30-21 Date

LANDFILL SAMPLES CONT.

SAMPLE #		ANALYSIS	PRESERV	CONT	LAB
210929	0911c	Phenols 9067	ICE/H_2SO_4	(1) 1 LT Amber	Heal
	0912c	" (FB)	"	"	"
	0913c	Cyanide 335.4	ICE/NaOH	(1) 1 Brown 500ml poly	"
	0914c	" (FB)	"	"	"
	0915c	METALS 200.7, 200.8 245.1	ICE/HNO_3	(1) 250ml poly	"
	0916c	" (FB)	"	"	"
	0917c	Rad 226/228/9031.1/9040	ICE/HNO_3	(2) 1 LT poly	"
	0918c	" (FB)	"	"	"
	0919c	TOC 9060	ICE/HCl	(2) 40ml VIALS	"
	0920c	" " (FB)	"	"	"
	0921c	CLF, SO4, TOTAL P, NO3, NO2 TDS ALK, 300.0/9040/SM 2320, SM 2510/SM 2540	ICE	(1) ~~500ml poly~~ 1 LT POLY	"
	0922c	" (FB)		"	"
	0923c	NH_3, NO_2, NO_3, TKN, TOTAL N SM 4500 / 300.0		(1) 500ml poly	"
	0924c	" (FB)		"	"

HEAL TRIP BLANKS

SAMPLE #		ANALYSIS	PRESERV	CONT	LAB
210529	0925c	8260 DOA, MTBE 1,2,4, TCB	ICE/HCl	(2) 40 ml VIALS	HEAL
	0926c	EDB/DBCP 504.1	ICE/$Na_2S_2O_3$	(1) 40 ml VIAL	"

Continued from page

Read and Understood By

T. [signature] Signed — 9-29-21 Date

[signature] Signed — 9-30-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-29-21 Page 1 of 3

Sample Location: 700A-253

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA	607	Phenols	8260 VOA MTBE 1,2,4 TCB				Charge Number
										~~XPCC~~
210929 0900c	3	A	X							XGMD
0901c (FB)	3		X							"
0902c	1			X						"
0903c	1				X					"
0904c	4					X				XPCC
0905c (FB)	4					X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: WCAD/CBOD 507.1	8270 ATRAZINE, PCP, PAH, PCB, BENZ, 8270, 8310 8082	8067 Phenols					Charge Number
210929 0906c	2		X							
0907c (FB)	3		X							
0908c (Dup)	3		X							
0909c	4			X						
0910c (FB)	4			X						
0911c	1				X					
0912c (FB)	1				X					✓

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	9-29-21		[illegible]	9-30-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-29-21

Sample Location: 700-A-253

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Cyanide 335.4	Metals 200.7 200.8 245.1	Rad 226/228 9031/9320					Charge Number
										XPCC
210929 0913c	1	A	X							
— 0914c (F3)	1	|	X							
— 0915c	1	|		X						
— 0916c (F3)	1	|		X						
— 0917c	2	|			X					
— 0918c (F3)	2	|			X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: TOC 9060	Cl, F, SO4, Total Alk, TDS, Alk 300.0 NO3 TDS, ALK 300.0 SO4 Sm 2320, Sm 2540	NH4 TKN NO2 TK Total N Sm 4500/350.0					Charge Number
— 0919c	2	A	X							
— 0920c (F3)	2	|	X							
— 0921c	1	|		X						
— 0922c (F3)	1	|		X						
— 0923c	1	|			X					
— 0924c (F3)	1	|			X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	9-29-21		[signature]	9-30-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-29-21

Sample Location: 700.A.253

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 124 TCB PAHs VOA MTBE	Analytical Requirement: EDB, DBCB 504.1	Charge Number
210929 0700c (TB)	2	A	X		XPCC WSTF TB w/ FB set
0701c (TB)	1	|		X	WSTF TB w/ FB set
0925c (TB)	2	|	X		
0926c (TB)	1	|		X	
(FB)					
TB					

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Tb	9-29-21		[signature]	9-30-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Tony Torres present. The weather is overcast & cool. This well will be purged & sampled using a Dedicated Teflon bladder pump. Samples will be collected from a Teflon discharge tube. Carboy G-

	INITIAL	FINAL	METER ID's
	210928 0855c	210928 0950c	pH/Cond # Cal
pH	7.53	7.50	Tub# 21
Temp	19.9 °c	19.7 °c	" STD = 10.1
Cond	1384 µs/cm	1377 µs/cm	" LOT# 91017
Turb	0.23 NTU's	0.18	" Exp= 10-30-21
pH pre	7.06/10.11 (16.7)	7.07/10.14 (17.8 °c)	" Rdg 9.89
pH post	7.08/10.14	7.07/10.11	
DTW			

Sample Trip Blanks

Sample #		Analysis	Preserv.	Lot #	Cont	Lab
210928	0900c	VOA MTBE 1,2,4-TCB	ICE/HCl	N/A	(2) 40ml vials	HEAL
"	0901c	EDB/DBCP	ICE/$Na_2S_2O_3$		(1) "	

Samples

Sample #		Analysis	Preserv	Lot #	Cont	Lab
210928	0902c	8260	ICE/HCl	2596	(3) 40ml vials	ALS
"	0903c	" (FB)	"	"	"	"
"	0904c	GRO	ICE	0103501G	(1) 1LT Amber	SRL
"	0905c	Perchlorate	"	N/A	(1) 125ml poly	ALS

Landfill Samples

Sample #		Analysis	Preserv	Lot #	Cont	Lab
210928	0906c	VOA MTBE, 1,2,4-TCB 8260	ICE/HCl	N/A	(4) 40ml vials	HEAL
"	0907c	" (Dup)	"	"	(3) "	"
"	0908c	EDB/DBCP 504.1	ICE/$Na_2S_2O_3$	"	(2) "	"
"	0909c	SVOA/PAH; ATRAZINE 8270/8310 PENTACHLOROPHENOL PCBs BEHP 8082	ICE	"	(4) 1LT Amber	"
"	0910c	Phenols	ICE/H_2SO_4	"	(1) "	"
"	0911c	Cyanide 335.4	ICE/NaOH	"	(1) 500ml poly	"
"	0912c	metals 200.7, 200.8, 245.1	ICE/HNO3	"	(1) 250ml poly	"
"	0913c	" (Dup)	"	"	"	

Continued from page 75

Read and Understood By

T. [signature] Signed — 9-28-21 Date

[signature] Signed — 9-29-21 Date

Land Fill Samples (Cont.)

Sample #	Analysis	Preserv	Cont #	Cont	Lab
210928 0914C	Rad 226/228 903.1 904.0	ICE / HNO_3	N/A	(2) 1LT Poly	Hall
0915C	TOC 9060	ICE / HCl	"	(2) 40ml Amber	"
0916C	Cl, F, SO_4, Total Phosphate 300.0 sm4500 pH, NO_2, NO_3, TDS, Alk 9040, In 2540 sm4500	ICE	"	(1) 1LT Poly	"
0917C	" (Dup)	ICE	"	"	"
0918C	Ammonia NO_2 NO_3 TKN Total N sm4500 / 300.0	ICE / H_2SO_4	"	(1) 500ml poly	"

Continued from page

Read and Understood By

T. J. K
Signed

9-28-21
Date

Jane M Munch
Signed

9-29-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-28-21 Page 1 of 2

Sample Location: 700-D-186

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	MTBE 8260 VOA 1,2,4-TMB	EDB/DBCP 504.1	BTEX 8021	GRO	PAHs 8270 - SIM			Charge Number
										XPCC
210928 0900c (TB)	2	A	X							
0901c (TB)	1			X						
0902c	3				X					
0903c FB)	3				X	FA				
0904c	1					X	FA			
0905c	1						X			
0906c	4		X							

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 VOA MTBE 1,2,4 TMB	EDB/DBCP 504.1	SVOA, AMMONIA, PCP, BENZ HP 8270, 8082	PHENOLS	CYANIDE 335.4	METALS		Charge Number
210928 0907c (Dup)	3	A	X							
0908c	2			X						
0909c	4				X					
0910c	1					X				
0911c	1						X			
0912c	1							X		
0913c (Dup)	1							X		

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Dy	9-28-21		[signature]	9-29-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-28-21 Page 2 of 2

Sample Location: 700-A-196

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Rad 226/228 Gas. Gross α,β	TIC 8260	Cl, F, SO4, Total P, NO3, NO2, TDS ALK 300.0 Graph 2320 2510 2540	NH3, NO3, NO2, TKN Turbid, Sea Kool 300.0				Charge Number
										XPCC
210928 0914C	2	A	X							
0915C	2	|		X						
0916C	1	|			X					
0917C (Dup)	1	|			X					
0918C	1	|				X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D.	9-28-21		Jon W Munch	9-29-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is cloudy & cool. This zone will be sampled using 5 steam cleaned & triple rinsed, stainless steel Sample tubes. Gen. in use. Probe #2167. Surface checks performed on probe prior to sampling.

30 Min Equipment Blanks - Carboy G3

Sample	Analysis	Preservative	Container	Lot	Lab
210928 0810Y	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
——— 0811Y	607/Bromacil	ice	(1) 1L Amber	01035016	SPL

Initial Parameters
Time - 2109280920Y
PH - 7.80
Temp - 17.8°C
Cond - 818 us/cm
Turb - 1.11 NTU's
pH pre - 7.15/10.13 (18.0°C)
pH post - 7.16/10.11
DTW - 260.80ft
Atmos - 12.34psia

Final
Time - 2109281546Y
PH - 8.03
Temp - 19.0°C
Cond - 831 us/cm
Turb - 0.90 NTU's
pH pre - 7.04/10.07 (24.3°C)
pH post - 7.04/10.09
DTW - 261.07ft.
Atmos - 12.31psia
IDW - ½ gal.

Meter ID
pH/Cond - 60
Turb - 20
" Std - 5.56
" rdg - 5.65
" lot - 91017
" Exp - 9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210928 1521Y	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
——— 1522Y	607/Bromacil	ice	(1) 1L Amber	01035016	SPL
——— 1545Y	Perchlorate by 6850	"	(1) 125ml poly	N/A	ALS

Landfill Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210928 0950Y	VOA+MTBE, TCB & 8260 (FB)	ice/HCL	(2) 40ml vials	60282	HEAL
——— 0951Y	EDB/DBCP by 504.1 (TB)	(Sodium Thiosulfate)	(1) 40ml vial	227633	"
——— 0952Y	VOA+MTBE, TCB & 8260	ice/HCL	(4) 40ml vials	60282	"
——— 0953Y	EDB/DBCP by 504.1	NA/Thiosulfate	(2) 40ml vials	227633	"
——— 0954Y	(Cl, F, SO_4, Total Phosphate, pH, NO_3 as N, TDS, Alk.)	ice	(1) 1L Poly	N/A	"

Continued from page 37

Read and Understood By

Craig Del Ferro — Signed — 9/28/21 — Date

Peri Munch — Signed — 9-29-21 — Date

Landfill Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210928 1025y	NH_4/NO_2/NO_3/TKN total N	ice/H_2SO_4	(1) 500ml poly	N/A	HEAL
1026y	" (Dupl.)	"	"	"	"
1055y	SVOA/Atrazine, PAH's PCB's/BEHP	ice	(4) 1L Ambers		"
1355y	Phenols/9067W	ice/H_2SO_4	(1) 1L Amber	"	"
1420y	Cyandine by 335.4	ice/NaOH	(1) 500ml br. poly	"	"
1445y	Metals/200.7/200.8/245.1	ice/HNO_3	(1) 250ml poly	"	"
1446y	RADCM: Ra-226/228 903.1/904.0	"	(2) 1L Poly's	"	"
1520y	TOC/9060W	ice/HCL	(2) 40ml vials	59072	"

Runs

1)	2)	3)	4)	5)
55.25	55.21	55.19	55.16	55.12
64.59	64.61	64.58	64.61	64.61
64.55	64.63	64.59	64.64	64.60
55.21	55.19	55.18	55.16	55.12

6)	7)	8)	9)	10)
55.10	55.04	55.04	55.01	54.98
64.58	64.59	64.56	64.55	64.56
64.56	64.61	64.60	64.59	64.54
55.08	55.07	55.07	55.04	55.10

11)	12)
54.94	54.88
64.55	64.55
64.61	64.59
54.90	54.13

Continued from page

Read and Understood By

Craig Del Fermo — Signed — 9/28/21 — Date

Jon Munch — Signed — 9-29-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/28/21 Page 1 of 2

Sample Location: 700-H-350

Sample Number	# of Containers	Sample Matrix*	8260	607	TCB/8260/MTBE	EDB/DBCP	Cl, F, SO4, TDS Total Phosphate			Charge Number
Pertinent Notes (if any)										
210928 0810Y (EB)	3	A	✓							XGMD
0811Y (EB)	1	A		✓						"
0950Y (TB)	2	A			✓					XPCC
0951Y (TB)	1	A				✓				"
0952Y	4	A			✓					"
0953Y	2	A				✓				"
0954Y	1	A					✓			"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Amon NH_4 NO_2/NO_3 TKN	SVOA/BEHP						Charge Number
Pertinent Notes (if any)										
210928 1025Y	1	A	✓							XPCC
1026Y (Dupl.)	1	A	✓							"
1055Y	4	A		✓						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Ray Del Fierro	9/28/21 1115hrs.		[signature]	9-29-21 / 0940

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/28/21 Page 2 of 2

Sample Location: 700-H-350

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	SVOA/BEHP	Phenols	Cyanide	Metals	Ra-226/228	TOC	8260	Charge Number
210928 1055Y	3	A	✓							XPCC
1355Y	1	A		✓						"
1420Y	1	A			✓					"
1445Y	1	A				✓				"
1446Y	2	A					✓			"
1520Y	2	A						✓		"
1521Y	3	A							✓	XGMD

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	607	Perchlorate						Charge Number
210928 1522Y	1	A	✓							XGMD
1545Y	1	A		✓						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFranco	9/28/21 1605 hrs.		[signature]	9-29-21 /0940

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

0
ROJECT 700-H-535 WJI ENV-0020

Notebook No. D64#128(Y)
Continued from page ____

Bob Tufts & Craig Del Ferraro present. Weather is cloudy & warm. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #2167. Surface checks performed on probe prior to sampling.

30 Min Equipment Blanks - Carboy G3

Sample	Analysis	Preservative	Container	Lot	Lab
210929 1510Y	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
—— 1511Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-03-21	~~SRT~~ ALS

Initial Parameters
Time - 210928 1550Y
pH - 8.61
Temp - 20.2°C
Cond - 672 us/cm
Turb - 1.13 NTU's
pH pre - 7.02/9.98 (27.0°C)
pH post - 7.03/9.98
DTW - 261.33 ft.
Atmos - 12.39 psia

Final
Time - 210930 1055Y
pH - 8.77
Temp - 18.5°C
Cond - 713 us/cm
Turb - 0.26 NTU
pH pre - 7.05/10.05 (14.0°C)
pH post - 7.03/10.04
DTW - 261.85'
Atmos - 12.37 psia
IDW - 0.25 gal

Meter ID
pH/Cond - 60
Turb - 20
" std - 5.56
" rdg - 5.62
" lot - 91017
" Exp - 9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Trip blanks collected from WSTF ✱

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210930 0935Y	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
—— 0936Y	607/Bromacil	ice	(1) 1L Amber	0103501G	SRT
—— 1020Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
—— 1021Y	Anions/Alk.	ice	"	N/A	"
—— 1050Y	TDS by SM2540C	"	(1) 125ml poly	"	"
—— 1051Y	Perchlorate by 6850	"	"	"	"
—— 1052Y	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"

Landfill Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210930 0700Y	VOA+MTBE/TCB/8260LF (TB)	ice/HCl	(2) 40ml vials	2596	HEAL
—— 0800Y	VOA+MTBE/TCB/8260LF	"	(4) "	60358	"
—— 0801Y	SVOA/Atrazine/PAHs/PCB's BEHP	ice	(4) 1L Ambers	N/A	"

Continued ~~from~~ on page 41

Read and Understood By

Signed — 9/30/21 Date — Signed — 9-30-21 Date

Runs

1)	2)	3)	4)	5)
142.07	142.05	142.02	141.97	141.92
150.85	150.83	150.85	150.81	150.78
150.83	150.75	150.69	150.76	150.67
142.10	142.03	142.03	142.01	141.92

6)	7)
141.86	141.81
150.81	150.79
150.67	150.68
141.90	141.82

Continued from page

Read and Understood By

Signed — Date: 9/30/21

Signed — Date: 9-30-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/29/21 Page 1 of 2

Sample Location: 700-H-535

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	Total Metals						Charge Number
210929 1510Y (EB)	3	A	✓							XGMD
1511Y (EB)	2	A		✓						a

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Wolfenbarger	9/28/21 1615hrs.		[signature]	9-30-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/30/21 Page 1 of 1

Sample Location: 700·H·535

Pertinent Notes (if any): Landfill

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LF VOA, NTBE, TCB	SVOA, Atrazine, PAH, PCB, BEHP						Charge Number
210930 0700 Y (TB)	2	A	X							XPCC
0800 Y	4	A	X							
0801 Y	4	A		X						

Sample Location: 700·H·535

Pertinent Notes (if any): WSTF

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/810	T. Metals	Anions/Alk	TDS	Perchlorate	NO2 NO3	Charge Number
210930 0935 Y	3	A	X							XGMD
0936 Y	1	A		X						
1020 Y	2	A			X					
1021 Y	2	A				X				
1050 Y	1	A					X			
1051 Y	1	A						X		
1052 Y	1	A							X	

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9/30/21 @ 1110		[signature]	9-30-21 / 1115

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 700-H-670 WJI ENV-0020 Notebook No. D64 #128(4)

Continued from page ____

Bob Tufts & Craig Del Ferraro present. Weather is clear, cool, & breezy. This zo
will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use
Probe # 2167. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G3

Sample	Analysis	Preservative	Container	Lot	Lab
210929 0745Y	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS

Initial Parameters

Time - 210929 0823Y
PH - 8.50
Temp - 18.0°C
Cond - 635 us/cm
Turb - 1.92 NTU's
pH pre - 7.12/10.10 (17.4°C)
pH post - 7.13/10.08
DTW - 261.07 ft.
Atmos - 12.36 psia

Final

Time - 210929 1120Y
PH - 8.62
Temp - 18.5°C
Cond - 627 us/cm
Turb - 0.41 NTU's
pH pre - 7.05/10.07 (22.3°C)
pH post - 7.04/10.09
DTW - 261.33 ft.
Atmos - 12.38 psia
IDW - ½ gal.

Meter ID

pH/Cond - 60
Turb - 20
" Std - 5.56
" rdg - 5.62
" lot - 91017
" Exp - 9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210929 0850Y	VOA by 8260	ice/HCL	(3) 40ml vials	2596	ALS
0851Y	607/Bromacil	ice	(1) 1L Amber	01035016	SRI
0852Y	Total Metals	ice/HNO_3	(2) 125ml poly	21-01-21	ALS
0915Y	" (Dupl.)	"	"	"	"
0916Y	Perchlorate by 6850	ice	(1) 125ml poly	N/A	"

Landfill Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210929 0917Y	VOA + MTBE, TCB/8260 (TB)	ice/HCL	(2) 40ml vials	2596	HEAL
0918Y	VOA + MTBE, TCB/8260	"	(4) 40ml vials	60358	"
0919Y	SVOA/Atrazine/PAH/PCB's BEHP	ice	(4) 1L Ambers	N/A	"

*Trip blanks collected are "WSTF" sets.

Continued ~~from~~ page 39

Craig Del Ferraro
Signed

9/29/21
Date

Read and Understood By

Jon Munch
Signed

9-30-21
Date

Runs

1)	2)	3)	4)
193.95	193.93	193.90	193.46
202.60	202.58	202.57	202.57
202.58	202.54	202.58	202.55
193.94	193.90	193.87	193.48

5)	6)	7)	8)
193.83	193.82	193.79	193.75
202.53	202.55	202.52	202.53
202.57	202.55	202.48	202.50
193.86	193.79	193.78	193.77

Continued from page

Read and Understood By

Craig Del Zenno — Signed — 9/29/21 — Date

Jon Munch — Signed — 9-30-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/29/21 Page 1 of 1

Sample Location: 700-H-670

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	Perchlorate	VOA/MTBE TCB			Charge Number
210929074SY (EB)	3	A	✓							XGMD
0850Y	3	A	✓							4
0851Y	1	A		✓						4
0852Y	2	A			✓					4
0915Y (Dup1)	2	A			✓					4
0916Y	1	A				✓				4
0917Y (TB)	2	A					✓			XPCC

Sample Location:

Sample Number	# of Containers	Sample Matrix*	VOA+MTBE TCB	SVOA/Atrazine PCB's/PAH						Charge Number
210929091BY	4	A	✓							XPCC
0919Y	4	A		✓						4

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	9/29/21 1135hrs.			9-30-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

arcus Avalos & Robert Burrows present. Weather is cloudy, cool, & light rain. This ll will be purged using a dedicated bladder pump. Samples will be collected using a w teflon discharge hose. Water quality parameters will be monitored using a QED 2·20 flow cell & water analyzer. Carboy G·5

alibrations

Initial DTW - 116.40'

·. Cal in saturated air @ 637 mm/Hg.
·. Cal using Oakton Buffers (4,7,10)
nductivity· Cal using 1413 us/cm STD solution.
fy Meter· # 7 STD - 5.17 NTU RDG - 46.8 NTU Lot· 9107 Exp· 9/30/21

ameters (time)	temp('c)	Cond (ms/cm)	pH	DO	ORP	Turb (NTU)	DTW (ft)
210928 0900 A	21.66	1.160	7.44	1.54	181	5.81	116.88'
— 0902 A	21.65	1.159	7.52	1.23	181	6.11	--
— 0904 A	21.65	1.158	7.45	1.13	181	7.17	--

WSTF Samples

ample #	Analysis	Preserve	Container	Lot	lab
210928 0910 A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2576	ALS
— 0911 A	: (FB)	:	:	:	:
— 0912 A	607/Bromacil	Ice	(1) 1L Amber	0103501G	SRI
— 0913 A	Perchlorate 6850	Ice/⅓ HS	(1) 125 ml poly		ALS

Landfill Trip Blanks

mple #	Analysis	Preserve	Container	Lot	lab
210928 0700 A	VOA, MTBE, 1,2,4 TCB, 8260	HCl/Ice	(2) 40ml vials		Heal
— 0701 A	EDB/DBCP 504.1	Ice/SoTh	(1) 40ml vials		:

Landfill Samples

mple #	Analysis	Preserve	Container	lab
210928 0914 A	VOA, MTBE, 1,2,4 TCB 8260	HCl/Ice	(4) 40ml vials	Heal
— 0915 A	: (Dup)	:	(3) :	:
— 0916 A	EDB/DBCP 504.1	Ice/SoTh	(2) :	:
— 0917 A	SVOA, ATR, PCP, PAH, PCB, BEHP 8270/8310/8082	Ice	(4) 1L Amber	Heal
— 0918 A	SVOA, ATR, PCP, PAH, PCB, BEHP 8270/8310/8082 (Dup)	Ice	(4) 1L Amber	Heal

Continued from page

Read and Understood By

Signed — Date 9/28/21

Signed — Date 9-29-21

Landfill Samples Cont

Sample #	Analysis	Preserve	Container	lot	Lab
21092809194	Phenols 9067	H_2SO_4/Ice	(1) 1L Amber		Heal
—— 0920A	Cyanide 335.4	NaOH/Ice	(1) 500ml brown poly		"
—— 0921A	Metals 200.7, 200.8, 245.1	HNO_3/Ice	(1) 250ml poly		"
—— 0922A	Rad-226/228 903.1/904.0	"	(2) 1L poly		"
—— 0923A	TOC 9060	HCl/Ice	(2) 40ml Amber vial		"
—— 0924A	Cl, F, SO4, Total P, NO3, NO2, TDS, Alkalinity, 300.0/9040/SM2320/SM2510/SM2540	Ice	(1) 1L HDPE		"
—— 0925A	NH3, NO2/NO3, TKN, Total N SM4500/300.0	H_2SO_4/Ice	(1) 500ml poly		"

IDW - 2.5 gal

* Cap from 21092809254 was accidentally put on 21092809244 which contained H_2SO_4 preserv. Caps were switched.

Continued from page

Read and Understood By

MG — Signed — 9/28/21 — Date

Jon Munch — Signed — 9-29-21 — Date

Marcus Anables & Robert Boisvenue present. Weather is clear & cool. This well will purged & sampled using a dedicated bladder pump. Samples will be collected using a w teflon discharge hose. Water quality parameters will be monitored using a QED 2.20 flow cell & water analyzer. Carboy G·5

alibrations

Initial DTW: 116.40'

D- Cal in saturated air @ 637 mm/Hg.
H- Cal using Oakton Buffers (4,7,10)
onductivity- Cal using 1413 us/cm STD solution.
rb Meter: #7 STD: 51.17 NTU RDG: 47.7 NTU Lot-9107 Exp- 9/30/21

rameters (time)	temp(°C)	Cond (ms/cm)	PH	DO	ORP	Turb(NTU)	DTW(ft)
210929 0820A	21.76	1.168	7.38	3.34	169	6.05	116.60'
—— 0822A	21.79	1.165	7.40	2.98	168	5.08	"
—— 0824A	21.77	1.179	7.41	2.92	167	5.19	"

Landfill Resample

ample #	Analysis	Preserve	Container	lot	lab
210929 0830A	Cl, F, SO4, Total P, NO3/NO2, TDS, Alkalinity- 300.0/9040/SM2320/SM2510/SM2540	Ice	(1) 1L Poly		Heal

IDW- 2 gal

Continued from page

Read and Understood By

NS CB
Signed

9/29/21
Date

Jeni Mencke
Signed

9.29.21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/28/21 Page 1 of 1

Sample Location: 700 - J - 200

Pertinent Notes (if any): Landfill Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA MTBE 1,2,4 TCB 8260	EDB/DBCP 504.1	SVOA, ATZ, RP, PAH, PCB, BEHP, 8270 830, 8082					Charge Number
210928 0700 A (TB)	2	A	X							~~XGMD~~ MD XPCC
0701 A (TB)	1			X						
0914 A	4		X							
0915 A	3		X	~~X~~ MA						
0916 A	2			X						
0917 A	4				X					
0918 A	4				X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Phenols	Cyanide	Metals	Rad 226/228	TOC	Cl, F, SO4, Total P, NO3, NO2, TDS, Alk, 300.0/9040/2320	NH3, NO2+NO3/TKN, Total N SM4500/300.0	Charge Number
210928 0919 A	1	A	X							~~XGMD~~ MD XPCC
0920 A	1			X						
0921 A	1				X					
0922 A	2					X				
0923 A	2						X			
0924 A	1							X		
0925 A	1								X	

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MS GA	9/28/21 @ 1030		Jen W Munch	9-29-21 / 0940

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/28/21 Page 1 of 1

Sample Location: 700. J. 200

Pertinent Notes (if any): WSTF Samples

Sample Number	# of Containers	Sample Matrix*	8260B	6PO/8PO	Perchlorate 6850					Charge Number
210928 0910A	3	A	X							XGMD
0911A (FB)	3	"	X							"
0912A	1	"		X						"
0913A	1	"			X					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9/28/21 @ 1030		[signature]	9-29-21 / 0940

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/29/21 Page 1 of 1

Sample Location: 700 · J · 200

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Cl, F, SO4, Total P, NO3/NO2, TDS, ALK							Charge Number
210929 0830A	1	A	X							

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9/29/21 @ 910		[signature]	9-29-21 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT B650-EFF-1

Notebook No. PFTS #10

Continued from page N/A

From K Gallegos & Marcus Avalos present. Samples will be taken from a dedicated sampling port ON EFF side of system. Sample ports will be purged for 1 minute prior to collecting parameters, and samples. Carboy G-2

Parameters	METER ID	Buffers	LOT #	EXP
Time - 210927 0915	PH/Cond - 12	7	4002691	8-22
PH - 8.52	Turb - 7	10	4001005	8-22
TEMP - 24.2°C	STD - 51.17			
Cond - 1116 µS/cm	RDG - 52.17			
Turb - 0.75 NTUs	LOT #			
PH PRE	EXP			
PH POST				

Samples

Sample ID	Analysis Req	LOT #	LAB CONT
210927 0916	VOAs by 8260(C) / CE & HCL	2596	ALS (3) 40mL Vial
0917	" (FB)	"	"
0918	" (TB)	"	"
0919	NDMA/DMN/Biodegrade	01035d16	SWRI (1) 4 amber
0920	" (TB)	"	"
210927 0920	" (FB)	"	"

Continued from page N/A

Read and Understood By

Signed — 9-27-21 Date

Signed — 9-27-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-27-21 Page 1 of 1

Sample Location: B650-EFF-1

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA by 8260(C)	NDMA Alone/ Bro by 607	LC NDMA					Charge Number
										x GMD
210927 0916	3	A	X							"
0917 (FB)	3	A	X							"
0818 (TB)	3	A	X							"
0918	1	A		X						"
0919	1	A			X					"
0820 (TB)	1	A			X					"
0920 (FB)	1	A			X					"

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	9-27-21 (1030)			

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Frank Gallegos & Marcus Avalos present samples will be taken from a sampling port on INF side of system, samples will be taken after port is purged for 1 minute prior to collecting parameters, and samples collected 6-2

Parameters	METER ID	Buffers	LOT#	EXP
Time - 210927 0945	pH/cond - 12	7	40002691	8-22
pH - 7.92	Turb - 7	10	40001005	6-22
Temp - 22.8°C	STD - 53.17			
Cond - 1122 µS/cm	RDG - 52.17			
Turb - 1.22 NTUs	Lot # 91017			
pH pre - 7.10/10.12 (24.6°)	Exp 9/30/21			
pH post - 7.08/10.10				

Samples

Sample #	Analysis	Preservative	Lot #	LAB Cont
210927 0946	8260	ICE; HCl	2596	ACS (3) 40 mL vial
0947	(FB)			
0948	NDMA/DMN/BrO3/Cl04	ICE	0103506	SWRI (1) Cl+ member

Continued from page N/A

Read and Understood By

Signed — Date — Signed — Date

9-27-21 — 9-27-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-22-21 Page 1 of 1

Sample Location: B650-INF-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA by 8260	Analytical Requirement: DNA Isotope Biology						Charge Number
										X GMD
210927 0946	3	A	X							"
— 0947 (FB)	3	A	X							"
— 0948	1	A		X						"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9-27-21 (1030)		[signature]	9-28-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Frank Gallegos & Tim Kendy present. Sample will be collected from a dedicated sampling port ON EFF side of system, sample port will be purged for 1 minute prior to collecting parameters and samples. Calboy "PF1"

Parameters	METER ID	Buffers	LOT #	EXP
Time 210913 0940	Ph/cond-11	7	40002691	8.22
Ph - 7.48	Turb-6	10	40001005	6.22
Temp - 25.6°C	" SID-3.17			
Cond - 1140 µs/cm	" RDG-3.24			
Turb - 0.11 NTU's	" LOT#-91017			
Ph Pre - 7.10/10.10 (25.2°)	EXP-9/30/21			
Ph Post - 7.08/10.08				

Samples

Sample #	Analysis	Pres	LOT #	LAB CONT.
210913 0941	VOA by 8260(C)	ICE; HCl	2576	ALS (5) 40mL vials
0942	" (FB)	"	"	"
0943	NDMA/DMA/BDMA by 8270	ICE	01035016	SWAI (1) 4 amber
0944	LCNDMA	"	"	"
0945	" (FB)	"	"	"

Continued from page N/A

Read and Understood By

Signed — Date 9-13-21

Signed — Date 9-13-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-13-21 Page 1 of 1

Sample Location: BLDG-655-EFF-2

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	VOAs by 8260	Metals by 6010/7000	CN by 9014					Charge Number
										X GMD
210913 0941	3	A	X							
0942 (FB)	3	A	X							
0943	1	A		X						
0944	1	A		X	X					
0945 (FB)	1	A			X					

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9-13-21 (0955)		[signature]	9-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT B655-INF-2

Frank Gallegos & Tim Kordy present. Samples will be collected from a dedicated sampling port on INF side of system, sample port will be purged for 1 minute prior to collecting parameters, and samples. "Convoy & PFT"

Parameters	Meter ID	Buckets	LOT #	Exp
Time-210913 0934	pH/cond-11	7	40002681	8-22
pH - 7.88	Turb-6	10	4001005	6-22
Temp - 25.8°C	STD-3.17			
Cond - 1148 us/cm	RDG-3.24			
Turb - 0.48 NTUs	Lot #. 91017			
pH pre-7.10/10.08 @ 25.2°C	Exp. 9/30/21			
pH post-7.08/10.10				

Samples

Sample #	Analysis	Preserv	LOT #	LAB	cont.
210913 0935	VOAs x 8260	ICE 4°C	2596	ALS	(3) 40ml Vial
0936	" (MB)	"	"	"	"
0937	NDMA/DMW/Bromide/607	ICE	0100350165	WR1(1)	Chamber
~~0937~~	~~NDMA/DMW/Bromide/607~~				

Continued from page N/A

Read and Understood By

A/SM	9-15-21	Jen Wunder	9-13-21
Signed	Date	Signed	Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-13-21 Page 1 of 1

Sample Location: B 655-1NF-2

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Joa by 8260	Analytical Requirement: PAHs/DNP Blo by 607						Charge Number
										X GMD
210913 0935	3	A	X							"
" 0936 (FB)	3	A	X							"
" 0937	1	A		X						"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9-13-21 (0955)		[signature]	9-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BIM.5.527 WJI ENV.0053

Notebook No. D32 # 121(c)

Continued from page ____

Marcus Avalos & Robert Burrows present. Weather is clear & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP.20 flow cell & water analyzer. Carboy G. 2 in use.

Calibrations

DO: Cal in saturated air @ 638 mm/Hg.

PH: Cal using Oakton Buffers (4,7,10)

Conductivity: Cal using 1413 µS/cm STD solution.

Turbidity Meter: #7 STD - 51.17 NTU ROG - 48.1 NTU Lot - 9107 Exp: 9/30/22

Trip Blanks

Sample #	Analysis	Preserve	Container	lot	lab
210920 ~~0750c~~ 750	VOA by 8260	HCl/Ice	(3) 40 ml vials	2596	ALS

Parameters (time)	Temp (°C)	Cond (mS/cm)	DO	PH	ORP	Turb (NTU)	NTW (ft)
1) 210920 0955c	22.16	1.105	7.98	8.79	74	0.98	
2) —— 0957c	22.00	1.091	8.17	8.80	74	1.00	
3) —— 0959c	21.96	1.106	8.10	8.81	73	0.68	

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210920 1005c	VOA by 8260	HCl/Ice	(3) 40 ml vials	2596	ALS
—— 1006c	= (FB)	:	:	:	:
—— 1007c	607/Bromide	Ice	(1) 1 L Amber	0103501G	SPL
—— 1008c	Total Metals	HNO3/Ice	(2) 125 mls	210121	ALS

IDW: 2.5 gal

Continued from page

Read and Understood By

Signed — 9/21/20 Date

Signed — 9-21-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/20/21 Page 1 of 1

Sample Location: BLM-5-527

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/1312	T. Metals					Charge Number
210920 0750C (TB)	3	A	X							XGMD
1005C	3		X							
1006C (FB)	3		X							
1007C	1			X						
1008C	2				X					

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9/20/21 @ 1110		[signature]	9-21-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BLM-7-509 Resample WJI ENV-0053

Notebook No. D32 #122(B)

Continued from page _____.

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a Teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy G1 in use. Resample event.

Calibrations

DO - calibrated in saturated air @ 638 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #21 std - 10.1 rdg - 10.5 lot - 91017 Exp - 9/30/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
210909071SB	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 210909 0955B	20.65	1.129	5.17	-52	8.61	0.54	495.44
2) ——— 0958B	20.72	1.133	4.99	-50	8.63	0.47	495.44
3) ——— 1001B	20.82	1.136	4.75	-48	8.68	0.40	495.44

* Resample Event *

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210909 1005B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI
——— 1006B	" (FB)	"	"	"	"

Initial DTW - 495.30ft. Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/9/21 — Date

Signed — 9-13-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/9/21 Page 1 of 1

Sample Location: BLM-7-509

Pertinent Notes (if any): Resample Event

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA							Charge Number
210909071SB (TB)	1	A	✓							XGMD
1005B	1	A	✓							4
1006B (FB)	1	A	✓							4

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Chang Del Fierro	9/9/21 1120 hrs.		[signature]	9-13-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

Marcus Avalos & Robert Burrows present. Weather is partly cloudy & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a YSI MP.20 flow cell & Water analyzer. Carboy Gr. 2 in use.

Calibrations
DO. Calibrated in saturated air @ 640 mm/Hg.
Conductivity. Cal using 1413 us/cm std solution.
pH. Cal using oakton buffers (4,7,10)
Turbidity Meter. #7 std- 5(17 NTU rdg. 49.7 NTU lot. 9107 Exp. 9/30/21

Parameters (time)	temp(°C)	Cond(mS/cm)	DO	ORP	pH	Turb(NTU)	DTW(ft)
210902 1025C	21.61	1.028	4.72	-73	8.15	3.47	379.20'
" 1027C	21.63	1.026	4.65	-74	8.12	3.42	379.20'
" 1029C	21.59	1.029	4.34	-74	8.09	3.34	-

Samples

Sample	Analysis	Preserve	Container	lot	lab
210902 1030C	VOA by 8260	HCl/Ice	(3) 40 ml vials	2546	ALS
" 1031C	" (Dup)	"	"	"	"
" 1032C	" (FB)	"	"	"	"
" 1033C	607/Bromacil	Ice	(1) 1L Amber	0103501G	SBL
" 1034C	" (Dup)	"	"	"	"
" 1035C	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS

Initial DTW - 378.72'

Total Gallons Purged - 3 gal

Continued from page

Read and Understood By

MA 9/2/21 — Signed / Date

Lora Munch 9-7-21 — Signed / Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: BM.9.419 (2)

Sample Location: 9/2/21

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/8270	T. Metals					Charge Number
Pertinent Notes (if any)										
2109021030C	3	A	X							XGMD
1031C (Dup)	3		X							
1032C (FB)	3		X							
1033C	1			X						
1034C (Dup)	1			X						
1035C	2				X					

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
Pertinent Notes (if any)										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MS GX	9/2/21 @ 1110		Lori W Jurado	9-7-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is clear and warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a Teflon discharge hose. Water quality parameters will be monitored using a QED MP 20 Flowcell and water analyzer. Carboy G 2 is used.

Calibrations:

Do = In Saturated air @ 642 mm/Hg

PH Sensor: using a 3 pt (4, 7, 10) Buffer method.

Conductivity: using a 1413 µs/cm STD. solution.

Turbidity Meter # = 7 STD = 5.17 ROG = 5.20 Lot # = 91017 Exp. 9/21

Trip Blanks

Sample #	Analysis	Preserve	Container	Lot	LAB
210907 0700 C	VOCs by 8260 LL	Ice/HCl	(3) 40 ml Vial	2596	ALS
—— 0701 C	NOMs LL	Ice	(1) 1L Amber	108501	SRL

Parameters (Time)	Temp	Cond.	DO	PH	ORP	Turb	DTW
210907 0900 C	26.63	6.28	4.92	8.52	-74	0.96	N/A
—— 0902 C	26.62	6.27	4.91	8.55	-75	0.92	"
—— 0904 C	26.64	6.29	492	8.53	-74	0.97	"

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	LAB
210907 0920 C	VOCs by 8260 LL	Ice/HCl	(3) 40 ml Vial	2596	ALS
—— 0921 C	" " (FB)	"	"	"	"
—— 0922 C	NOMs/OMW Bromacil by 607	Ice	(1) 1L Amber	108501	SRL
—— 0923 C	NOMs LL	"	"	"	"
—— 0924 C	" " (FB)	"	"	"	"
—— 0925 C	SVOCs by 8270D	"	(2) "	N/A	ALS
—— 0926 C	Total Metals	Ice/HNO3	(2) 125 ml Poly	21-01-21	"
—— 0927 C	Anions/Alk	Ice	(2) "	N/A	"
—— 0928 C	TDS by SM 2540 C	"	(1) "	"	"
—— 0929 C	Perchlorate by 6850	"	(1) "	"	"
—— 0930 C	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

Continued from page

Read and Understood By

Signed — Date 9-7-2021

Signed — Date 9-8-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-7-2021 Page 1 of 1

Sample Location: RLM-42-SG9

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	VOA	607	NDMA LL	~~Metals~~				Charge Number
										XGMD
210907 0700 TB	3	A	4							
0920C	3	|	4							
0921C FB	3	|	4							
0922C	1	|		4						
0701C TB	1	|			4					
0923C	1	|			4					
0924C FB	1	|			4					

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	Metals	Anions / Alk	TDS	Perchlorate	NO3/NO3	SUOC		Charge Number
210907 0926C	2	A	4							
0927C	2	|		4						
0928C	1	|			4					
0929C	1	|				4				
0930C	1	|					4			
0925C	2	|						4		

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9-7-2021 1100		[signature]	9-8-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen + Robert Burrows present. Weather is clear and hot. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a Teflon discharge hose. Water quality parameters will be monitored using a QED MP 20 Flowcell and water analyzer. Cal Day G2 in use.

Calibrations:

DO Sensor: In saturated air @ 1042 mm/Hg.

pH Sensor: Using a 3pt (4,7,10) Buffer method.

Conductivity: Using a 1413 us/cm STD. Solution.

Turbidity meter # = 7 STD: 5.17 ROG: 5.20 LOT # 9101 Exp = 9/21

Parameters (Time)	Temp	Cond	DO	pH	ORP	Turb	DTW
210907 1445 C	23.32	625	4.86	8.41	-93	0.83	N/A
1447 C	23.31	626	4.83	8.38	-92	0.79	"
1449 C	23.33	623	4.84	8.42	-92	0.80	"

SAMPLES

Sample #	Analysis	Preserve	Containers	Lot	Lab
210907 1453 C	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2596	ALS
1454 C	" " (FB)	"	"	"	"
1455 C	NDMA/NDMO Bromide by 300	Ice	(1) 1L Amber	108501	SRL
1456 C	" (MS)	"	(1) "	"	"
1457 C	NDMA LL	"	(1) "	"	"
1458 C	" " (FB)	"	(1) "	"	"
1459 C	SVOC by 8270D	"	(2) "	N/A	ALS
1500 C	Total Metals	Ice/HNO3	(2) 125 ml Poly	21-01-21	"
1501 C	Anions/Alk	Ice	(2) "	N/A	"
1502 C	TDS by SM 2540C	"	(1) "	"	"
1503 C	Perchlorate by 6850	"	(1) "	"	"
1504 C	NO2/NO3 by 353.2	Ice/H2SO4	(2) 250 ml Poly	"	"

Continued from page

Read and Understood By

Signed 9-7-2021 Date

Signed 9-8-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-7-2021 Page 1 of 1

Sample Location: BLM-42-709

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	VOA	607	1,4 Dioxane	SVOA				Charge Number
Pertinent Notes (if any)										XGMO
210907 1453 c	3	A	X							
1454 c	3		X							
1455 c	1			X						
1456 c	1			X						
1457 c	1				X					
1458 c	1				X					
1459 c	2					X				

Sample Location:

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	Metals	Anions 9056A	TDS	Perchlorate	NO2/NO3			Charge Number
Pertinent Notes (if any)										
210907 1500 c	2	A	X							
1501 c	2	|		X						
1502 c	1	|			X					
1503 c	1	|				X				
1504 c	1	|					X			

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9-7-2021 1550		[signature]	9-8-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. this well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 Flow cell and water analyzer. Carboy GI in use. This will be a modified sampling event - 3 sets of parameters will be collected immediately just prior to sample collection.

Calibrations

DO - calibrated in saturated air @ 638 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #21 std - 10.1 rdg - 10.5 lot - 91017 Exp - 9/30/21

Parameters (time)	Temp ('c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 210909 0810B	20.75	1.281	7.16	46	7.96	0.49	169.63
2) ——— 0811B	20.78	1.272	6.80	45	8.01	0.54	169.72
3) ——— 0812B	20.82	1.268	6.53	43	8.03	0.46	169.84

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210909 0815B	VOA by 8260	ice / HCL	(3) 40ml vials	2596	ALS
——— 0816B	" (FB)	"	"	"	"
——— 0817B	607/Bromacil	ice	(1) 1L Amber	0103501G	SRL
——— 0818B	Total Metals	ice / HNO_3	(2) 125ml poly's	21-01-21	ALS
——— 0819B	" (Dupl.)	"	"	"	"

Initial DTW - 169.40 ft. Total gallons purged - 1/2 gal.

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/9/21 — Date

Jon U Munch — Signed — 9-13-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/9/21 Page 1 of 1

Sample Location: BW-1-268

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	Total Metals					Charge Number
210909 0815B	3	A	✓							XGMD
0816B (FB)	3	A	✓							"
0817B	1	A		✓						"
0818B	2	A			✓					"
0819B (Dupl.)	2	A			✓					"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig McFarland	9/9/21 0850hrs.		Jon W Munch	9-9-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Weather is clear & hot. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell & water analyzer. Carboy G-2 in use

Initial DTW - 245.35'

Calibrations
DO - Cal in saturated air @ 638 mm/Hg
PH - Cal using Oakton Buffers (4, 7, 10)
Conductivity - Cal using 1413 µS/cm STD. solution.
Turbidity Meter #7 STD - 51.17 NTU RPD - 48.1 NTU Lot - 91017 Exp - 9/30/21

Parameters (time)	Temp (°C)	Cond ( )	DO	PH	ORP	Turb (NTU)	DTW (ft)
1) 210920 1445c	21.98	1.046	3.14	8.02	27	1.50	247.55'
2) ——— 1447c	21.92	1.040	3.26	8.05	27	1.34	"
3) ——— 1449c	22.01	1.034	3.42	8.00	26	0.98	"

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
210920 1450c	VOA by 8260	HCl/Ice	(3) 40 ml vials	25916	ALS
——— 1451c	" (MS)	"	"	"	"
——— 1452c	" (FB)	"	"	"	"
——— 1453c	607/Bromacil	Ice	(1) 1L Amber	0103501G	SRI
——— 1454c	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS

Continued from page

Read and Understood By

Signed _____ Date 9/20/21

Signed _____ Date 9-21-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/20/21 Page 1 of 1

Sample Location: BW-6-355

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607 / Bromide	T. Metals					Charge Number
210920 1450C	3	A	X							XGMD
1451C (MS)	3	|	X							|
1452C (FB)	3	|	X							|
1453C	1	|		X						|
1454C	2	|			X					|

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MJ Cf	9/20/21 @ 1545		Jon Munch	9-21-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Carboy G5 in use.

Total depth - 135.24ft. (41.22m)
Initial DTW - ~~119.~~ 111.19ft. (33.89m)
start purge - 0800 hrs.
stop purge - 0920 hrs.
3 casing volumes - 13 gallons
purge rate - 0.167 gpm
Total gallons purged - 13
Final DTW - 111.86ft.

Meter ID
pH/Cond - 11
Turb - 6
" std - 3.17
" rdg - 3.23
" lot - 91017
" Exp - 9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Initial Parameters
Time - 2109150900C
PH - 8.13
Temp - 22.2°C
Cond - 1059 us/cm
Turb - 3.75 NTU's
pH pre - 7.11/10.07 (21.1°C)
pH post - 7.09/10.06
DTW - 111.73ft.

Secondary
Time - 2109150920C
PH - 8.05
Temp - 22.0°C
Cond - 1070 us/cm
Turb - 3.01 NTU's
pH pre - 7.10/10.05 (20.9°C)
pH post - 7.11/10.04
DTW - 111.81ft.

Final
Time - 2109150929C
PH - 7.99
Temp - 22.6°C
Cond - 1072 us/cm
Turb - 2.71 NTU's
pH pre - 7.04/10.01 (22.3°C)
pH post - 7.05/10.01

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2109150921C	VOA by 8260	ice/HCl	(3)40ml vials	2596	ALS
——0922C	" (FB)	"	"	"	"
——0923C	607/Bromacil	ice	(1)1L Amber	0103501G	SRI
——0924C	Total Metals	ice/HNO_3	(2)125ml poly's	21-01-21	ALS
——0925C	Anions/ALK.	ice	"	NIA	"
——0926C	TDS by SM2540C	"	(1)125ml poly	"	"
——0927C	Perchlorate by 6850	"	"	"	"
——0928C	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1)250ml poly	20-11-27	"
——1520C	VOA by 8260 (BC)	ice/HCl	(3)40ml vials	21MM128A	"
——1521C	607/Bromacil (BC)	ice	(1)1L Amber	21MM128B	SRI
——1522C	Total Metals (BC)	ice/HNO_3	(2)125ml poly's	21MM120C	ALS

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/15/21 — Date

Peter Mundt — Signed — 9-16-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/15/21 Page 1 of 2

Sample Location: NASA 5

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	Anions / Alk.	TDS	Perchlorate		Charge Number
Pertinent Notes (if any)										
210915 0921C	3	A	✓							XGMD
0922C (FB)	3	A	✓							"
0923C	1	A		✓						"
0924C	2	A			✓					"
0925C	2	A				✓				"
0926C	1	A					✓			"
0927C	1	A						✓		"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	NO_2 / NO_3							Charge Number
Pertinent Notes (if any)										
210915 0928C	1	A	✓							XGMD

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	9/15/21 1100hrs.		Jon W Jmnd	9-16-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/15/21 Page 2 of 2

Sample Location: NASA 5

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals					Charge Number
210915 1520C (BC)	3	A	✓							XGMD
1521C (BC)	1	A		✓						"
1522C (BC)	2	A			✓					"

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	9/15/21 1535hrs.		[signature]	9-16-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT NASA 10 WJI ENV-0013

Notebook No. D32#121(c)

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is clear & hot. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Carboy G5 in use.

Total depth - 133.56ft. (40.71m)
Initial DTW - 110.58ft. (33.70m)
start purge - 1250 hrs.
stop purge - 1410 hrs.
3 casing volumes - 12 gallons.
purge rate - 0.167 gpm
Total gallons purged - 12
final DTW - 111.50ft.

Meter ID	
pH/cond	11
Turb	6
" std	3.17
" rdg	3.23
" lot	91017
" Exp	9/30/21

Buffers	Lot	Exp
7	4007947	7/22
10	4101E56	7/22

Initial Parameters
Time - 210915 1340C
pH - 7.88
Temp - 24.9°C
Cond - 6.78 us/cm
Turb - 1.90 NTU's
pHpre - 7.01/9.98 (30.5°C)
pHpost - 6.99/9.95
DTW - 111.04ft.

Secondary
Time - 210915 1415C
pH - 7.92
Temp - 25.1°C
Cond - 671 us/cm
Turb - 1.66 NTU's
pHpre - 7.02/9.96 (31.4°C)
pHpost - 7.01/9.94
DTW - 111.36ft.

Final
Time - 210915 1427C
pH - 8.01
Temp - 25.8°C
Cond - 684 us/cm
Turb - 1.30 NTU's
pHpre - 6.97/9.93 (31.8
pHpost - 6.95/9.93

Sample	Analysis	Samples Preservative	Container	Lot	Lab
210915 1420C	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
——— 1421C	" (Dupl.)	"	"	"	"
——— 1422C	" (FB)	"	"	"	"
——— 1423C	607/Bromacil	ice	(1) 1L Amber	0103501G	SRL
——— 1424C	" (Dupl.)	"	"	"	"
——— 1425C	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
——— 1426C	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	20-11-27	"

Continued from page

Craig Del Ferraro — Signed — 9/15/21 — Date

Read and Understood By

Tom Mauch — Signed — 9-16-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/15/21 Page 1 of 1

Sample Location: NASA 10

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	Total Metals	NO_2/NO_3				Charge Number
210915 1420C	3	A	✓							XGMD
1421C (Dupl.)	3	A	✓							"
1422C (FB)	3	A	✓							"
1423C	1	A		✓						"
1424C (Dupl.)	1	A		✓						"
1425C	2	A			✓					"
1426C	1	A				✓				"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Torro	9/15/21 1500hrs.		[signature]	9-16-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Well will be purged at least one volume prior to parameters & sample collection. Samples will be collected from a dedicated sample port. Carboy G-3

arameters	
ime	2109301525
H	8.55
emp	23.5 °C
ond	1225 uS/cm
urb	2.49
H pre	7.01/10.03 (19.4°C)
H post	7.02/10.04

Meter ID

pH/Cond - #66
Turb - #21
= STD - 10.1 NTU
= DOG - 10.8 NTU
= LOT - 91017
= Exp - 9/30/21

Buffers	lot	Exp
7	9002691	8/22
10	4001005	6/22

Samples

Sample #	Analysis	Preserve	Container	lot	lab
2109301500	VOA by 8260 (TB)	HCl/Ice	(3) 40ml vials	2596	ALS
— 1530	=	=	=	=	=
— 1531	= (FB)	=	=	=	=
— 1532	607/Bromacil	Ice	(1) 1L Amber	01035016	SRL

Continued from page

Read and Understood By

Signed — 9/30/21 Date

Signed — 10-4-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/30/21 Page 1 of 1

Sample Location: PFE-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/625						Charge Number
210930 1500 (TB)	3	A	X							
1530	3		X							
1531 (FB)	3		X							
1532	1			X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
MJG	9/30/21 @ 1555	[signature]	10-4-21 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Arables & Dan Halloran present. Weather is clear & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge hose. Water quality parameters will be monitored using a QED MP20 flow cell & water analyzer. Carboy Gal

Calibrations

Initial DTW - 477.40'

DO - Cal in saturated air @ 638 mm/Hg

Conductivity - Cal using 1413 uS/cm STD solution

Total Gallons Purged - 2 gal

PH - Cal using Oakton Buffers (4,7,10)

Turbidity Meter - #C STD - 3.17 NTU RDG - 3.11 NTU Lot - 91017 Exp - 9/30/21

Parameters (time)	Temp (°C)	Cond (mS/cm)	PH	DO	ORP	Turb (NTU)	DTW (ft)
1) 210914 0930A	21.35	1.117	7.61	5.24	199	0.69	477.50'
2) —— 0932A	21.42	1.134	7.66	5.81	199	0.95	
3) —— 0934A	21.26	1.125	7.69	5.77	197	0.88	

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
210914 0940A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2585	ALS
—— 0941A	= (FB)	=	=	=	=
—— 0942A	607/Bromacil	Ice	(1) 1L Amber	010350LG	SRL
—— 0943A	= (Dup)	=	=	=	=

Continued from page

Read and Understood By

Signed 9/14/21 Date

Signed 9-19-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/14/21 Page 1 of 1

Sample Location: P1-2 · 504

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/Br0						Charge Number
210914094OA	3	A	X							XGMD
0941A (FB)	3		X							
0942A	1			X						
0943A (Dup)	1			X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MS	9/14/21 @ 1100		[signature]	9-15-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT P1.4.464 WJI ENV.0053

Notebook No. D32 # 120(A)

Continued from page _____

Marcus Avalos & Dan Halvorsen present. Weather is clear & hot. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using 1 new Teflon discharge hose. Water quality parameters will be monitored using a QED MP.20 flow cell & water analyzer. Carboy(s): 1

Initial DTW - 448.90'

Calibrations

DO - Cal in saturated air @ 638 mm/Hg.

Conductivity - Cal using 1413 uS/cm STD solution.

pH - Cal using Oakton Buffers (4,7,10)

Turbidity Meter - # 6 STD - 3.17 NTU ICAL - 3.11 NTU Lot - 9107 Exp - 9/30/21

Parameters (time)	Temp (°C)	Cond (mS/cm)	pH	DO	ORP	Turb (NTU)	DTW (ft)
1) 210914 1500A	22.38	1.128	8.18	6.56	112	2.43	449.85'
2) 1502A	22.69	1.126	8.21	7.02	111	1.30	"
3) 1504A	22.48	1.118	8.23	7.21	116	0.94	"

Samples

Sample #	Analysis	Preserve	Container	Lot #	Lab
210914 1510A	VOA by 8260	HCl / Ice	(3) 40 ml vials	2583	ALS
1511A	" (FB)	"	"	"	"
1512A	Low Level NDMA	Ice	(1) 1L Amber	010350 (G)	SRI
1513A	" (FB)	"	"	"	"

Total Gallons Purged - 2 gal

Continued from page

Read and Understood By

Signed

9/14/21
Date

Signed

9-15-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/14/21 Page 1 of 1

Sample Location: B1.4.464

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	Analytical Requirement: Low Level UDMA	Charge Number
210914151OA	3	A	X		X GMD
1511A (FB)	3		X		
1512A	1			X	
1513A (FB)	1			X	

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	9/14/21 @ 1600			9-15-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is partly cloudy & hot. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #2213. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G3

Sample	Analysis	Preservative	Container	Lot	Lab
210902 1415Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1416Y	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI

Initial Parameters
Time - 210902 1450Y
PH - 7.84
Temp - 22.1°C
Cond - 806 us/cm
Turb - 5.36 NTU's
pH pre - 6.94 / 9.96 (31.7°C)
pH post - 6.97 / 9.93
DTW - 438.17 ft.
Atmos - 12.58 psia

Final
Time - 210902 1557Y
PH - 7.99
Temp - 22.5°C
Cond - 821 us/cm
Turb - 2.87 NTU's
pH pre - 6.90 / 9.92 (32.2°C)
pH post - 6.89 / 9.95
DTW - 438.30 ft.
Atmos - 12.62 psia
IDW - 4½ gal.

Meter ID
PH/Cond - 60
Turb - 20
" Std - 5.56
" rdg - 5.49
" lot - 91017
" Exp - 9/30/21

Buffers	Lot	Exp
7	40017947	12/31
10	41015E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210902 1530Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1531Y	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI
——— 1555Y	1,4 Dioxane by 8270D	"	(1) 250ml amber	90121-06	ALS
——— 1556Y	" (FB)	"	"	"	"

Runs	1)	2)	3)
	23.91	23.97	23.98
	22.94	23.03	23.02
	22.90	23.07	23.00
	23.99	24.01	23.98

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 9/2/21 — Date

Jen Munch — Signed — 9-7-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/2/21 Page 1 of 1

Sample Location: PL-8-455

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	LL NDMA	Dioxane					Charge Number
210902 1415Y (EB)		3	A	✓							XGMD
1416Y (EB)		1	A		✓						"
1530Y		3	A	✓							"
1531Y		1	A		✓						"
1555Y		1	A			✓					"
1556Y (FB)		1	A			✓					"

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Terro	9/2/21 1620hrs.		[signature]	9-7-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This zone will be sampled using 5 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe #2213. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G3

Sample	Analysis	Preservative	Container	Lot	Lab
210902 1000Y	VOA by 8260 LL	ice/HCL	(3)40ml vials	2596	ALS
——— 1001Y	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI

Initial Parameters
Time - 210902 1035Y
PH - 7.93
Temp - 20.9°C
Cond - 901 us/cm
Turb - 6.19 NTU's
pH pre - 7.10/10.06 (23.9°C)
pH post - 7.11/10.04
DTW - 438.00 ft.
Atmos - 12.60 psia

Final
Time - 210902 1335Y
PH - 7.91
Temp - 21.3°C
Cond - 889 us/cm
Turb - 3.70 NTU's
pH pre - 7.02/9.97 (30.5°C)
pH post - 6.98/9.95
DTW - 438.17 ft.
Atmos - 12.62 psia
IDW - 1/2 gal.

Meter ID
PH/Cond - 60
Turb - 20
" std - 5.56
" rdg - 5.49
" lot - 91017
" Exp - 9/30/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210902 1100Y	VOA by 8260 LL	ice/HCL	(3)40ml vials	2596	ALS
——— 1101Y	607/Bromacil	ice	(1) 1L Amber	0103501G	SRI
——— 1310Y	Low Level NDMA	"	"	"	"
——— 1311Y	1,4 Dioxane by 8270D	"	(1) 250ml amber	90121-06	ALS

Runs	1)	2)	3)	4)
	89.57	89.52	89.48	89.43
	87.84	87.93	87.94	87.86
	87.85	87.93	87.93	87.81
	89.59	89.56	89.54	89.40

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/2/21 — Date

Jeri Wunch — Signed — 9-7-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/2/21 Page 1 of 1

Sample Location: PL-8-605

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607	LL NDMA	Dioxane				Charge Number
210902100004 (EB)	3	A	✓							XGMD
10014 (EB)	1	A			✓					"
11004	3	A	✓							"
11014	1	A		✓						"
13104	1	A			✓					"
13114	1	A				✓				"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fuso	9/2/21 1620 hrs.		Jon W Jumah	9-7-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Notebook No. D32 # 122 (B)

PROJECT PC-11-470 FLUTE WSI IN THE WORKS Continued from page _____

ROBERT Burrows & Tony Turner present. The weather is clear & warm. This zone will be purged & sampled using a Flute sampling system. 4 gallons will be purged prior to samplings. The Bubbler was set @ 3psi & stable @ 8psi. Per JR we are only doing 2 zones since there is training going on for these first 2 zones. 15 min recovery between purges.

Trip Blanks (carboy G-2)

SAMPLE#	ANALYSIS	PRESERV	LOT#	CONT	LAB
210913 0700B	8260C	ICE/HCl	2583	(3) 40ml vials	ALS
—— 0701B	CLNOMA	ICE	0103501G	(1) 1L Amber	SRL

INITIAL	FINAL * 1st 3 50ml's will be discarded & param's taken from them.
210913 1100B	210913 1410B
pH 8.76	7.95's
Temp 28.4'c	23.8'c
Cond 1159 µs/cm	1153 µs/cm
Turb 1.32 NTU's	1.00 NTU's
pHpre 7.11/10.01 (28.8'c)	7.10/9.90 (38.9)
pHpost 7.15/9.99	7.17/9.93
IDW	

METER ID's
pH/COND = 12
Turb # 7
" Std = 51.17
" 20% = ~~50.01~~ 50.1
" Lot # = 91017
" Exp = 9/30/21

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	LOT#	CONT	LAB
210913 1300B	8260C	ICE/HCl	2583	(3) 40ml vials	ALS
—— 1301B	" (FB)	"	"	"	"
—— 1302B	6010	ICE	0103501G	(1) 1L Amber	SRL
—— 1303B	CLNOMA	"	"	"	"
—— 1304B	" (FB)	"	N/A	"	"
—— 1335B	8270	"	"	(2) "	ALS
—— 1405B	SUDA Sim	"	"	(1) 250ml Amber	"
—— 1406B	TOTAL METALS	ICE/HNO3	"	(2) 125ml poly	"

Continued from page

Read and Understood By

T. [signature] 9-13-21
Signed Date

[signature] 9-14-21
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-13-21 Page 1 of 1

Sample Location: PL-11-470

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607	CLNDMA					Charge Number
210913 0700B (TB)		3	A	X							XGMD
— 0701B (TB)		1				X					
— 1300B		3		X							
— 1301B (FB)		3		X							
— 1302B		1			X						
— 1303B		1				X					
— 1304B FB		1				X					

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8270	SUOASIM	TOTALMETALS					Charge Number
210913 1335B		2	A	X							XGMD
— 1405B		1			X						
— 1406B		2				X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	9/13/21 1600		Jon W Munch	9-14-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT PL-11-530 FLUTE WSI IS IN THE WORKS

Continued from page _____

ROBERT BURROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. 4 GALLONS WILL BE PURGED PRIOR TO SAMPLING. THE FIRST 350MLS OF ~~EACH~~ SAMPLE PURGE WILL BE DISCARDED. BUBBLER SET @ 3PSI & STABLE @ 8PSI. PER SR WE ARE DOING 2 ZONES TODAY DUE TO TRAINING. 15 MINS OF RECOVERY TIME. CARBOY G-2

INITIAL	FINAL
210913 1105 B	210913 1455 B
pH 8.77	7.79
TEMP 27.5°C	24.5°C
COND 1112 µS/cm	1168 µS/cm
TURB 0.79 NTU's	0.85 NTU's
pH pre 7.14/9.98 (29.6)	7.05/9.85 (39.0°C)
pH post 7.15/9.95	7.17/9.90
IDW	

METER ID's
pH/COND #12
TURB # 7
" STD = 51.17
" RDG = 50.1
" LOT # 9/017
" EXP = 9/30/21

SAMPLES

SAMPLE # 1315	ANALYSIS	PRESERV	LOT #	CONT	LAB
210913 ~~1340~~ B	8260 (1)	ICE/HCl	2583	(3) 40ml VIALS	ALS
~~1316~~ ~~1301~~ B	" (FS)	"	"	"	"
1317 ~~1305~~ B	6007	ICE	01035016	(1) 1LT AMBER	SRL
1318 ~~1305~~ B	(1) NO3/NO2 N	"	"	"	"
1319 ~~1306~~ B	" (FS)	"	"	"	"
1350 B	" (DUP)	"	"	"	"
1415 B	8270	"	N/A	(2) "	ALS
1450 B	5 MS SVOA	~~(1) 250ml AMBER~~	"	~~(2) 250ml POLY~~ (1) 125ml AMBER	"
1452 B	TOTAL METALS	ICE/HNO3	"	(2) 125ml POLY	"
1453 B	" (MS)	"	"	"	"
~~1454~~ B	SVOA SIM (DUP)	ICE	"	(1) 250ml AMBER	ALS
1451 B					

Continued from page

Read and Understood By

T. [signature] Signed 9-13-21 Date

[signature] Signed 9-14-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-13-21 Page 1 of 1

Sample Location: PL-11-530

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260 (C)	607	CLNM4	8270				Charge Number
210913 1315B		3	A	X							XGMD
— 1316B (FB)		3		X							
— 1317B		1			X						
— 1318B		1				X					
— 1319B (FB)		1				X					
— 1350B (Dup)		1				X					
— 1415B		2					X				

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	5004 SIM	TOTAL METALS						Charge Number
210913 1450B		1	A	X							
— 1451B (Dup)		1		X							
— 1452B		2			X						
— 1453 (MS)		2			X						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [signature]	9/13/21/1600		[signature]	9-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ROJEAT BURROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 227 psi & SAMPLE PRESSURE SET @ 205 psi. BABBLER SET @ 3 psi & STABLE @ 8 psi. THE FIRST 350 mils WILL BE DISCARDED FROM INITIAL SAMPLE PURGE. 15 min RECOVERY TIME BETWEEN PURGES. CARBOY 6-2

	INITIAL	FINAL
	210914/1330B	210914/1450B
pH	8.46	~~8.44~~ 7.97
TEMP	26.4	25.5°C
COND	1146	1216
TURB	0.92	0.63
pHPRE	7.15/9.94 (38.8°C)	7.14/9.96 (38.9°C)
pHPOST	7.14/9.98	

METER ID's
pH/COND #12
TURB #7
" STD = 51.17
" RDG = 50.7
" LOT# = 91017
" EXP. 9/30/21

6.5 GALLONS IDW

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	LOT#	CONT	LAB
210914 1350B	8260C	ICE/HCl	2583	(3) 40ml VIALS	ALS
—— 1301B	" (FB)	"	"	"	"
—— 1352B	6010	ICE	0103501G	(1) LG AMBER	SRL
—— 1353B	CCN/DMA	"	"	"	"
—— 1354B	" (FB)	"	"	"	"
—— 1435B	SVOA	"	121420DK	(2) "	ALS
—— 1445B	SVOA SIM	"	N/A	(1) 250ml AMBER	"
—— 1446B	TOTAL METALS	ICE/HNO3	N/A	(2) 125ml poly	"

PARAM's PRIOR TO SAMPLING

pH	8.55	8.17	8.46
TEMP	24.0	24.5	24.4
COND	1130	1162	1134
TURB	0.74	0.72	0.74

Continued from page

Read and Understood By

T. D. — Signed — 9.14.21 Date

Lori W. Murdock — Signed — 9-15-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-14-21 Page 1 of 1

Sample Location: PC-11-710

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260LL	607	CLNDM4	SUOA	SUOA SIM			Charge Number
											XGMD
210914 1350B		3	A	X							
1351B	(FB)	3		X							
1352B		1			X						
1353B		1				X					
1354B	(FB)	1				X					
1435B		2					X				
1445B		1	↓					X			↓

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: TOTAL METALS							Charge Number
											XGMD
210914 1446B		2	A								X

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T-DJ	9-14-21			9-15-21 /0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ROBERT BURROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 22 psi & SAMPLE PRESSURE SET @ 20 psi. BUBBLER SET @ 3 psi & STABLE @ 8 psi. THE FIRST 350 mls OF SAMPLE PURGE WILL BE DISCARDED. 15 MIN RECOVERY TIME SET BETWEEN PURGES.
CARBOY 6.2

	INITIAL	FINAL
	210914 1335B	210914 1505B
pH	8.51	7.83
Temp	24.0 c	24.1
Cond	1037 µs/cm	1046 µs/cm
Turb	1.07	0.58
pH pre	7.14/9.98 (39.9)	7.12 / 9.92 (43.8 c)
pH post	7.16/9.96	7.14/9.86

METER ID's
pH/cond #12
Turb #7
"Std = 51.17
"Adj = 50.7
"Lot# = 9/017
"Exp = 9/30/21

6.5 gallons IDW

Samples

Sample#	Analysis	Preserv	Lot#	Cont	Lab
210914 1400B	8260LL	Ice/HCl	2583	(3) 40 ml VOAs	ALS
— 1401B	" (FB)	"	"	"	"
— 1402B	6010	Ice	0103501G	(1) 1LT amber	SRS
— 1403B	LL NOMA	"	"	"	"
— 1404B	" (FB)	"	"	"	"
— 1455B	SVOA	"	121420-1DK	(2) "	ALS
— 1500B	TOTAL METALS	Ice/HNO3	N/A	(2) 125 ml poly	"

Param's prior To Sampling

pH	8.60	8.31	8.46
Temp	23.5	23.6	23.9 c
Cond	1012	1020	1021
Turb	0.71	0.75	0.63

Continued from page

Read and Understood By

T. [signature] Signed — 9.14.21 Date

[signature] Signed — 9-15-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-14-21 Page 1 of 1

Sample Location: PL-11-820

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	607	CLNM4	SU04	TOTAL METALS			Charge Number
Pertinent Notes (if any)										XGMD
210914 1400B	3		X							↓
— 1401B (FB)	3		X							
— 1402B	1			X						
— 1403B	1				X					
— 1404B (FB)	1				X					
— 1455B	2					X				
— 1500B	2						X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
Pertinent Notes (if any)										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T-Bz	9-14-21 1600		Jon Munch	9-19-21 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ROBERT BARROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS BOARD WILL BE PURGE & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 227 psi & SAMPLE PRESSURE SET @ 205 psi. BUBBLER SET @ 3 psi & STABLE @ 8 psi. THE FIRST 350 mls OF SAMPLE PURGE WAS DISCARDED. 15 MINS OF RECOVERY TIME BETWEEN PURGES.

	INITIAL	FINAL
	210914 1340B	210914 1515B
pH	8.75	8.10
Temp	26.5	24.0 °C
COND	1002 µs/cm	1004 µs/cm
Turb	0.68	0.57 NTU's
pHpre	7.16/9.95 (39.6	7.14/9.96 (43.6 °F)
pHpost	7.15/9.96	7.17/9.94

METER ID's
pH/COND #12
TURB #7
"STD = 51.17
"Avg = 51.0 50.7
"CAL# 91017
"EXP 9/30/21

6.5 GALLONS IDW

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	LOT #	CONT	LAB
210914 1345B	8260 W	ICE/HCl	2583	(3) 40 mL VIALS	ALS
—— 1346B	" (F.B)	"	"	"	"
—— 1415B	6007	ICE	0103516	(1) 1LT AMBER	SRI
—— 1416B	LL NDMA	"	"	"	"
—— 1417B	" (F.B)	"	"	"	"
—— 1425B	SVOA	"	121420 IDK	(2) "	ALS
—— 1510B	TOTAL METALS	ICE/HNO3	N/A	(2) 125 mL POLY	"

PARAM's PRIOR TO SAMPLING

pH	8.72	8.59	8.61
Temp	24.8	23.9	24.7 °C
COND	987	987	983
Turb	0.70	0.72	0.72

Continued from page

Read and Understood By

T. [signature] Signed — 9.14.21 Date

[signature] Signed — 9-15-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-14-21 Page 1 of 1

Sample Location: PC-11-980

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	8760C	607	CLNDm4	SUO4	TOTAL METALS			Charge Number
											X6mD
210914 1345B		3	A	X							
— 1346B	(FB)	3		X							
— 1415B		1			X						
— 1416B		1				X					
— 1417B	(FB)	1				X					
— 1425B		2					X				
— 1510B		1	L					X			

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. B	9-14-21/1600			9-15-21 /0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan HALVORSEN & Tony TORRES PRESENT. THE WEATHER IS CLEAR & COOL THIS WELL WILL BE PURGED & SAMPLED USING A DEDICATED TEFLON BLADDER PUMP SAMPLES COLLECTED FROM A TEFLON DISCHARGE TUBE. WATER QUALITY PARAM'S COLLECTED FROM A INSITU TROLL CARBOY (61)

CALIBRATIONS

DO SENSOR CAL'D IN 639 mm/Hg

pH, COND, ORP CAL'D USING INSITU ALL IN ONE CALIBRATION STANDARD.
TABS # 21 STD 10.0 Rdg 10.2 NTU's LOT # 91017 EXP 9-30-21

INSITU TURB CAL'D WITH 20 NTU STANDARD.

TRIP BLANKS

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210902 0700B	8260(C)	ICE HCl	2583	(3) 40ml VIALS	ALS
— 07018	CLNSM4	ICE	0103501G	(1) LT AMBER	SRL

PARAM'S

SAMPLE #	TEMP	COND	pH	DO	ORP	TURB	ATU
210902 0955B	21.27	938.59 uS/cm	7.18	6.18	~~409.5 mV~~ 409.5 mV	0.36	
— 0956B	21.31	938.65	7.20	6.18	409.7 mV	0.41	
— 0957B	21.33	938.61	7.19	6.19	409.5	0.39	

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210902 1000B	8260(C)	ICE HCl	2583	(3) 40ml VIALS	ALS
— 1001B	" (FB)	"	"	"	"
— 1002B	CLNSM4	ICE	0103501G	(1) LT AMBER	SRL
— 1003B	" (FB)	"	"	"	"

Continued from page

Read and Understood By

T. [signature] Signed — 9-2-21 Date

[signature] Signed — 9-7-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-2-21 Page 1 of 1

Sample Location: ST-4-4181

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	Analytical Requirement: CYANM4	Charge Number: X6MD
210902 0700B (TB)		3	A	X		
0701B (TB)		1			X	
1000B		3		X		
1001B (FB)		3		X		
1002B		1			X	
1003B (FB		1			X	

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	9-2-21 / 1100	[signature]	9-7-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Notebook No. D32 #115 (B)

PROJECT ST.4.690 ENV.0053

Continued from page _____

Dan Halvorsen & Tony Torres present. The weather is clear & warm. This zone will be purged & sampled using a Teflon bladder pump. Samples will be collected from a 1/2" discharge tube. Parameters will be collected from a Aqua Troll 500, Carboy (G-1)

Calibrations
DO cal'd @ 1 in 639 mm/Hg
pH/Cond/ORP cal'd in ALL IN ONE solution
Turb meter #21 Std = 10.0 Rdg = 10.2 Lot# 9107 Exp. 9/30/21
Turb sensor cal'd in 20NTa buffer

Params

Sample#	pH	Cond	DO	ORP	Temp	Turb	DTW
210902 1455B	7.99	808.16	3.68	306 mV	25.92	2.64	
" 1456B	7.97	808.17	3.62	306	26.03	1.94	
" 1457B	7.97	808.17	3.70	306.7	26.10	1.83	

Samples

Sample#	Analysis	Preserv	Lot#	Cont	Lab
210902 1500B	8260 ((	1:1 HCl	2583	(3) 40 mL Vials	ALS
" 1501B	" (F.B)	"	"	"	"
" 1502B	((w/SM	ICE	01035816	(1) 1 Liter Amber	SM
" 1503	" (F.B)	"		"	"

Continued from page

Read and Understood By

T. D — Signed — 9.2.21 Date

Jon Munch — Signed — 9-7-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-2-21 Page _____ of _____

Sample Location: ST-4-690

Analytical Requirement: 8260C, 300.4

Charge Number: XGMD

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*
210902 1500 B	3	A
— 1501 B (FB)	1	
— 1502 B	3	
— 1503 B (FB	1	

Sample Location:

Analytical Requirement

Charge Number

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	9-2-21 / 1600		[signature]	9-7-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

PROJECT ST-GO-528 FLUTE WSEIS IN THE WORKS

Notebook No. D52## 122(B) 11

Continued from page _____

Robert Burrows & Tony Tovrea present. The weather is clear & warm. This zone will be purged & sampled using a Flute system. Purge pressure set @ 228 psi & Sample pressure set @ 207. A min. of 4 gallons purged or until Param's stabilize. Bubbler set @ 3psi & stable @ 7psi. 15 mins. of recovery time between purging.

	INITIAL	FINAL
	210915 1055 B	210915 1410 B
pH	7.97	7.55
Temp	26.7	24.0 c
Cond	1147 ms/cm	1168 ms/cm
Turb	~~FB~~ 1.39	1.24
pH pre	7.03/9.95 (33.2)	6.95/9.94 (37.9 c)
pH post	7.09/10.00	7.02/9.98
IDW		

METER ID's

pH/Cond #12

Turb #7

" Std = 51.17

" Rdg = 50.0

" Lot# 91017

" Exp = 9/30/21

~~Samples~~ Trip Blanks

Sample #	Analysis	Preserv	Lot #	Cont	Lab
210915 0700 B	8260 LL	ICE/HCl		(3) 40ml vials	ALS
—— 0701 B	LLNOMA	ICE		(1) 1LT Amber	SRL

Samples

~~Sample #~~	Analysis	Preserv	Lot #	Cont	Lab
~~210915~~ 1255 B	~~HOLD~~ 8260 LL	ICE/HCl	2583	(3) 40ml vials	ALS
—— 1256 B ~~HOLD~~	" (FB)	"	"	"	"
—— 1257 B	607	ICE	01035616	(1) 1LT Amber	SRL
—— 1258 B	LLNOMA	"	"	"	"
—— 1259 B	" (FB)	"	"	"	"
—— 1330 B	SVOA ~~SIM~~	"	121420 BIS	(2) "	ALS
—— 1400 B	SVOA-SIM	"	N/A	(1) 250ml Amber	"
—— 1405 B	TOTAL METALS	ICE/HNO3	"	(2) 125ml poly	"

Purge Parameters

	pH	Temp	Cond	Turb
1	7.73	22.4	1153	2.03
2	7.86	22.3	1147	1.42
3	7.97	23.0	1143	1.32

Continued from page

Read and Understood By

T. D 9-15-21

Signed Date

Jon Munch 9-16-21

Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-15-21 Page 1 of 1

Sample Location: ST-6-528

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	607	CLXDMA					Charge Number
210915 0700 B (TB)		3	A	X							XGMA
0701 B (TB)		1				X					
1255 B		3		X							
1256 B (FB)		3		X							
1257 B		1			X						
1258 B		1				X					
1259 B (FB)		1				X					

Sample Location: ST-6-528

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: SUO4	SUO4 SHS	TOTAL METALS					Charge Number
210915 1330 B		2	A	X							XGMD
1400 B		1			X						
1405 B		2				X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	9-15-21 / 1600		[illegible]	9-16-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ROBERT BURROWS & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SYSTEM. PURGE PRESSURE SET @ 22 psi & SAMPLE PRESSURE SET @ 20 psi. A MIN OF ½ GALLONS OR STABILIZATION OF PARAMS WILL TAKE PLACE PRIOR TO SAMPLING. BUBBLER SET @ 3 psi & STABLE @ 7 psi. RECOVERY OF 18 MINS. BETWEEN PURGES.

	INTIAL	FINAL
	210915 1100 B	210915 1430 B
pH	8.53	7.53
TEMP	25.0 °C	24.3 °C
COND	1118 µs/cm	1107 µs/cm
TURB	0.90 NTU's	0.88 NTU's
pH PRE	7.09/9.97 (33.4)	6.97/9.85 (36.3 °C)
pH POST	7.07/9.96	6.95/9.90
IDW		

METER ID's
pH/COND #12
TURB # 7
" STD 51.17
" Rdg 50.0
" LOT # 91017
" Exp 9/30/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	CAL
210915 1105 B	8260 (L	ICE / HCl	2583	(3) 40 ml VIALS	415
—— 1106 B	" (FB)	"	"	"	"
—— 1310 B	6010	ICE	0103516	(1) 1 LT AMBER	SRL
—— 1311 B	CL/NO3/SO4	"	"	"	"
—— 1312 B	" (FB)	"	"	"	"
—— 1345 B	" (Dup)	"	"	"	"
—— 1355 B	SUVA	"	121420	DI (2)	" 415
—— 1425 B	SUVA-Sim	"	N/A	(1) 250 ml AMBER	"
—— 1426 B	TOTAL METALS	ICE / HNO3	"	(2) 125 ml POLYS	"

Blind CONTROLS

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	CAL
210915 1355 B	CL/NO3/SO4	ICE	[redacted] NOMA (0.005 mg/L)	(1) 1 LT AMBER	SRL

21ERM127A

	PH	TEMP	PURGE PARAM's	COND	TURB
1	8.45	23.3		1125	0.99
2	8.49	22.5		1117	0.97
3	8.42	24.2		1116	0.74

Continued from page

Read and Understood By

T. [signature] Signed — 9-15-21 Date — [signature] Signed — 9-16-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-15-21 Page 1 of 1

Sample Location: ST-6-568

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260C	607	CLNDM4	SUO4				Charge Number
										X6MD
210915 1105B	3	A	X							
1106B (FB)	3		X							
1310B	1			X						
1311B	1				X					
1312B (FB)	1				X					
1345B (Dup)	1				X					
~~1425B~~ 1355B	2	↓				X				↓

Sample Location: ST-6-568

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	SUO4 Sm	TOTAL METALS		CLNDM4				Charge Number
										X GMD
210915 1425B	1	A	X							
1426B	2	↓		X						
210915 1555B (B.C)	1	A				X				↓

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Dy	9/15/21/1600		[signature]	9-16-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ROBERT BURROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SYSTEM. PURGE ~~RATE~~ & PRESSURE WAS SET @ 228 psi & SAMPLE PRESSURE SET @ 207 psi. 4 GALLONS OR UNTIL PARAM'S STABILIZE TO BE PURGED PRIOR TO SAMPLING. BUBBLER SET @ 3 psi & STABLE @ 7 psi. CARBOY 6-2. 15 min RECOVERY TIME BETWEEN ~~THE~~ PURGES.

	pH	Cond.	PRE SAMPLE PARAM'S	TEMP	Turb
1	8.50	1060 µs/cm		23.9°c	1.03
2	8.55	1053 µs/cm		24.0°c	0.98
3	~~8.~~ 8.48				

	INITIAL	FINAL
	210916 1250B	210916 1515B
pH	8.48	8.56
TEMP	24.2	23.1°c
COND	1070 µs/cm	1089 µs/cm
TURB	0.99	2.28 NTU's
pH pre	CAL 6/9.94(39.4)	7.04/9.79(36.7°c)
pH post	7.01/9.96	7.02/9.81
IDW		

METER ID's
pH/COND #12
TURB #7
" STD = 51.17
" Adj = 50.4
" LOT # = 91017
" EXP = 9/30/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210916 ~~1300~~ 1310B	8260LL	ICE/HCl	2583	(3) 40ml VIALS	ALS
1311BB	" (FB)	"	"	"	"
1312B	6007	ICE	01035016	(1) 1LT AMBER	SRL
1343B ~~1349B~~	CL NDMA	"	"	"	"
1344B ~~1346B~~	" (FB)	"	"	"	"
1345B ~~1346B~~	SUOA	"	121420 D/C	(2) 1LT AMBER	ALS
1510B	SUOA SIM	"	N/A	(1) 250ml AMBER	"
1511B	" (DUP)	"	"	"	"
1512B	TOTAL METALS	ICE/HNO3	"	(2) 125ml poly	"

TRIP BLANKS

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210916 0700B	8260LL	ICE/HCl		(3) 40ml VIALS	ALS
0701B	CL NDMA	ICE		(1) 1LT AMBER	SRL

* SOMETHING FLOATING IN SAMPLES FROM WELL
** NOTE CHECK BALL DOESN'T SEEM TO BE WORKING RIGHT

Continued from page

Read and Understood By

T. [signature] Signed 9-16-21 Date

[signature] Signed 9-20-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-16-21 Page 1 of 1

Sample Location: ST-6-678

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	607	LCWMA					Charge Number
										X6MD
210916 0700B (FB)	3	A	X							
0701B	1				X					
1310B	3		X							
1311B (FB)	3		X							
1312	1			X						
1343	1				X					
1344 (FB)	1				X					

Sample Location: ST-6-678

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: SUO4	SUO4SIM	TOTALMETALS					Charge Number
										X 6MD
210916 1345B	2	A	X							
1510	1			X						
1511 (Dup)	1			X						
1512	2				X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	9-16-21 1600		[illegible]	9-20-21 0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT ST-6-824 FLUTE WJI IN PROCESS

Notebook No. D32#122 (B)

Continued from page

ROBERT BURROWS & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 22 psi & PURGE SAMPLE PRESSURE SET @ 20 psi. 4 GALLONS OR PARAM'S STABILIZATION WILL BE PURGED PRIOR TO SAMPLING. 15 min RECOVERY TIME BETWEEN PURGES. CACTUS, G-2 BUBBLER SET @ 3 psi & STABICE @ 7 psi.

PRE SAMPLE PURGE PARAM'S

	pH	TEMP	COND	TURB
1	8.06	22.4°c	962	0.89
2	8.08	22.2	965	±10% 0.90
3				

	INITIAL	FINAL
	210916 1255B	210916 1450B
pH	8.08	8.10
TEMP	23.8°c	24.1°c
COND	969 µs/cm	1027 µs/cm
TURB	1.88 NTU's	0.69
pH pre	7.04/9.91 (39.5)	7.08/9.94 (41.3°c)
pH post	7.15/9.90	7.08/9.85

METER ID's

pH/COND #12

TURB #7

" STD 54.17

" Rds

" LOT# 91017

" Exp 9/30/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210916 1325B	8260LL	ICE/HCl	2583	(3) 40ml VIALS	ALS
" 1326B	" (FB)	"	"	"	"
" 1327B	607	ICE	010B5816	(1) 1LT AMBER	SRI
~~1328B~~ 1328B	LL NDMA	"	"	"	"
~~1405B~~ 1329B	" (FB)	"	"	"	"
" 1405B	SVOA	"	121420 IDK	(2) "	ALS
" 1445B	TOTAL METALS	ICE/HNO3	N/A	(2) 125ml plas	"

Continued from page

Read and Understood By

T- Signed

9-16-21 Date

Signed

9-20-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-16-21 Page 1 of 1

Sample Location: ST-6-824

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
			8260 (GC/MS)	6010	(CN) A	SUOA	4404 (GC/MS)			
Pertinent Notes (if any)										XGMD
210916 1325B	3	A	X							
1326B (FB)	3		X							
1327B	1			X						
1328B	1				X					
1329B (FB)	1				X					
1405B ~~(FB)~~	2					X				
1445B	2						X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
Pertinent Notes (if any)										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T-7	9-16-21 / 1600			9-20-21 / 0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ROBERT BURROWS & TONY TORRES PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 22 psi & SAMPLE PRESSURE SET @ 20 psi. 4 GALLON OR PARAM STABILIZATION WILL BE PURGED PRIOR TO SAMPLING. 15 MIN RECOVERY TIME BETWEEN PURGES. BLADDER SET @ 3 psi & STABILE @ 7 psi. Carboy G-2

PRE SAMPLE PARAM's

pH	8.23	8.28
Temp	22.8°C	23.4°C
COND	1048 µs/cm	1049
Turb	1.31	1.06

	INITIAL	FINAL
	210916 1305B	210916 1501B
pH	8.31	7.90
TEMP	24.1°C	23.1°C
COND	1052 µs/cm	1091 µs/cm
Turb	1.87 NTU's	1.23
pH PRE	7.13/9.88 (41.0°)	7.07/9.89 (~~36~~ 40.1°C)
pH POST	7.17/9.96	7.07/9.81
IDW		

METER ID's
pH/COND #12
Turb #7
" STD 51.17
" Rdg
" LOT# 91017
" EXP 9/30/21

Samples

SAMPLE#	ANALYSIS	PRESERV	LOT #	CONT	LAB
210916 1335B	8260 LL	1:1 HCl	2583	(3) 40ml VIALS	ALS
— 1336B	" (FB)	"	"	"	"
— 1337B	6010	1:1	B103501G	(1) LT amber	SRL
— 1338B	LL NH3/NA	"	"	"	"
— 1339B	" (FB)	"	"	"	"
— 1420B	SVOA	"	12/4/20 IBK	(2) "	ALS
— 1500B	TOTAL METALS	1:1 HNO3	N/A	(2) 125ml poly	"

Continued from page

Read and Understood By

T. D. — Signed — 9.16.21 Date — Signed — 9-20-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-16-21 Page 1 of 1

Sample Location: ST-6-970

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	607	LCMS4	5004	5004SIM			Charge Number
										XGMD
210916 1335B	3	A	X							
1336B (FB)	3		X							
1337B	1			X						
1338B	1				X					
1339B (FB)	1				X					
142013	2					X				
1500B	2						X			

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T.	9.16.21/1600		Jon W Lunch	9-20-21 /0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & hot. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use. Resample event.

Calibrations
DO - calibrated in saturated air @ 638 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #21 std - 10.1 rdg - 10.5 lot - 91017 Exp - 9/30/21

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 210909 1410B	22.74	1.093	6.11	-38	8.69	0.49	422.17
2) ——— 1413B	22.87	1.089	5.82	-36	8.64	0.48	422.17
3) ——— 1416B	23.00	1.080	5.50	-33	8.59	0.41	422.17

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210909 1420B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI
——— 1421B	" (FB)	"	"	"	"

* Resample event *

Initial DTW - 422.05ft. Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 9/9/21 — Date

Jon Munch — Signed — 9.13.21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/9/21 Page 1 of 1

Sample Location: WW-1-452

Pertinent Notes (if any): Resample event

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA							Charge Number
210909 1420B	1	A	✓							XGMD
1421B (FB)	1	A	✓							"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeTienne	9/9/21 1500 hrs.		Jon W Munch	9-13-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. this well will be purged using a dedicated bladder pump. Samples will be collected ~~into a~~ CO using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations

DO - calibrated in saturated air @ 639 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using ~~fisher~~ Oakton CO buffers (7-10).

Turbidity meter #21 std - 10.1 rdg - 10.4 lot - 91017 Exp - 9/30/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
210908 0720B	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2593	ALS
——— 0721B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 210908 0945B	22.22	0.944	4.96	26	8.85	5.97	N/A
2) ——— 0948B	22.30	0.955	4.74	26	8.87	5.27	"
3) ——— 0951B	22.36	0.962	4.46	28	8.87	4.81	"

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
210908 0955B	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2593	ALS
——— 0956B	" (FB)	"	"	"	"
——— 0957B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRI
——— 0958B	" (FB)	"	"	"	"
——— 0959B	*" (M.S.)*	"	"	"	"
——— 1000B	*" (MSD)*	"	"	"	"

Initial packer reading - Øpsi Total gallons purged - 2

*packer inflated prior to sampling.

Final packer pressure - 37psi

Continued from page

Read and Understood By

Craig Del Ferraro 9/8/21 Signed Date

Pam Munch 9-9-21 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/8/21 Page 1 of 1

Sample Location: WW-2-489

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	Analytical Requirement: LL NDMA	Charge Number
2109080720B (TB)		3	A	✓		XGMD
0721B (TB)		1	A		✓	"
0955B		3	A	✓		"
0956B (FB)		3	A	✓		"
0957B		1	A		✓	"
0958B (FB)		1	A		✓	"
0959B (MS)		1	A		✓	"

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA	Charge Number
2109081000B (MSD)		1	A	✓	XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Altemus	9/8/21 1120hrs.		[signature]	9-9-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT WW-2-664 WJI ENV-0053

Notebook No. D32#122(B)

Continued from page _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & hot. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations

DO - calibrated in saturated air @ 639 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #21 std - 10.1 rdg - 10.4 lot - 91017 Exp - 9/30/21

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 210908 1415B	22.95	0.927	5.13	-28	9.13	1.27	N/A
2) ——— 1418B	23.07	0.926	4.94	-29	9.10	1.17	"
3) ——— 1421B	23.15	0.919	4.72	-29	9.10	1.13	"

Sample	Analysis	Samples Preservative	Container	Lot	Lab
210908 1425B	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2593	ALS
——— 1426B	" (FB)	"	"	"	"
——— 1427B	Low Level NDMA	ice	(1) 1L Amber	0103501G	SPL
——— 1428B	" (FB)	"	"	"	"

*Packer pressure prior to sampling ~ 37 psi.

* final packer pressure ~ 37psi

Total gallons purged - 2.5

Continued from page

Read and Understood By

Craig Del Ferraro 9/8/21 Date

Signed 9-9-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/8/21 Page 1 of 1

Sample Location: WW-2-664

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	LL UDMA						Charge Number
210908 1425B	3	A	✓							XGMD
1426B (FB)	3	A	✓							4
1427B	1	A		✓						4
1428B (FB)	1	A		✓						4

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Alf Ferme	9/8/21 1510 hrs.		Jon W Jurado	9-9-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Resample

PROJECT WW-3 ~~569~~ 469 ENV.0020

Notebook No. DG4 # 128(Y) 35

Continued from page _____

Marcus Avalos & Tony Torrez present. The weather is clear & hot. This zone will be sampled using 2 steam cleaned & triple rinsed stainless steel sample tubes. Gen in use. Probe # 4951. Surface checks performed on probe prior to sampling.

30-Min Equipment Blanks

Carboy Cg-1

Sample #	Analysis	Preserve	Container	lot	lab
210909134514	Low Level NDMA	Ice	(1) 1L Amber	0103501G	SRI

Initial Parameters		Final	Meter ID		
Time	210909 1425 Y	210909 1527 Y	PH/Cond	60	
PH	7.55	7.43	Turb	#20	
Temp	21.0 °C	21.4 °C	STD	5.56 NTU	
Cond	1084 uS/cm	1062 uS/cm	RDG	5.56 NTU	
Turb	2.97 NTU	2.10 NTU	LOT	9107	
PHpre	7.04 / 10.06 (27.5°C)	7.06 / 10.08 (28.2°C)	Exp	9/30/21	
PHpost	7.01 / 10.04	7.07 / 10.05			
DTW	409.35'	409.50'			
Atmos	12.49 psia	12.58 psia			
		IDW - 0.25 gal			

Buffers	lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample #	Analysis	Preserve	Container	lot	lab
210909150014	Low Level NDMA	Ice	(1) 1L Amber	0103501G	SRI

Runs	1)	2)	3)
	40.67	40.46	40.30
	39.27	39.36	39.32
	39.34	39.33	39.33
	40.40	40.22	40.21

Continued from page

Read and Understood By

MA & TT — Signed

9/9/21 — Date

Yesenia Hernandez — Signed

9-13-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9/9/21 for

Sample Location: WW.3 · 564 469

Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							
Sample Number			TCMA							Charge Number
210909134S Y (EB)	1	A	X							XGMD
1500 Y	1	A	X							J

Sample Location:

Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							
Sample Number										Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	9/9/21 @ 1553	[signature]	9-13-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

KESample

PROJECT WW.3.569 ENV.0020

Notebook No. D64#128(y)

Continued from page ____

MARCUS AVALOS & TONY TORRES PRESENT. THE WEATHER IS CLEAN & HOT. THIS ZONE WILL BE SAMPLED USING 5 DECONED & TRIPLE RINSED SAMPLE TUBES. PROBE # 2213 IN USE. GEN IN USE SURFACE CHECKED PRIOR TO SAMPLING. CANARY 6-1

INITIAL	FINAL
210907 1530Y	210907 1558Y
pH 7.91	7.93
TEMP 83.5	23.3
COND 1025 µS/cm	1025
TURB 0.38 NTUs	0.41
pH pre 7.02/10.04	7.04/10.04
pH post 7.04/10.04	7.03/10.08
DTW 409.13 ~~Bottom~~	409.35
IDW 0.1 gal	

METERS ID

pH/Cond = 60

Turb # 20

" STD = 5.56

" Rdg = 5.56

" LOT # 91017

" Exp 9-30-21

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210907 1555Y	TPH (CNDMA	ICE	0103501G	1) 1L Amber	~~ALS~~ SRL
— 1556Y	"	"	"	"	"

30 MIN E.B's

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
210907 1500Y	(CNDMA	ICE	0103501G	1) 1L Amber	SRL

Run 1) 84.65
82.48
82.51
84.46

2) 84.47
82.49
82.51
84.49

Continued from page

Read and Understood By

T. D
Signed

9-7-21
Date

Jon U Munch
Signed

9-8-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9-7-21 Page 1 of 1

Sample Location: WW-3-569

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: CLNDMA							Charge Number
										X6MD
210907 1500y (EB)	1	A	X							
1555y	1		X							
1556y (FB	1		X							

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	9-7-21 / 1600		[signature]	9-8-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 200·LV·150

Marcus Avalos & Robert Burrows present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a new teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell & water analyzer. Carboy Ca-2 in use.

Calibrations
DO- Cal in saturated air @ 639 mm/Hg.
Conductivity- Cal using 1413 us/cm STD solution.
PH- Cal using Oakton buffers (4,7,10)
Turb Meter #8 STD- 62.2 NTU Reads- 60.8 NTU Lot- 91017 Exp- 10/31/21

Parameters (time)		temp (°C)	Cond (mS/cm)	DO	ORP	pH	Turb (NTU)	DTW (ft)
1) 211020	0920A	~~1.314~~ NA 20.77	1.314	1.65	-160	7.54	3.55	157.60
2) ——	0922A	~~1.337~~ NA 20.83	1.337	1.67	-157	7.56	3.06	"
3) ——	0924A	~~1.321~~ NA 20.80	1.321	1.70	-156	7.47	3.63	"

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
211020 0930A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	ALS
—— 0931A	= (FB)	=	=	=	=
—— 0932A	607/Bromacil	Ice	(1) 1L Amber	020040/G	SDI
—— 0933A	= (FB)	=	=	=	=
—— 0934A	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS
—— 0935A	= (FB)	=	=	=	=
—— 0936A	Anions/Alk	Ice/ZeroHS	=	N/A	=
—— 0937A	TDS SM2540C	Ice	(1) =	=	=
—— 0938A	Perchlorate 6850	Ice/1/3HS	=	=	=
—— 0939A	NO2, NO3 353.2	H2SO4/Ice	(1) 250 ml poly	210303	=

Initial DTW- 156.83'

Continued from page

Read and Understood By

MA CA — Signed — 10/20/21 Date

Jon Munch — Signed — 10-21-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/20/21 Page 1 of 1

Sample Location: 200 · LV · 150

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/8260	T. Metals	Anions/AIK				Charge Number
211020 0930A		3	A	X							XGMD
0931A	(FB)	3		X							
0932A		1			X						
0933A	(FB)	1			X						
0934A		2				X					
0935A	(FB)	2				X					
0936A		2					X				

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: TDS	Perchlorate	NO2, NO3					Charge Number
211020 0937A		1	A	X							XGMD
0938A		1			X						
0939A		1				X					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/20/21 @ 1040		[signature]	10-21-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 300-C-128 WJI ENV-0053

Notebook No. D32 # 123(A)

Continued from page _____

Marcus Avalos & Robert Burrows present. Weather is breezy & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a dedicated discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell & water analyzer. Carboy G-2 in use.

Calibrations

DO- Cal in saturated air @ 639 mm/Hg.

Conductivity- Cal using 1413 uS/cm STD solution.

PH- Cal using Oakton buffers (4,7,10)

Turb Meter: # 8 STD- 62.2 NTU RDG- 61.6 NTU Lot- 91017 Exp- 10/31/21

Parameters (time)	temp (°C)	Cond (mS/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 211019 1400A	22.45	1.036	6.70	119	7.08	2.33	142.80'
2) —— 1402A	22.66	1.045	6.24	118	7.03	0.91	"
3) —— 1404A	22.78	1.026	6.52	118	7.05	1.11	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211019 1410A	VOA by 8260	HCl/Ice	(3) 40ml vials	2583	ALS
—— 1411A	" (FIB)	"	"	"	"
—— 1412A	607/1312	Ice	(1) 1L Amber	0200401G	SBL
—— 1413A	Total Metals	HNO3/Ice	(2) 125ml poly	210121	ALS
—— 1414A	NO2, NO3 353.2	H2SO4/Ice	(1) 250ml poly	210303	"

Initial DTW- 142.75'

Final DTW- 142.82'

IDW- 0.5 gal

Continued from page

Read and Understood By

Signed — Date 10/19/21

Signed — Date 10-20-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/19/21 Page 1 of 1

Sample Location: 300 · C · 128

Sample Number	# of Containers	Sample Matrix*	8260	607/Bro	T. Metals	NO2, NO3				Charge Number
211019 1410A	3	A	X							XGMD
1411A (FB)	3	|	X							|
1412A	1	|		X						|
1413A	2	|			X					|
1414A	1	—				X				—

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Analytical Requirement

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/19/21 @1540		[signature]	10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a YSI MP20 flow cell & water analyzer. Carboy Cnt-1 in use.

Calibrations
DO - Cal in saturated air @ 639 mm/Hg.
Conductivity - Cal using 1413 uS/cm STD solution.
PH - Cal using Oakton Buffers (4,7,10)

Parameters (time)	Temp (°C)	Cond (mS/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 211018 0950A	22.71	1.343	2.36	96	7.53	2.73	129.20
2) —— 0952A	22.19	1.333	2.32	94	7.56	2.68	"
3) —— 0954A	21.90	1.346	2.20	93	7.57	2.88	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211018 1000A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	ALS
—— 1001A	" (FB)	"	"	"	"
—— 1002A	607/Bromacil	Ice	(1) 1L Amber	02004016	SRL
—— 1003A	" (Dup)	"	"	"	"
—— 1004A	Total Metals	HNO3/Ice	(2) 125ml poly	210121	ALS
—— 1005A	Anions/Alk	Ice/~~H2SO4~~ H5	"	N/A	"
—— 1006A	TDS by SM2540C	Ice	(1) "	"	"
—— 1007A	Perchlorate 6850	Ice/H5	"	"	"
—— 1008A	NO2, NO3 353.2	Ice/H2SO4	(1) 250ml poly	210303	"

Turb Meter - #8 STD - 62.2 NTU 1206 - 62.1 NTU Lot - 91017 Exp - 10/31/21

Initial DTW - 128.65'

Final DTW - 129.90'
IDW - 0.6 gal

Continued from page

Read and Understood By

10/18/21 10-19-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/18/21 Page _____ of _____

Sample Location: 400-FU-131

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/B10	T. Metals	Anions/Alk	TDS			Charge Number
211018/1000A	3	A	X							XGMD
1001A (FB)	3		X							
1002A	1			X						
1003A (Dup)	1			X	X					
1004A	2				X	X				
1005A	2					X				
1006A	1	1					X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Perchlorate	NO2, NO3						Charge Number
211018/1007A	1	A	X							XGMD
1008A	1	1		X						1

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/18/21 @ 1115		[signature]	10-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 400. HV. 147

Notebook No. _____

Continued from page _____

Marcus Avalos & Robert Burrows present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a dedicated discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell & water analyzer. Carboy Ca-1 in use.

Calibrations

DO- Cal in saturated air @ 634 mm/Hg.

Conductivity- Cal using 1413 us/cm STD solution.

PH- Cal using Oakton Buffers (4,7,10)

Turb Meter - # 8 STD- 62.2 NTU RPG- 62.1 NTU lot- 91017 Exp- 10/31/21

Parameters (time)	temp (°C)	Cond (ms/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 211018/1400A	23.20	1.87	4.76	99	7.60	1.21	138.90'
2) —— 1402A	23.17	1.86	4.05	99	7.62	0.78	"
3) —— 1404A	23.24	1.87	3.41	98	7.64	0.71	"

Samples

Sample #	Analysis	Preserv	Container	lot	lab
211018/1410A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	ALS
—— 1411A	" (FB)	"	"	"	"
—— 1412A	" (Dup)	"	"	"	"
—— 1413A	607/8270	Ice	(1) 1L Amber	020040116	SRL
—— 1414A	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS
—— 1415A	Anions/Alk	Ice/2x60HS	"	N/A	"
—— 1416A	TDS by SM2540C	Ice	(1) "	"	"
—— 1417A	Perchlorate 6850	Ice/1/3HS	"	"	"
—— 1418A	NO_2, NO_3 353.2	H_2SO_4/Ice	(1) 250 ml poly	210303	"

Initial DTW- 138.50'

Final DTW- 139.10'

IDW- 0.5 gal

Continued from page

Read and Understood By

MA CA 10/18/21

Signed Lori Munch 10-19-21

Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/18/21 Page 1 of 1

Sample Location: 400 · HV-147

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/8270	T. Metals	Anions/Alk	TDS			Charge Number
211018|410A	3	A	X							XGMD
1411A (FB)	3		X							
1412A (Dup)	3		X							
1413A	1			X						
1414A	2				X					
1415A	2					X				
1416A	1						X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Perchlorate	NO2, NO3						Charge Number
211018|417A	1	A	X							XGMD
1418A	1	↓		X						↓

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
MA GJ	10/18/21 @ 1515hrs	[signature]	10-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Robert Burrows present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a dedicated discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell & water analyzer. Carboy Gr. 2 in use.

Calibrations
DO: Cal in saturated air @ 639 mm/Hg.
Conductivity: Cal using 1413 µS/cm STD. solution.
PH: Cal using Oakton Buffers (4, 7, 10)
Turb Meter: # 8 STD - 62.2 NTU ICV: 61.6 NTU Lot: 91017 Exp: 10/31/21

Parameters (time)	temp(°C)	Cond(mS/cm)	DO	ORP	PH	Turb(NTU)	DTW(ft)
1) 211019 0956 A	22.17	0.393	6.17	101	7.03	1.27	131.85'
2) —— 0952 A	22.20	0.391	6.30	99	7.28	1.44	"
3) —— 0954 A	22.18	0.390	6.21	99	7.33	1.35	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211019 1000 A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2583	ALS
—— 1001 A	" (FB)	"	"	"	"
—— 1002 A	607/8270	Ice	(1) 1L Amber	02004016	SRI
—— 1003 A	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	ALS
—— 1004 A	Anions/Alk	Ice/Zero HS	"	"	"
—— 1005 A	TDS SM2540C	Ice	(1) "	"	"
—— 1006 A	Perchlorate 6850	Ice/1/2 HS	"	"	"
—— 1007 A	NO2, NO3 353.2	H2SO4/Ice	(1) 250 ml poly	210303	"

Initial DTW - ~~139.90~~ MA 129.90'

Final DTW - 131.90'

IDW - 0.5 gal

Continued from page

Read and Understood By

Signed — Date 10/19/21

Signed — Date 10-20-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/19/21 Page 1 of 1

Sample Location: 400-JU-123

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607/Rso	T. Metals	Anions/Alk	TDS	Perchlorate		Charge Number
211019 1000A	3	A	X							XGMD
1001A (FB)	3		X							
1002A	1			X						
1003A	2				X					
1004A	2					X				
1005A	1						X			
1006A	1							X		

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: NO2 NO3							Charge Number
211019 1007A	1	A	X							XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/19/21 @ 1100		[signature] Lunch	10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT 600-G-138 WII ENV-0013

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. This well will be purged dry using the Bennett pump. After the well recovers, samples will be collected using a teflon bailer. Carboy G5 in use.

Total depth - 148.40ft.
Initial DTW - 145.00ft.
Start purge - 0712 hrs.
Stop purge - 0721 hrs.
Total gallons purged - 8.5
Final DTW - 145.60ft.

Meter ID	Buffers	Lot	Exp
pH/cond - 60	7	2108G56	2/23
Turb - 6	10	4103G81	9/22
" std - 2.97			
" rdg - 3.08			
" lot - 91017			
" Exp - 10/31/21			

Initial Parameters
Time - 211021 1100A
pH - 7.85
Temp - 18.6 °C
Cond - 1699 us/cm
Turb - 1.71 NTU's
pH pre - 7.06/10.09 (23.0 °C)
pH post - 7.08/10.10
DTW - 145.33 ft.

Final
Time - 211021 1109A
pH - 7.95
Temp - 18.8 °C
Cond - 1714 us/cm
Turb - 1.64 NTU's
pH pre - 7.04/10.08 (23.6 °C)
pH post - 7.03/10.09
DTW - 145.60 ft.

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211021 1105A	VOA by 8260	ice/HCl	(3) 40ml vials	2596	ALS
——— 1106A	" (FB)	"	"	"	"
——— 1107A	Chloride by 300.0	ice	(1) 125ml poly	N/A	"
——— 1108A	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-04-30	"

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 10/21/21 — Date
Jon Munch — Signed — 10-21-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/21/21 Page 1 of 1

Sample Location: 600-G-138

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	Chloride	NO_2/NO_3				Charge Number
211021 1105A	3	A	✓						XGMD
1106A (FB)	3	A	✓						"
1107A	1	A		✓					"
1108A	1	A			✓				"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement						Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Dellinger	10/21/21 1125hrs.		Jon W Jumel	10-25-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Frank Gallegos present. Samples will be Taken From The Dedicated Sample port Located on The EFFluent Side of The System. The Sample port will purged For One minute prior To parameters and Sample Collection. Carboy "~~EFF~~" used For Field blanks. Carboy "G-2"

Parameters	Meter ID	Buffer	Lot	Exp
Time: 21013 1300	PH/cond - Pimefton	7	4002691	8/22
PH - 8.40	Turb - Pimefton	10	4001005	6/22
Cond - 1110 us/cm	Turb STD - 9.30			
Turb - 0.64 NTUs	" Rdg - 9.30			
Temp - 23.2°C	" Lot - 26849 01			
PH/pre - 7.10/10.08(23.8°C)	" Exp mar/22			
PH/post - 7.08/10.10				

Sample ID	Analysis	Samples Preserve	Containers	Lot	Lab
21013 1301	VOA by 8260C	Ice/HCl	(3) 40 mL Vials	2596	ALS
— 13 1302	" FB	"	"	"	"
— 13 1303	NSMA/BM w/Bromate by 557	Ice	(1) 1 LT Amb	0005 95	SWAE
— 13 1304	Low Level NSMA	"	"	"	"
— 13 1305	" FB	"	"	"	"

Continued from page N/A

Signed — Date 10-13-21

Read and Understood By

Signed — Date 10-14-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-13-21 Page 1 of 1

Sample Location: B650-EFF-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA by SW8260C (1)	RDNA/DNT E10 by 8095	LC NDMA					Charge Number: X GMD
211013 1301	3	A	X							"
1302 (FB)	3	A	X							"
1303	1	A		X						"
1304	1	A			X					"
1305 (FB)	1	A			X					"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10-13-21 (1330)		[signature]	10-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Frank G-Mapes present. Samples will be Collected From The Dedicated Sample port Located on the Influent side of the System. The Sample port will be purged For One Minute prior To Grab Sample Collection. ~~The Sample port will be~~ a Carboy ~~will be~~ used For Field Blanks. Carboy G-2.

Parameters	meter ID	By Area	Lot	Exp
Time: 21/0/13/1306	pH/cond - Pinnacle 7		4/00291	8/22
pH - 7.88	Turb - Pinnacle 10		4/00185	6/22
Temp - 22.4°C	" STD - 9.38			
Cond - 1118 µS/cm	" Rdg - 9.30			
Turb - 1.28 NTUs	" Lot 26849C01			
pH/Temp/Cond - 7.10/10.10(23.6°C)/Exp - Mar/22				
pH/Temp/Cond - 7.08/10.08				

Samples

Sample #	Analysis	Preservative	Container	Lot	Lab
21/0/13/1307	VOAs by 8260	Ice/HCl	(3) 40 mL Vials	2596	ALS
——— 13/1308	" FB	"	"	"	"
——— 13/1309	NSMX/DNAN/Boamac/ByCO7	Ice	(1) 1 Liter Amb	000595	Spectrum
——— 13/1310	" FB Dup	"	"	"	"

Continued from page N/A

Read and Understood By

Signed — Date 10-13-21

Signed — Date 10-14-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-13-21 Page 1 of 1

Sample Location: B650-INF-1

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA by 8260	PAHs (5 mol) Bio by 607						Charge Number
										X GMD
211013 1307	3	A	X							"
1308 (FB)	3	A	X							"
1309	1	A		X						"
1310 (Dup)	1	A		X						"

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10-13-21 (1330)			10-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Fiorill Gallegos, Tim Moore — Present. Samples will be collected from the Dedicated Sample port located on the Effluent side of the System. The Sample port will be purged for One minute prior to parameters and Sample Collection. Cooler "PFI" used for Field Blanks.

Parameters	Meter ID	Buffer	Lot	Exp
Time: 2110191006	PH/Cond	7	400291	5/22
PH 8.22	Turb	10	400115	5/22
Temp 23.0 C	" Std 9.30 NTU			
Cond 1436 US/CM	" Lot			
Turb 0.74 NTU	" Exp			
PH/Pre -7.00/10.00 (22.2°C)	Orig 9.38 NTU			
PH/Post 7.02/10.02				

Sample #	Analysis	Sample Preserv	Containers	Lot	Lab
2110191009	VOA 624.8260 LL	Ice/HCL	(3) 40 ML Vials	E5860	ALS
—— 1010	" FB	"	"		"
—— 1011	NDMA/BMN/Bromacil/4607	Ice	(1) 1 LT Amb	0 E000P006	SMCI
—— 1012	Low Level NDMA	"	"		"
—— 1013	" FB	"	"		"

Continued from page N/A

Read and Understood By

Signed — Date 10/19/21 — Signed — Date 10-19-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/19/21 Page 1 of 2

Sample Location: EFF-B655-2

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*	VOA 8260 (LL)	LL-VOA 8260LL	NDMA/DMN/ BROMACIL 607 Low Level NDMA	TOTAL METALS	ANIONS / ALK	TDS SM2540C	Charge Number
Sample Number									
21019/0009	3	A	X						XGMD
—— /0010 (FB)	3	A	X						
—— /0011	1	A			X				
—— /0012	1	A		X					
—— /0013 (FB)	1	A		X					

Sample Location:

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*	PERCHLORATE 6850	NO_2/NO_3 353.2					Charge Number
Sample Number									
									XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10/19/21 (1100)			10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Frank Collegos, Tim Moore present. Samples will be Collected from the Dedicated Sample Port located on the Influent side of the System. The Sample Port will be purged for one Minute prior to Parameter and Sample collection. Cooley "PFT" used for Field Blanks.

Parameters	Meter ID	Bottle	Lot	Exp
Time: 211019/1020	PH/cond	7	400291	8/22
PH 7.18	Turb	10	400185	6/22
Temp 22.9°C	"STD 9.30 NTU			
Cond 1064	"Rdg 9.32 NTU			
Turb 1.90 NTU	"Lot			
PH/pre 7.03 - 10.00 (22.4°C)	"Exp 10/30			
PH/post 7.01 - 10.00				

Sample #	Analysis	Sample Preserve	Container	Lot	Lab
211019 1025	VOA by 8260	Ice/HCl	(3) 40 mL Vials	25196	ALS
—— 1026	" FB	"	"	"	"
—— 1027	NMA/DMA/Bromoxil by 607	Ice	(1) 1 L Amb	02004016	Soleil

Continued from page N/A

Read and Understood By

Tim Moore 19 Oct 2021

Dori Munde 10-19-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/19/21 Page 1 of 1

Sample Location: INF-B655-2

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA 8260	LL-VOA 8260LL	NDMA/DMN/ BROMACIL 607 Low Level NDMA	TOTAL METALS	ANIONS / ALK	TDS SM2540C	Charge Number
211019 1025	3	A	X						XGMD
1026 (FB)	3	A	X						"
1027	1	A			X				"

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	PERCHLORATE 6850	NO2/NO3 353.2					Charge Number
									XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/19/21 (1100)		[signature]	10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. this well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy G1 in use.

Calibrations
DO - calibrated in saturated air @ 642 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #8 std - 62.2 rdg - 63.0 lot - 91017 Exp - 10/31/21

Parameters (time)	Temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 211015 0900C	19.46	1.405	6.02	146	6.50	6.17	360.35
2) ——— 0903C	19.57	1.420	5.80	141	6.53	5.94	360.35
3) ——— 0906C	19.71	1.427	5.56	137	6.55	5.76	360.35

Sample	Analysis	Samples Preservative	Container	Lot	Lab
211015 0910C	VOA by 8260	ice/HCL	(3) 40ml vials	2583	ALS
——— 0911C	" (FB)	"	"	"	"
——— 0912C	Low Level NOMA	ice	(1) 1L Amber	000B1383	SRL
——— 0913C	" (FB)	"	"	"	"

Initial DTW - 360.25ft. Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 10/15/21 — Date
Per W Munck — Signed — 10-16-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/15/21 Page 1 of 1

Sample Location: BLM-6-488

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	LL NDMA						Charge Number
211015 0910C	3	A	✓							XGMD
0911C (FB)	3	A	✓							"
0912C	1	A		✓						"
0913C (FB)	1	A		✓						"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fiemo	10/14/21 1015hrs.		Jon W Munch	10-18-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BLM-10-517 WII ENV-0053

Notebook No. D32 #123 (A)

Continued from page _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using teflon discharge hose. Water quality parameters will be monitored using QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations

DO - calibrated in saturated air @ 640 mm/Hg.
Conductivity - calibrated using 1413us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #20 std-6.03 rdg-6.11 lot-91017 Exp-10/31/21

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
211005 1430A	21.72	0.996	6.18	149	6.68	0.33	495.55
——— 1433A	21.80	1.003	6.40	148	6.73	0.24	495.55
——— 1436A	21.83	1.009	6.62	145	6.74	0.25	495.55

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211005 1440A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 1441A	" (FB)	"	"	"	"
——— 1442A	Low Level NDMA	ice	(1) 1L Amber	000525	SRI
——— 1443A	" (FB)	"	"	"	"

Initial DTW - 495.55ft. Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 10/5/21 — Date

Signed — 10-6-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/5/21 Page 1 of 1

Sample Location: BLM-10-517

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	Analytical Requirement: LL NDMA	Charge Number
211005 1440A	3	A	✓		XGMD
1441A (FB)	3	A	✓		"
1442A	1	A		✓	"
1443A (FB)	1	A		✓	"

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Pertinent Notes (if any)

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Kelferno	10/5/21 1520 hrs.	Jon W Lunch	10-6-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BLM-14-327 WJI ENV-0053

Notebook No. D32#121(C)

Continued from page ____

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & breezy. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be monitored using a standard PH/Cond. meter. DO and ORP will not be collected. Carboy G5 in use.

PH/Cond. meter - 60
Turb. meter - 6
" std - 2.97
" rdg - 3.08
" lot - 91017
" Exp - 10/31/21

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

PH pre - 7.03/10.06 (23.8°c) ph1 post - 7.01/10.07

Parameters (time)	Temp (°C)	cond (us/cm)	PH	Turb (NTU's)	DTW (ft.)
211018 1400C	20.3	1301	7.45	1.52	278.61
——— 1403C	20.2	1293	7.41	1.44	278.61
——— 1406C	20.0	1290	7.39	1.27	278.61

Sample	Analysis	Samples Preservative	Container	Lot	Lab
211018 1410C	VOA by 8260	ice/HCL	(3) 40ml vials	2583	ALS
——— 1411C	" (FB)	"	"	"	"
——— 1412C	607/Bromacil	ice	(1) 1L Amber	0200401G	SRL
——— 1413C	" (Dup.)	"	"	"	"

Initial DTW - 278.43ft.

Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 10/18/21 — Date

Lori Munck — Signed — 10-19-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/18/21 Page 1 of 1

Sample Location: BLM-14-327

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	607						Charge Number
211018 1410C	3	A	✓							XGMO
1411C (FB)	3	A	✓							4
1412C	1	A		✓						4
1413C (Dupl.)	1	A		✓						4

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Dell'Isola	10/18/21 1510 hrs.		Jon W Munch	10-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Hallworsen & Robert Burrows present. Weather is partly cloudy and hot. This zone will be sampled using 5 triple rinsed stainless steel sampling tubes. Surface checks performed on probe # 2213 prior to sampling. Generator in use.

30 minute equipment blanks (carbg 62)

Sample #	Analysis	Preserve	Container	L.O.T	LAB
211007 1420 y	VOA by 8260	Ice/HCl	(3) 40 ml vial	2596	ALS

Initial Parameters		Final Parameters		Meter ID			
Time	= 2110071454 y	2110120905 y		PH/COND	= 60		
PH	= 8.40	8.32		TURB	= 16		
TEMP	= 20.1 °C	19.0 °C		STD	= 2.97		
COND	= 1148 us/cm	1130 us/cm		ROS	= 2.89		
TURB	= 1.50 NTUs	1.12 NTU's		LOT	= 91017		
*PRE	= 7.15 - 10.09 (30.2°C)	7.13/10.08 (17.4°C)		EXP	= 10/21		
*POST	= 7.10 - 10.05	7.14/10.08		Buffer	LOT	EXP	
STATOS	= 12.54 psia	12.50 psia		7	4007947	12/21	
DTW	= N/A	369.27 ft.		10	4101E56	7/22	

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
~~211007 1520 y~~ (D)	VOA by 8260	Ice/HCl	(3) 40 ml vial	2596	ALS
211007 1520 y	NORMAL DMW Bromacil by 607	Ice	(1) 1L Amber	103501	SRI
2110120835 y					

Runs-	1)	2)	3)	4)
	23.82	23.82	23.71	23.72
	25.41	25.52	25.40	25.42
	25.40	25.47	25.38	25.40
	23.87	23.81	23.68	23.39

*IDW - 1/4 gallons

* Bob Tufts & Craig Del Ferraro completed this zone on 10/12.

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 10/12/21 — Date

Lori Munch — Signed — 10-13-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-7-2021 Page 1 of 1

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	V09	L07						Charge Number
										X SMD

Sample Location: Rm 39-38T

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	V09							Charge Number
211007142041 EB	3	A	Y							
152041	3		X							
	1									

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10-7-2021 1540			10-12-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/12/21 Page 2 of 2

Sample Location: BLM-39-385

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 607							Charge Number
Pertinent Notes (if any)										
2110120835Y	1	A	✓							XGMD

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
Pertinent Notes (if any)										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Torro	10/12/21 1130 hrs.		[signature]	10-13-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is clear and warm. This zone will be sampled using 5 triple rinsed stainless steel sampling tubes. Surface checks performed on Probe # 2213 prior to sampling. Generator in use.

30 minute equipment blanks (carboy G2)

Sample #	Analysis	Preserve	Container	Lot	Lab
211007 0920 y	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2596 103501	DLS

Initial Parameters		Final Parameters		Meter ID
Time	= 211007 0948 y	211007 1348 y		PH/Cond = 60
pH	= 8.76	7.54		Turb = 6
Temp	= 19.0 °C	21.2		" STD = 2.97
Cond	= 681 us/cm	770		" BOS = 2.89
Turb	= 1.81 ntu's	0.79		" Lot = 91017
pH Per	= 7.00-9.96 (12.8°C)	7.02-10.01 (		" Exp = 10/21
pH Post	= 7.01-9.98	7.01-10.01		Buffer / Lot / Exp
Press	= 12.57 psia	12.57		7
DTW	=			10

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
211007 1258 y	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2596	DLS
—— 1259 y	" " (Dup)	"	"	"	"
—— 1300 y	NDMA/1,4 Dioxane Bromacil by 607	Ice	(1) 1L Amber	103501	SRL

Runs - 1) 100.24 2) 100.18 3) 100.03
99.54 99.45 99.42
99.33 99.32 97.65
100.24 100.18 100.02

Continued from page

Read and Understood By

Signed — 10-7-2021 Date — Signed — 10-12-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-7-2021 Page 1 of 1

Sample Location: BLM-39-560

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	V05	607						Charge Number
									XGMD	
211007 0920 4 EB	3	A	X							
1258 4	3		X							
1259 4 DUP	3		X							
1300 4	1			X						

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10-7-2021 1540			10-12-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BLM-40-517 WJI ENV-0053

Notebook No. D32 #123 (A)

Continued from page ____

Bob Tufts & Craig Del Ferraro present. Weather is partly cloudy & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations

DO - calibrated in saturated air @ 641 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
pH - calibrated using 7 & 10 Oakton buffers (7-10).
Turbidity meter #20 std - 6.03 rdg - 6.06 lot - 91017 Exp - 10/31/21

Parameters (time)	Temp (°c)	Cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 211004 1410A	21.08	0.826	5.95	148	6.89	0.31	524.08
2) ——— 1413A	21.14	0.820	5.61	146	6.90	0.23	524.08
3) ——— 1416A	21.19	0.816	5.29	146	6.93	0.22	524.10

Sample	Analysis	Samples Preservative	Container	Lot	Lab
211004 1420A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 1421A	" (FB)	"	"	"	"
——— 1422A	GRO by 8015D	"	"	"	"
——— 1423A	Low Level NDMA	ice	(1) 1L Amber	0103501G	SRL
——— 1424A	" (FB)	"	"	"	"
——— 1425A	SVOA by 8270D	"	(2) 1L Ambers	121420-1DK	ALS
——— 1426A	DRO by 8015D	"	(1) 1L Amber	"	"

Initial DTW - 523.67 Ft. Total gallons purged - 2

Continued from page

Craig Del Ferraro
Signed

10/4/21
Date

Read and Understood By

Signed

10-5-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/4/21

Sample Location: BLM-40-517

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	GRO	LL NDMA	SVOA	DRO			Charge Number
211004 1420A	3	A	✓							XGMD
1421A (FB)	3	A	✓							"
1422A	3	A		✓						"
1423A	1	A			✓					"
1424A (FB)	1	A			✓					"
1425A	2	A				✓				"
1426A	1	A					✓			"

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	10/4/21 1530 hrs.			10-5-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a YSI MP-20 flow cell and water analyzer. Carboy #1 in use.

Calibrations
DO - calibrated in saturated air @ 641 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #20 std - 6.03 rdg - 6.06 lot - 91017 Exp - 10/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211004 0800A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0801A	Low Level NDMA	ice	(1) 1L Amber	01035016	SRI

Parameters (time)	temp (°C)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 211004 0950A	20.78	0.572	5.87	153	6.32	0.21	523.18
2) ——— 0953A	20.83	0.574	5.98	153	6.31	0.20	523.18
3) ——— 0956A	20.88	0.577	6.03	152	6.28	0.14	523.18

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
~~210~~ 211004 1000A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 1001A	*" (M.S.)*	"	"	"	"
——— 1002A	" (FB)	"	"	"	"
——— 1003A	607/Bromacil	ice	(1) 1L Amber	01035016	SRI
——— 1004A	Low Level NDMA	"	"	"	"
——— 1005A	*" (M.S.)*	"	"	"	"
——— 1006A	*" (MSD)*	"	"	"	"
——— 1007A	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
——— 1008A	Low Level NDMA (FB)	ice	(1) 1L Amber	01035016	SRI

Initial DTW - 522.50ft. Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferro Signed 10/4/21 Date

Signed 10-5-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/4/21 Page 1 of 1

Sample Location: BLM-40-595

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607	LL NDMA					Charge Number
2110040800A (TB)		3	A	✓							XGMD
0801A (TB)		1	A			✓					"
1000A		3	A	✓							"
1001A (MS)		3	A	✓							"
1002A (FB)		3	A	✓							"
1003A		1	A		✓						"
1004A		1	A			✓					"

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA	Total Metals						Charge Number
2110041005A (MS)		1	A	✓							XGMD
1006A (MSD)		1	A	✓							"
1007A		2	A		✓						"
1008A (FB)		1	A	✓							"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Tecu	10/4/21 1120hrs.		Jon W Jumah	10-5-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations

DO - calibrated in saturated air @ 640 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7 - 10).
Turbidity meter #20 std - 6.03 rdg - 6.11 lot - 9101? Exp - 10/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211005 0740A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0741A	Low Level NDMA	ice	(1) 1L Amber	~~0103501G~~ EQ 000525	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 211005 0930A	20.78	0.747	4.22	169	6.43	0.27	N/A
2) ——— 0933A	20.86	0.740	4.09	168	6.45	0.29	N/A
3) ——— 0936A	20.88	0.737	3.97	165	6.48	0.22	N/A

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211005 0940A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0941A	" (FB)	"	"	"	"
——— 0942A	607/Bromacil	ice	(1) 1L Amber	~~0103501G~~ EQ 000525	SRI
——— 0943A	* " (M.S.)*	"	"	"	"
——— 0944A	Low Level NDMA	"	"	"	"
——— 0945A	" (FB)	"	"	"	"
——— 0946A	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21.	ALS
——— 0947A	" (FB)	"	"	"	"

Initial DTW - No depth could be obtained. Depth probe was hanging up @ near ~ 527ft. possibly from hitting top of pump).

Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 10/5/21 — Date

Jon W Munch — Signed — 10-6-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/5/21 Page 1 of 1

Sample Location: BLM-40-688

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607	LL NDMA					Charge Number
211005 0740A (TB)		3	A	✓							XGMD
0741A (TB)		1	A			✓					u
0940A		3	A	✓							u
0941A (FB)		3	A	✓							u
0942A		1	A		✓						u
0943A (MS)		1	A		✓						u
0944A		1	A			✓					u

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA	Total Metals						Charge Number
211005 0945A (FB)		1	A	✓							XGMD
0946A		2	A		✓						u
0947A (FB)		2	A		✓						u

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelTerzo	10/5/21 1115hrs.			10-6-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be collected using a standard pH/cond. meter. DO and ORP will not be collected. Carboy G5 in use.

PH/Cond meter - 60	Buffers	Lot	Exp
Turb - 6	7	4007947	12/21
" std - 2.97	10	4101E56	7/22
" rdg - 3.08			
" lot - 91017			
" Exp - 10/31/21			

PH pre - 7.10/10.08(19.1°C) pH post - 7.11/10.06

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211018 0750C	VOA by 8260 LL	ice/HCl	(3) 40ml vials	2583	ALS
——— 0751C	Low Level NDMA	ice	(1) 1L Amber	0200401G	SRI

Parameters (time)	Temp (°C)	cond (µs/cm)	PH	Turb (NTU's)	DTW (ft)
1) 211018 1005C	18.6 °C	1113	7.72	1.07	354.05
2) ——— 1008C	18.8	1118	7.70	1.01	354.05
3) ——— 1011C	19.1	1110	7.64	0.89	354.05

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211018 1015C	VOA by 8260 LL	ice/HCl	(3) 40ml vials	2583	ALS
——— 1016C	" (FB)	"	"	"	"
——— 1017C	607/Bromacil	ice	(1) 1L Amber	0200401G	SRI
——— 1018C	Low Level NDMA	"	"	"	"
——— 1019C	" (Dup.)	"	"	"	"
——— 1020C	" (FB)	"	"	"	"
——— 1021C	Total Metals	ice/HNO_3	(2) 125ml poly's	~~21-09-10~~ 21-01-21	ALS

Initial DTW - 353.13ft. Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferraro 10/18/21 Jon Munch 10-19-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/18/21 Page 1 of 1

Sample Location: BLM-41-420

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607	LL NDMA					Charge Number
211018 0750C (TB)		3	A	✓							XGMD
0751C (TB)		1	A			✓					4
1015C		3	A	✓							4
1016C (FB)		3	A	✓							4
1017C		1	A		✓						4
1018C		1	A			✓					4
1019C (Dup.)		1	A			✓					4

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: LL NDMA	Total Metals						Charge Number
211018 1020C (FB)		1	A	✓							XGMD
1021C		2	A		✓						4

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fierro	10/18/21 1115hrs.		[signature]	10-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT BLM-41-670 WJI ENV-0053

Notebook No. D32#121(C)

Continued from page _____

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & breezy. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be monitored using a standard PH/Cond. meter. DO and ORP will not be monitored. Carboy G5 in use.

PH/Cond. meter #60
Turb. meter #6
" std - 2.97
" rdg - 3.11
" lot - 9/017
" Exp - 10/31/21

Buffers	Lot	Exp
7	210BG56	2/23
10	4103G81	9/22

PH pre - 7.01/10.05 (26.0°C) pH post - 7.03/10.04

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211019 1250C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1251C	Low Level NDMA	ice	(1) 1L Amber	0200401G	SRI

Parameters (time)	Temp (°C)	Cond (us/cm)	PH	Turb. (NTU's)	DTW (Ft.)
1) 211019 1425C	19.3	1063	7.65	1.44	392.15
2) ——— 1428C	19.4	1057	7.62	1.32	392.15
3) ——— 1431C	19.6	1055	7.59	1.16	392.15

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211019 1435C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1436C	" (FB)	"	"	"	"
——— 1437C	607/Bromacil	ice	(1) 1L Amber	0200401G	SRI
——— 1438C	Low Level NDMA	"	"	"	"
——— 1439C	" (FB)	"	"	"	"
——— 1440C	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS
——— 1441C	" (Dupl.)	"	"	"	"
~~——— 1442C~~ 1520C	Low Level NDMA (BC)	ice	(1) 1L Amber	21MM130A	SRI

Initial DTW - 391.43 ft.

Total gallons purged - 2

Continued from page

Craig Del Ferraro
Signed

10/19/21
Date

Read and Understood By

Signed

10-20-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/19/21 Page 1 of 1

Sample Location: BLM-41-670

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA					Charge Number
Pertinent Notes (if any)			Analytical Requirement							
211019 1250C (TB)	3	A	✓							XGMD
1251C (TB)	1	A			✓					4
1435C	3	A	✓							4
1436C (FB)	3	A	✓							4
1437C	1	A		✓						4
1438C	1	A			✓					4
1439C (FB)	1	A			✓					4

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Total Metals	LL NDMA						Charge Number
Pertinent Notes (if any)			Analytical Requirement							
211019 1440C	2	A	✓							XGMD
1441C (Dupl.)	2	A	✓							4
1520C (BC)	1	A		✓						4

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Del Fierro	10/19/21 1525 hrs.	[signature]	10-20-21 /0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Parameters will be monitored using a standard pH/cond. meter. DO and ORP will not be monitored. Carboy G5 in use.

		Buffers	Lot	Exp
pH/Cond. meter #60		7	2108G56	2/23
Turb meter #6		10	4103681	9/22
" std	- 2.97			
" rdg	- 3.11			
" lot	- 91017			
" Exp	- 10/31/21			

pH pre - 7.13/10.10 (16.5°C) pH post - 7.11/10.06

Parameters (time)	temp (°C)	cond (ms/cm)	pH	Turb. (NTU's)	DTW (ft.)
1) 211019 1040C	17.3	2.34 ms/cm	8.11	14.8	172.15
2) ——— 1043C	17.0	2.33 "	8.09	12.8	172.15
3) ——— 1046C	16.9	2.30 "	8.09	12.2	172.15

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211019 1050C	VOA by 8260	ice/HCL	(3) 40ml vials	2583	ALS
——— 1051C	" (Dupl.)	"	"	"	"
——— 1052C	" (FB)	"	"	"	"
——— 1053C	607/Bromacil	ice	(1) 1L Amber	0200401G	SRI
——— 1054C	Total Metals	ice/HNO_3	(2) 125ml poly's	21-01-21	ALS

Initial DTW - 170.91ft. Total gallons purged - 3

Blind Controls

Sample	Analysis	Preservative	Container	Lot	Lab
211019 1115C	VOA by 8260	ice/HCL	(3) 40ml vials	~~2583~~ 21MM129A	ALS
——— 1116C	607/Bromacil	ice	(1) 1L Amber	~~0200401G~~	SRI
——— 1117C	Total Metals	ice/HNO_3	(2) 125ml poly's	21MM129B	ALS
				21MM129C	

Continued from page

Read and Understood By

Craig Del Ferraro Signed 10/19/21 Date

Signed 10-20-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/19/21 Page 1 of 1

Sample Location: BW-3-180

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals					Charge Number
2110191050C	3	A	✓							XGMD
1051C (Dupl.)	3	A	✓							"
1052C (FB)	3	A	✓							"
1053C	1	A		✓						"
1054C	2	A			✓					"
1115C (BC)	3	A	✓							"
1116C (BC)	1	A		✓						"

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Total Metals							Charge Number
2110191117C (BC)	2	A	✓							XGMD

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fiume	10/19/21 1125 hrs.		[signature]	10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Tony Torres present. Weather is clear and cool. This zone will be purged and sampled using a FLUTe system. Purge pressure set at 248 psi and sample pressure set at 227 psi. Bubbler set at 3psi and stable at 5 psi. 15 minute recovery time between purges. 4 gallons or parameter stabilization will be purged. Carboy G5.

Meter # D
PH/COND = 61
TURB = 21
"DO = 11.6
"ROS = 11.1
"LOT = 91017
"EXP = 10/31/21

Preliminary Parameters

PH = 7.11	7.86	8.03	7.50	7.74	
TEMP = 18.7°C	19.3°C	22.9°C	21.8°C	22.2°C	
COND = 1311 µS/cm	1230	11060	1112	1101	
TURB = 0.59	1.57 NTU's	1.36	0.70 NTU's	0.59 NTU's	
OAKTON PCSTESTR 35 WON'T CALIBRATE Changed To		OAKTON PCTS 50		7.06/10.04	
		7.10/10.10 (28.5°C)		7.02/10.03	

Initial Parameters

TIME	211014 1340B
PH	7.72
TEMP	21.5
COND	1116
TURB	0.48
PHPRE	7.03/10.04 (24.0°C)
PHPOST	7.02/10.05

Final Parameters

	211014 1455 B
	7.75
	20.1°C
	1050 µS/cm
	0.35
	7.01 10.03 (22.7°C)
	7.03/10.05

IDW = 6 gal.

SAMPLES

SAMPLE #	Analysis	Preserve	Container	LOT	LAB
211014 1341B	VOA by 8260 LL	Ice/HCl	(3) 40 ml VIAL	2795	ALS
—— 1342B	" " (FB)	"	"	"	"
—— 1343B	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber	103501	SRL
—— 1415B	NDMA LL	"	"	"	"
—— 1416B	" " (FB)	"	"	"	"
—— 1428B	SVOA - SIM	"	(1) 250 ml Amber	N/A	ALS
—— 1446B	SVOA by 8270D	"	(2) 1L Amber	"	"
—— 1447B	Total Metals	Ice/HNO3	(2) 125 ml Poly	"	"

Continued from page

Read and Understood By

Signed — Date: 10-14-2021

Signed — Date: 10-19-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-14-2021 Page 1 of 1

Sample Location: JER-1-483

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA	LOT	UDMA LL	SVOA-SIM	SVOA			Charge Number
										XGMD
211014 1341 B	3	A	X							
1342 B FB	3		X							
1343 B	1			X						
1415 B	1				X					
1416 B FB	1				X					
1428 B	1					X				
1446 B	2						X			

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Metals							Charge Number
211014 1447 B	2	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10-14-2021 1525			10-15-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

Dan Halvorson & Tony Torrez present. Weather is clear and cold. This zone will be purged and sampled using a FLUTe system. Purge pressure set at 248 psi, and sample pressure set at 227 psi. Bubbler set at 3 psi and stable at 5 psi. 15 minute recovery time between purges. 4 gallons or parameter stabilization collected prior to sampling. Carboy 65.

Preliminary Parameters

pH =	8.67	8.54
Temp =	18.0 °C	19.8 °C
Cond =	1146	1140
Turb =	0.98	0.57

Meter ID
pH/Cond = 61
Turb = 21
STD = 11.6
RDG = 11.1
Lot = 9/017
Exp = 10/21

Initial Parameters
Time - 211015/1022B
pH = 8.67
Temp = 20.8 °C
Cond. = 11494 s/cm
Turb = 1.35
pHPre = 7.03/10.01 (16.5 s)
pHPost = 7.05/10.03

Final Parameters
211015/1405
8.43
20.9
11434 s/cm
0.31
7.01/10.02 (15.4)
7.02/10.03

IDW = 60 gal.

SAMPLES

Sample #	Analysis	Preservative	Container	Lot	Lab
211015 1023B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2795	ALS
1024B	" " (FB)	"	"	"	"
1025B	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber	10350)	SRL
1100B	NDMA LL	"	"	"	"
1101B	" " (FB)	"	"	"	"
1127B	SVOA - SIM	"	(1) 250 ml Amber	1U14	ALS
1128B	SVOA by 8270D	"	(2) 1L Amber	"	"
1129B	Total Metals	Ice/HNO3	(2) 125 ml Poly	"	"

Continued from page

Read and Understood By

10-15-2021

Signed

10-15-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-15-2021 Page 1 of 1

Sample Location: SER-1-563

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOC	L07	2DNPH_LC	SVOC-SIM	SVOC/8270			Charge Number
										X6MD
211015 1023B	3	A	Y							
1024B FB	3		Y							
1025B	1			Y						
1100B	1				Y					
1101B FB	1				Y					
1127B	1					Y				
1128B	2						X			

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	metals							Charge Number
211015 1129B	2	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10-15-2021 1215		[signature]	10-18-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT SGR-1-683 ENV-0020

Notebook No. D32 #122 (B)

Continued from page _____

Dan Harbertsen & Tony Torrez present. Weather is Clear and Cold. This zone will be purged and sampled using a FLUTe system. Purge pressure set at 248 psi and sample pressure set at 227 psi., Bubbler set at 3 psi and stable at 5 psi., 15 minute recovery time between purges, 4 gallons or parameter stabilization collected prior to sampling. Caroby G5.

Preliminary Parameters

PH =	8.37	8.45
Temp =	18.9°C	20.6°C
Cond =	1103	1115 µs/cm
Turb =	0.72 NTU's	0.34
	203/10.07	

Meter ID

PH/Cond = 61
Turb = 21
STD = 11.6
RDG = 11.3
Lot = 91017
Exp = 10/21

Initial Parameters

Time = 211015/1030B
PH = 8.35
Temp = 20.2°C
Cond = 1107 µs/cm
Turb = 0.47 NTU's
Purge = 7.00/10.02 (16.8°C)
Purge SU = 7.00/10.02

Final Parameters

211015/1155B
8.28
20.2
1110
0.42
7.01-10.02
7.01-10.03

TDW = 6 gal.

SAMPLES

Sample #	Analysis	Preservative	Container	Lot	Lab
111015/1031B	VOA by 8260 HL	Ice/HCl	(3) 40 ml Vial	2795	ALS
1032B	" " (FB)	"	"	"	"
1037B	NDMA/DMD Bromachl by 607	Ice	(2) 1L amber	103501	SRL
1050B	NDMA LL	"	"	"	"
1051B	" " (FD)	"	"	"	"
1110B	Sven. 5 ion	"	(1) 250 ml amber	N/A	ALS
1111B	" " (Dup)	"	"	"	"
11408	Sven by 8270 D	"	(2) 1L amber	"	"
1141B	Total metals	Ice/HNO3	(2) 125 ml Poly	"	"
1142B	" " (MS)	"	"	"	"

Continued from page

Read and Understood By

Signed

10-15-2021
Date

Signed

10-15-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-15-2021 Page 1 of 1

Sample Location: JER-1-683

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	506	607	NDMA 42	5006_SIM				Charge Number
				Analytical Requirement							XGMO
211015 1031 B		3	A	Y							
1032 B	FB	3		Y							
1033 B		1			Y						
1050 B		1				Y					
1051 B	FB	1				Y					
1110 B		1					Y				
1111 B	Dup	1					Y				

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	8270	nitrils						Charge Number
				Analytical Requirement							
211015 1140 B		2	A	Y							
1141 B		2			Y						
1142 B	MS	2			Y						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10.15.2021 1215			10-18-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Notebook No. D22 #122 (B)

PROJECT JER-2-504

Continued from page

AL MONTES & TONY TORREZ PRESENT. THE WEATHER IS CLOUDY & WARM. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 26.5 PSI & SAMPLE PRESSURE SET @ 24 PSI. BUBBLER SET @ 3 PSI AND THE PRESSURE STABLE @ 7 PSI. 15 MIN RECOVERY TIME BETWEEN PURGES. 4 GALLONS MIN OR PARAM STABILIZATION WILL BE PURGED. CANOPY 6-5

METER ID'S
pH/cond # 61
Turb # 21
1 STD 10.0
RDG 10.5
LOT # 91D17
EXP DATE 6-30-24

PRE PARAM'S

pH	8.29	8.32
Temp	24.7	24.0
Cond	1136	1126 µs/cm
Turb	0.42	0.53

	INITIAL	FINAL
	211007 1400B	211007 1520B
pH	8.40	8.31
Temp	25.1°C	22.9°C
Cond	1130	1137 µs/cm
Turb	0.72	0.606
pHpmp	6.95/9.95 (32)	7.07/9.96 (82.9)
pHpost	6.98/9.93	7.04/9.98
IDW	4.5 gallons	

SAMPLES

Sample #	Analysis	Preserv	Lot #	Cont	Lab
211007	1401B 82600	Ice/HCl	2795	(3) 40 mL vials	ALS
—	1402B " (F.B.)	"	"	"	"
—	1403B 6020	Ice	01035016	(1) 1LT Amber	SKL
—	1425B CYANIDE	"	"	"	"
—	1426B " (FB)	"	"	"	"
—	1445B 82700	"	N/A	(2) "	ALS
—	1515B SVOA-SIM	"	"	(1) 2.5 gal amber	"
—	1516B " (Dup)	"	"	"	"
—	1517B TOTAL METALS	Ice/HNO3	21012	(2) 125 mL poly	"

Continued from page

Read and Understood By

Tc 10-7-21
Signed Date

Signed 10-12-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-7-21 Page 1 of 1

Sample Location: JER-7-504

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260LL	607	UNDM4	8270D Sim	8270A Sim			Charge Number
										X6MD
211007 1401B	3	A	X							
1402B	3	|	X							
1403B	1	|		X						
1425B	1	|			X					
1426B	1	|			X					
1445B	2	|				X				
1515B	1	L					X			

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8270A Sim	TOTAL METALS						Charge Number
1516B (Dup	1	A	X							
1517B	2	L		X						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	10-7-21 / 1545		[signature]	10-12-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

DAN HALVORSEN & TONY TORREZ PRESENT. THE WEATHER IS CLOUDY & COOL. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 26.5 PSI & SAMPLE PRESSURE SET @ 24 PSI. BUBBLER SET @ 3 PSI & STABLE @ 7 PSI. 15 MINUTES RECOVERY TIME BETWEEN PURGES. 4 GALLONS OR PARAM'S STABILIZATION ~~which ever comes first~~ IN Carboy 6-5

METER ID's
pH/cond = Col
" Turb = 21
" DTW = 11.6
" Rdg = 10.2
" LOT # = 91017
" Exp = 10/31/12

PARAM's	PRE		10-13-21	
pH	8.51	8.59	8.40	8.58
Temp	21.7	21.9	19.2°C	19.2°C
Cond	1161	1160	1199	1197
Turb	0.62	0.77	0.65	0.43

	INITIAL	FINAL
	211013 1300 B	211013 1417 B
pH	8.48	8.55
Temp	21.3	21.4°C
Cond	1175	1168
Turb	0.75	0.61
pH pre	7.09/10.10 (20.3)	7.10/10.10 (22.4)
pH post	7.07/10.10	7.09/10.12
~~DTW~~ DTW	4.5	

Samples

Sample #		Analysis	Preserv	Lot #	Cont	Lab
211013	1301B	8260C	HCl/Ice	2795	(3) 40 ml vials	ALS
—	1302B	" (FB)	"	"	"	"
—	1303B	6007	Ice	0103 5016	(1) 1 L Amber	SRS
—	1325B	Ucmoma	"	"	"	"
—	1326B	" (FB)	"	"	"	"
—	1345B	8270D	"	N/A	(2) "	ALS
—	1415B	SVOA Sim	"	"	(1) 250 ml Amber	"
—	1416B	Total metals	Ice/HNO3	210121	(1) 125 ml poly	"

Continued from page

Read and Understood By

T. D. — Signed — 10.13.21 Date

Dan W. Munch — Signed — 10-14-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-13-21 Page 1 of 1

Sample Location: JER-2-584

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260D	GC/FID	GC/TCD	8270D	SVOA SIM			Charge Number
211013 1301 B				X							
1302 B (FB)				X							
1303 B					X						
1325 B						X					
1326 B (FB)						X					
1345 B							X				
1415 B								X			

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: Total Metals							Charge Number
1416 B				X							XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. D	10-13-21/1530		Jon W Jund	10-14-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Tony Torres present. The weather is windy & cool. This zone will be purged using a Flute sampling system. Purge pressure set @ 26.5 psi & sample pressure set @ 24 psi Bubbler set @ 3 psi & stable @ 7 psi. 15 mins recovery between purges. Min of 4 gallons on stabilization of Param's. Carboy 6 of 7. Water doesn't stay in tube, check ball is not holding.

	pre sample Param's		10-13-21	
pH	8.18	8.11	8.15	8.35
Temp	21.5	21.5 °c	21.0 °c	19.5 °c
Cond	1154	1157	1198	1169 µs/cm
Turb	1.32 NTU's	0.73	0.92	1.18

METER ID's
pH/Cond 61
* Turb # 21
" std 11.6
" Rdg 10.2
" Lot # 91017
" Exp 10/31/21

	Initial	Final
	211013 1330B	211013 1510B
pH	8.24	8.16
Temp	22.7 °c	22.9 °c
Cond	1183	1164
Turb	1.12	0.91
phpms	209/10.07 (22.4)	7.05/10.07 (25.4 °c)
phpost	7.07/10.09	7.05/10.09
IDW	4.5	

Samples

Sample #	Analysis	Preserv	Lot #	Cont	Lab
211013 1331B	8260 (11)	ICE, HCl	2795	(3) 40ml vials	ALS
—— 1332B	" (P.3)	"	"	"	"
—— 1355B	6007	ICE	0183016	(1) lt Amber	SRL
—— 1420B	(1) NONA	"	"	"	"
—— 1421B	" (P.3)	"	"	"	"
—— 1445B	8270D	"	N/A	(2) "	ALS
—— 1505B	SVOA SIM	"	"	(1) 250ml Amber	"
—— 1506B	Total METALS	ICE, HNO3	"	(2) 125ml poly	"

Continued from page

Read and Understood By

T. D. — Signed — 10-13-21 Date

Dan Halvorsen — Signed — 10-14-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-13-21 Page 1 of 1

Sample Location: JER-2-684

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260C	6010C	CUSO4	8270D	SVOA SIM			Charge Number
										XGMD
211013 1331B	3	A	X							
1332B (FB)	3		X							
1355B	1			X						
1420B	1				X					
1421B (FB)	1				X					
1445B	2					X				
1505B	1						X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: TOTAL METALS							Charge Number
1506B	2	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	10-13-21/1530		[illegible]	10-14-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a YSI MP-20 flow cell and water analyzer. Carboy GL in use.

Calibrations
DO - calibrated in saturated air @ 639 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #20 std - 6.03 rdg - 6.10 lot - 91017 Exp - 10/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211006 0730A	Low Level NDMA	ice	(1) 1L Amber	~~010350~~ 000525 CO	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 211006 1350A	21.89	1.017	6.32	143	6.81	0.35	413.80
2) ——— 1353A	21.93	1.010	6.12	144	6.81	0.22	413.80
3) ——— 1356A	21.98	1.000	6.01	144	6.83	0.19	413.80

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211006 1400A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 1401A	" (FB)	"	"	"	"
——— 1402A	Low Level NDMA	ice	(1) 1L Amber	~~010350~~ 000525 CO	SRI
——— 1403A	" (FB)	"	"	"	"

Initial DTW - ~~413.95ft.~~ 413.68ft. CO

Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 10/6/21 — Date

Jon Mundt — Signed — 10-7-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/6/21 Page 1 of 1

Sample Location: [illegible]-1-424

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	LL NDMA						Charge Number
211006073OA (TB)	1	A		✓						XGMD
1400A	3	A	✓							"
1401A (FB)	3	A	✓							"
1402A	1	A		✓						"
1403A (FB)	1	A		✓						"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeFerro	10/6/21 1510 hrs.		[signature]	10-7-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Anders & Robert Burrows present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a new teflon discharge hose. Parameters will be monitored using a QED MP·20 flow cell & water analyzer. Carboy Gr-2 in use.

Calibrations
DO - Cal in saturated air @ 639 mm/Hg.
Conductivity - Cal using 1413 us/cm STD solution.
PH - Cal using Oakton Buffers (4,7,10)
Turbidity Meter: # 8 STD: 62.2 NTU RDG: 61.6 NTU Lot: 91017 Exp: 10/31/21

Trip Blanks

Sample #	Analysis	Preserve	Container	lot	lab
211021 0730C	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2596	ALS
—— 0731C	Low Level NDMA	Ice	(1) 1L Amber	020040IGr	SRI

Parameters (time)	temp (°C)	Cond (ms/cm)	DO	PH	ORP	Turb (NTU)	DTW (ft)
1) 211021 0925C	20.71	1.048	11.18	7.62	157	0.96	414.15'
2) —— 0927C	20.67	1.037	11.12	7.63	157	0.64	=
3) —— 0929C	20.69	1.053	10.91	7.65	157	0.70	=

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211021 0935C	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2596	ALS
0936C	= (FB)	=	=	=	=
0937C	Low Level NDMA	Ice	(1) 1L Amber	020040IGr	SRI
0938C	= (FB)	=	=	=	=

Initial DTW - 414.10' IDW - 2 1/4 gal

Continued from page

Read and Understood By

Signed — Date 10/21/21 — Signed — Date 10-25-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/21/21 Page 1 of 1

Sample Location: JP.2.447

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260LL	LL NOMA						Charge Number
21102107300 (TB)	3	A	X							XGMD
0731C (TB)	1			X						
0935C	3		X							
0936C (FB)	3		X							
0937C	1			X						
0938C (FB)	1			X						

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/21/21 @ 1115		[signature]	10-25-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations

DO - calibrated in saturated @ 641 mm/Hg.

Conductivity - calibrated using ~~Oakton buffers (7-10).~~ 1413 us/cm std. solu

PH - calibrated using Oakton buffers (7-10)

Turbidity meter #20 std - 6.03 rdg - 6.10 lot - 91017 Exp - 10/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211007 0750A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0751A	Low Level NDMA	ice	(1) 1L Amber	00081383	SRI

	Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft
1)	211007 0950A	20.99	1.019	7.12	69	6.55	0.81	
2)	——— 0953A	21.05	1.013	6.84	67	6.55	0.74	
3)	——— 0956A	21.12	1.006	6.53	66	6.58	0.67	

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211007 1000A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 1001A	" (FB)	"	"	"	"
——— 1002A	Low Level NDMA	ice	(1) 1L Amber	00081383	SRI
——— 1003A	" (FB)	"	"	"	"

* Packer pressure reading at time of arrival was 0. Crew inflated packer to ~ 38 psi, but the pressure dropped rapidly within 10-15 minutes until bottoming out at 0 again. Crew will continue to inflate the packer throughout the sampling event. Packer pressure was kept stable between 40 and 28 psi throughout entire sampling event.

Initial DTW - 14.01 ft (transducer reading). Total gallons ~~pumped~~ Continued from page 2

Read and Understood By

Craig Del Ferro — Signed — 10/7/21 — Date

Peter Munch — Signed — 10-12-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/7/21 Page 1 of 1

Sample Location: JP-3-689

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	Analytical Requirement: LL NDMA	Charge Number
Pertinent Notes (if any)					
211007 0750A (TB)	3	A	✓		XGMD
0751A (TB)	1	A		✓	"
1000A	3	A	✓		"
1001A (FB)	3	A	✓		"
1002A	1	A		✓	"
1003A (FB)	1	A		✓	"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number
Pertinent Notes (if any)				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	10/7/21 1120hrs.		Jon Jumdh	10-12-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT PFE-1

Notebook No. PFTS #10 13

Continued from page _____

From IC Collaos & Tim Moore present. Samples will be collected from the dedicated sample port located in the PFE vault of the system. The sample port will be purged for one minute prior to parameters and sample collection. Carboy 'G' Pump purged for field blanks.

Parameters	METER ID	Buffer	LOT#	EXP
Time - 2110/0901	PH/cond	7	400C91	8/22
PH 7.33	Turb	10	400115	6/22
Temp 24.6 C	" STD	9.30 NTU		
cond 1052 us/cm	" RDG	9.31 NTU		
Turb 3.72	" LOT#			
PH PE	7.01-10.00 (22'00) EXP			
PH POST - 7.00 / 10.02				

Sample #	Analysis	Preserve	Container	LOT#	LAB
2110/0907	VOA by 8260	ICE & HCl	(3) 40mL Vial	2096	ALS
0908	" (Dup)	"	"	"	"
0909	" (FB)	"	"	"	"
0911	NDMA/Dmn/Rioby 607	ICE	1 (1 Chemours)	02000160 (Chemours)	
0912	Total Metals	ICE/HNO3	(2) 125mL poly	21-01-21	ALS
0913	Anions/Alk	ICE	" "	N/A	"
0914	TAS by SM 2540C	"	(1) 250mL poly 125mL poly	85940	"
0915	Perchlorate	"	" "	N/A	"
0916	NO2/NO3	ICE/H2SO4	(1) 250mL poly 125mL poly	21-04-30	"

Continued from page N/A

Read and Understood By

Signed

18 OCT 2021
Date

Signed

10-19-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/18/2021 Page 1 of 1

Sample Location: PFE-1

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOAs by 8260	USMA/DMA Biology 607	Total Nitrates	Anions/IC	TDS	Perchlorate 331.0		Charge Number
										XGMD
211018 0907	3	A	X							"
0908 (Dup)	3	A	X							"
0909 (FB)	3	A	X							"
0911	1	A		X						"
0912	2	A			X					"
0913	2	A				X				"
0914	1	A					X			"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Perchlorate	NO2/NO3						Charge Number
										XGMD
211018 0915	1	A	X							"
0916	1	A		X						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10/18/21 1005			10-19-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Frank Collopy & Tim Mooney ENT. Sample will Be collected from the dedicated sample port located IN The PFE-2 VAult Of the System. The sample port will be Purged For one minute Prior to Parameters and samples collection Carboy 'G-Plume Blank used for field blanks

Parameters	METER ID	Buffers	Lot#	EXP
Time 211018093S	ph/cond	7	400221	8/22
Ph 7.44	Thb	10	400B5	9/22
Temp 26.2°C	STD 9.30NTU			
cond 1154 us/cm	RD6 9.30NTU			
Turb 0.34NTU	Lot#			
PhPre 7.00-10.00 (23.5°C)	Exp 10/3/21			
PhPosT-7.02/10.00 cf				

~~Sample~~	~~Analysis~~	Samples			
Sample#	Analysis	Preservative	Lot#	LAB Courier	
211018094I	VOA Analysis	ICE/HCL	25916	ALS	(3) 40mL vial
~~0942~~	~~Normal Analysis (FB)~~				
0943	Normal Analysis	ICE	0200410165WR1	(1) 1 liter	

Continued from page N/A

Read and Understood By

Signed

18 OCT 2021
Date

Signed

10-19-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-18-21 Page 1 of 1

Sample Location: PFE-2

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: VOA by 8260	Analytical Requirement: NDMA/DMNB Bio by 607	Charge Number
211018 0941		3	A	X		X GMD
— 0942 (FB)		3	A	X	X	"
— 0943					X	"

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
	10-18-21 (1005)		10-19-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT PFE-4A

Present. Samples will be collected from the dedicated sample port located in the PFE-4A vault of system. The sample port will be purged for one minute prior to parameters and samples collection. Carboy used for field blanks.

Parameters	METER ID	Buffers	LOT #	EXP
Time 211020 0822	pH/cond	7	400791	8/22
pH 7.40	Turb	10	400915	6/22
Temp 23.2 °C	" STD 9.30 NTU			
Cond 1093 uS/cm	" RDG 9.28 NTU			
Turb 1.37 NTU	LOT #			
pH PRE 7.00-10.00 (17.9 °C)	EXP 10/30/2021			
pH POST 7.00-10.00				

Samples

Sample #	Analysis	Pres	Lot #	LAB	cont (S)
211020 0827	VOA by 8260	ICE, HCl	25916	TAS	Y Qual Vi
" 0828	" (FB)	"	"	"	"
" 0829	NDMA/DMN/Bro by 607	ICE	0Z10040016	SWRI	(1) Itamko

Continued from page N/A

Read and Understood By

10-20-21 Signed Dan Munck 10-20-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-20-21 Page 1 of 1

Sample Location: PFE-4A

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA 8260	LL-VOA 8260LL	NDMA/DMN/BROMACIL 607 Low Level NDMA	TOTAL N/Cations	Anions/ALK	TDS SM2540C	Charge Number
211020 0827	3	A	X						XGMD
" 0828 (FB)	3	A	X						"
" 0829	1	A			X				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: PERCHLORATE 6850	NO_2/NO_3 353.2						Charge Number
										XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10-20-21 (1000)		[signature]	10-21-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

16
PROJECT PFE-5 10-20-21

Notebook No. PFTS#10
Continued from page N/A.

PRESENT. Samples will be collected from the dedicated sample port located IN the PFES VAULT of system, The sample port will be Pulsed for one minute, prior to parameters and samples collected.
Carboy used for field blanks.

Parameters	METER ID	Buffers	LOT #	EXP
Time 21102007 57	PHread	7	400291	8/22
~~PH 10.52 us/cm 7:42~~	Turb	10	400115	6/22
Temp 24.5°C	STD 9.30 NTU			
Cond 1052 us/cm	ROG 9.38 NTU			
Turb 1.39 NTU	LOT #			
PH PRE 7.00-10.00 (15.6%)	EXP 10/30/21			
PH POST 7.00-10.00				

Samples

Sample #	Analysis	Preserv.	LOT #	LAB COND
21102008 04	VOA by 8760 (FB)	ICE & HCl	2596	HLS (3) 40ml Vial
— 0805				
— 0806	NDMA/DMA/BMA by 1607	ICE	0200401655WN1	(1) Lt amber

Continued from page N/A

Read and Understood By

10-20-21 Date

Pam Munch Signed

10-20-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-20-21 Page 1 of 1

Sample Location: PFE-5

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA 8260	LL-VOA 8260LL	NDMA/DMN/ BROMACIL 607 LOW LEVEL NDMA	TOTAL MERMS	ANIONS/ALK	TDS SM2540C	Charge Number
211020 0804	3	A	X						XGMD
0805 (FB)	3	A	X						"
0806	1	A			X				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: PERCHLORATE 6850	NO2/NO3 353.2						Charge Number
										XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10-20-21 (1000)		[signature]	10-21-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT PFE-7

Notebook No. PFTS#10 17

Continued from page N/A.

From present samples will be collected from the dedicated sample port will be purged for one minute prior to parameters and samples being collected from the vault of PFE-7.
Cal boy " " is used for field blanks

Parameters	METER ID	Buffers	LOT #	EXP
Time 211020085 9	PH/Cond	7 - 4000291		8/22
Ph 7.14	Turb	10 - 400115		6/22
Temp 23.2°C	STD 9.30 NTU			
Cond 1112 uS/cm	RDG 9.36 NTU			
Turb 0.32 NTU	LOT #			
Ph pre 7.00-10.00 (14.7°C)	EXP 10/30/2021			
Ph post 7.00-10.000				

Sample #	Analysis Req	Sample LOT #	LAB CONT
211020 0907	VOA by 8260 ICE/HCl	2596	MLS (3) 40mL Vial
" 0908	" (FB) "	"	" "
" 0909	NDMA/DMN/Bjob y607 ICE	02004016	SWRI (1) 1 Liter
" 0910	" (NDMA) "	"	" "
" 0911	" (Dup) "	"	" "
" 0912	" (FB) "	"	" "

Continued from page N/A

Read and Understood By

Signed — Date: 20 Oct 2021

Signed — Date: 10-20-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-20-21 Page 1 of 1

Sample Location: PFE-7

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA 8260	LL-VOA 8260LL	NDMA/DMN/BROMACIL 607 LOW LEVEL NDMA	TOTAL METALS	ANIONS/ALK	TDS SM2540C	Charge Number
211020 0907	3	A	X						XGMD
0908 (FB)	3	A	X						"
0909	1	A			X				"
0910	1	A		X					"
0911 (Dup)	1	A		X					"
0912 (FB)	1	A		X					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: PERCHLORATE 6850	NO_2/NO_3 353.2						Charge Number
										XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10-20-21 1000		[signature]	10-21-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT PL-1-486 WJI ENV-0053

Bob Tuffs & Craig Del Ferraro present. Weather is clear, warm, & breezy. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using a QED MP-20 flow cell and water analyzer. Carboy GI in use.

Calibrations
DO - calibrated in saturated air @ 641 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
pH - calibrated using Oakton buffers (7-10).
Turbidity meter #8 std - 62.2 rdg - 62.8 lot - 91017 Exp - 10/31/21

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
211014 0805C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 0806C	Low Level NDMA	ice	(1) 1L Amber	00081383	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 211014 1415C	21.66	0.992	6.80	161	6.75	0.52	485.20
2) ——— 1418C	21.72	0.981	6.54	162	6.78	0.44	485.20
3) ——— 1421C	21.74	0.978	6.28	162	6.79	0.43	485.20

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211014 1425C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
——— 1426C	" (Dupl.)	"	"	"	"
——— 1427C	" (FB)	"	"	"	"
——— 1428C	Low Level NDMA	ice	(1) 1L Amber	00081383	SRI
——— 1429C	" (FB)	"	"	"	"

Initial DTW - 2nd 485.13 ft.

Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferro — Signed — 10/14/21 — Date

Ron Wunderle — Signed — 10-14-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/14/21 Page 1 of 1

Sample Location: PL-1-486

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	Analytical Requirement: LL NDMA	Charge Number
211014 0805C (TB)	3	A	✓		XGMD
0806C (TB)	1	A		✓	"
1425C	3	A	✓		"
1426C (Dupl.)	3	A	✓		"
1427C (FB)	3	A	✓		"
1428C	1	A		✓	"
1429C (FB)	1	A		✓	"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Kelly Ferro	10/14/21 1525hrs.		Ben W Jumah	10-15-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe # 2213. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
211013 0900Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 0901Y	Low Level NDMA	ice	(1) 1L Amber	00081383	SRL

Initial Parameters
Time - 211013 0940Y
PH - 8.35
Temp - 21.8 °C
Cond - 1031 us/cm
Turb - 2.40 NTU's
pH pre - 7.15/10.19 (13.3 °C)
pH post - 7.13/10.19
DTW - N/A - probe sticks to casing.
Atmos - 12.54 psia

Final
Time - 211013 1040Y
PH - 8.50
Temp - 21.7 °C
Cond - 1026 us/cm
Turb - 1.93 NTU's
pH pre - 7.09/10.13 (16.9 °C)
pH post - 7.07/10.14
DTW - N/A
Atmos - 12.51 psia
IDW - 1/2 gals.

Meter ID
pH/Cond - 60
Turb - 6
" std - 2.91
" rdg - 2.88
" lot - 91017
" Exp - 10/31/21

Buffers	Lot	Exp
7	4007947	12/21
10	4101E56	7/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
211013 1015Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2596	ALS
——— 1016Y	Low Level NDMA	ice	(1) 1L Amber	00081383	SRL

Runs	1)	2)	3)
	49.49	49.46	49.42
	56.32	56.26	56.24
	56.30	56.26	56.27
	49.47	49.48	49.43

Continued from page

Craig Del Ferraro — Signed — 10/13/21 — Date

Read and Understood By

Jon Munch — Signed — 10-14-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/13/21

Sample Location: PL-6-545

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	Analytical Requirement: LL ND MA	Charge Number
211013090 0Y (EB)	3	A	✓		XGMD
0901Y (EB)	1	A		✓	"
1015Y	3	A	✓		"
1016Y	1	A		✓	"

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Del Fierro	10/13/21 1120 hrs.	Jon W Munch	10-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

ob Tufts & Craig Del Ferraro present. Weather is partly cloudy, warm, and indy. This zone will be sampled using 5 steam cleaned & triple rinsed tainless steel sample tubes. Gen. in use. Probe #2213. Surface checks performed probe prior to sampling.

Trip Blanks - Water Purification System

ample	Analysis	Preservative	Container	Lot	Lab
211012 0800Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
0801Y	Low Level NDMA	ice	(1) 1L Amber	~~0103501G~~ 00081383	SRI

30 Min. Equipment Blanks - Carboy GI

ample	Analysis	Preservative	Container	Lot	Lab
211012 1005Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
1006Y	Low Level NDMA	ice	(1) 1L Amber	~~0103501G~~ 00081383	SRI

Initial Parameters
Time - 211012 1045Y
H - 7.86
mp - 20.7°c
ond - 1013 us/cm
urb - 1.79 NTU's
Hpre - 7.09/10.05 (21.8°c)
Hpost - 7.10/10.04
TW - N/A - probe sticks to casing.
tmos - 12.44 psia

Final Parameters
Time - 211012 1112Y
PH - 7.94
Temp - 20.5°c
Cond - 1002 us/cm
Turb - 1.33 NTU's
pHpre - 7.08/10.04 (22.1°c)
pHpost - 7.05/10.05
DTW - N/A
Atmos - 12.42 psig
IDW - 1/2 gal.

Meter ID
pH/Cond - 60
Turb - 6
u Std - 2.97
u rdg - 2.90
u lot - 91017
u Exp - 10/31/21

Buffers Lot Exp
7 4007947 12/21
10 4101E56 7/22

Samples

ample	Analysis	Preservative	Container	Lot	Lab
211012 1110Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2583	ALS
1111Y	Low Level NDMA	ice	(1) 1L Amber	~~0103501G~~ 00081383	SRI

uns 1) 127.87 2) 127.79
134.45 134.43
134.48 134.44
127.91 127.81

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 10/12/21 Date

Signed — 10-13-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/12/21 Page 1 of 1

Sample Location: PL-6-725

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	Analytical Requirement: LL NDMH	Charge Number
21101208004 (TB)	3	A	✓		XGMD
0801Y (TB)	1	A		✓	"
1005Y (EB)	3	A	✓		"
1006Y (EB)	1	A		✓	"
1110Y	3	A	✓		"
1111Y	1	A		✓	"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig DeTemmerman	10/12/21 1130 hrs.	[signature]	10-13-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Halvorsen & Robert Burrows present. Weather is partly cloudy and cool. This Zone will be sampled using 2 triple rinsed Stainless Steel sample bottles. Surface Check performed on Probe #4951 prior to sampling. Generator in use.

30 minute equipment blanks (carboy G2)

Sample #	Analysis	Preserve	Container	Lot	Lab
211006 0815 y DM	VOA by 8260 LL	Ice/HCl	(3) 40 ml vial	2596	ALS
0815 y DM	NDMA LL	Ice	(1) 1L Amber	103501	SRL

Initial Parameters	Final Parameters	meter ID
Time = 2110060905 y	2110061045 y	pH/Cond = 60
pH = 8.80	8.78	Turb = 6
Temp = 18.4°C	18.4°C	STD = 2.97
Cond = 1107 µs/cm	1109	RDG = 3.11
Turb = 2.60 NTUs	2.27	Lot = 91017
pH Pre = 7.06-10.09 (13.2°C)	7.01-10.02 (17.9°C)	Exp = 10/21
pH Post = 7.05-10.07	7.00-10.02	
Atmos = 12.59 psia	12.58	
OTW =		

Package	Lot	Exp
7	4007947	12/31
10	4101E56	7/22

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
211006 0934 y	VOA by 8260 LL NDMA ONLY	Ice/HCl	(3) 40 ml vial	2596	ALS
0935 y	Bromate ion by 607	Ice	(1) 1L Amber	103501	SRL
1015 y	NDMA LL	"	(1) "	"	"
1040 y	SVOC-SIM	"	(1) 250 ml Amber	N/A	ALS

Runs - 1) 24.38 2) 24.38 3) 24.35 4) 24.35
21.96 21.96 21.96 21.96
21.96 21.96 21.96 21.96
24.38 24.38 24.36 24.35

Continued from page

Read and Understood By

Signed — 10-6-2021 Date — Signed — 10-7-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-6-2021 Page 1 of 1

Sample Location: PL-10-484

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA	607	NDMA LL	SVOC-SIM				Charge Number
										Y6ND
211006 0811Y EB	3	D	X							
0812Y EB	1				Y					
0934Y	3		X	X						
0935Y	1			X	X					
1040Y	1					Y				
1015Y	1	A			X					

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10-6-2021 1125			10-7-21 /0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

Dan Hellwarth & Robert Burrows present. Weather is clear and warm. This zone will be sampled using 2 triple rinsed stainless steel sampling tubes. Surface checks performed on Probe # 2167 prior to sampling. Generator in use.

30 minute equipment blanks (each day GD)

Sample #	Analysis	Preserve	Container	Lot	Lab
211006/1250 y	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vials	2596	ALS
—— 1251 y	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber	103501	SRL
—— 1321 y	NDMA LL	"	"	"	"

Initial Parameters	Final Parameters	Meter ID			
Time = 211006/1351 y	211006/1457 y		PH/Cond = 60		
pH = 7.65	7.58		Turb = 6		
Temp = 21.3°C	21.3		STD = 2.97		
Cond = 1121 µs/cm	1125		RDG = 3.11		
Turb = 1.73 NTU's	0.44		Lot = 91017		
APre = 7.04-10.05 (28.7°C)	7.03-10.02		Exp = 10/21		
APost = 7.03-10.04	7.01-10.02	Buffer	Lot	Exp	
Atmos = 12.58 psi.a	12.57	7	4007947	12/21	
Stw =		10	4101E56	7/22	

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
211006/1420 y	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vials		ALS
—— 1421 y	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber		SRL
—— 1422 y	NDMA LL	"	"		"
—— 1450 y	SVOCs - SIM				

Runs -	1)	2)	3)
	71.21	71.19	71.16
	68.98	68.98	68.98
	68.98	68.97	68.98
	71.21	71.19	71.16

Continued from page

Read and Understood By

Signed — 10-6-2021 Date — Signed — 10-7-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-6-2021 Page 1 of 1

Sample Location: PL-10-592

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: UOA	607	UDMALL	5205-SIM				Charge Number: XGMD
211006/1250 4	EB	3		X							
1251 4	EB	1			4						
1321 ~~1252~~ 4	EB	1				4					
1420 4		3		4							
1421 4		1			4						
1422 4		1				4					
1450 4		1					4				

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10-6-2021 1520		[signature]	10-7-21 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT ST.7.453 WSI ENV.0026

Notebook No. A32 # 122 (B)

Continued from page

Marcus Avalos & Tony Torrez present. Weather is clear & cool. This zone will be purged & sampled using a Flute System. Purge pressure set @ 228 psia & sample pressure set @ 207 psi. At least 4 gallons will be purged prior to sampling or parameter stabalization. 15 min recovery between purges. Bubbler set @ 3 psi & stable @ 7 psi. Cuxbay Gp-5

Pre Sample Parameters

PH - 8.30	8.64
Temp - 24.9 °C	24.3 °C
Cond - 1273 us/cm	1258 us/cm
Turb - 0.39 NTU	0.54 NTU

Meter ID

PH/Cond - #61
Turb - #21
∴ STD - 11.61 NTU
∴ RDG - 10.7 NTU
∴ LOT - 91017
∴ Exp - 10/31/21

Initial Parameters	Final
Time - 211004~~1345~~ 1410B	211004 1540B
PH - 7.53	7.20
Temp - 25.3 °C	22.6 °C
Cond - 1247 us/cm	1272 us/cm
Turb - 1.68 NTU	0.77 NTU
PH pre - 6.95 / 9.94 (32.6 °F)	7.02 / 9.98 (33.7 °F)
PH post - 7.04 / 9.99	6.99 / 10.01
	IDW - 4.5 gal

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
211004 1415 B	VOA by 8260 LL	HCl / Ice	(3) 40 ml vials		ALS
— 1416 B	= (FB)	∴	∴	∴	∴
— 1417 B	607/Bromacil	Ice	1) 1L Amber	0103501G	SRI
— 1450 B	Low Level NDMA	∴	∴	∴	∴
— 1451 B	= (FB)	∴	∴	∴	∴
— 1515 B	SVOA by 8270D	∴	(2) ∴		ALS
— 1535 B	Total Metals	HNO3 / Ice	(2) 125 ml poly		∴

Continued from page

Signed — 10/4/21 Date

Read and Understood By

Signed — 10-9-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/4/21 Page 1 of 1

Sample Location: ST.7.453

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607/B60	LL UAMA	5108 8270	T. Metals			Charge Number
211064141513	3	A	X							XGMD
1416B (FB)	3		X							
1417B	1			X						
1450B	1				X					
1451B (FB)	1				X					
1515B	2					X				
1535B	2						X			

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MA GV	10/4/21 @ 1631		Jon W Jumd	10-5-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Tony Torrez present. Weather is clear & cool. This zone will be purged & sampled using a Aqua system. Purge pressure set @ 228 psi. & sample pressure set @ 207 psi. At least 4 gallons will be purged prior to sampling or parameter stabalization. 15 min recovery between purges. Bubbler set @ 3 psi. & stable @ 7 psi. Carboy G-5

Pre Sample Parameters

PH -	7.80	7.90
Temp -	23.6°C	23.4°C
Cond -	1250 uS/cm	1235 uS/cm
Turb -	0.58 NTU	0.83 NTU

Meter ID

PH/Cond - #61
Turb - #21
= STD - 11.61 NTU
= BKG - 10.7 NTU
= LOT - 91017
= Exp - 10/31/21

Initial Parameters		Final
Time	- 211004 1425 B	211004 1620 B
PH	- 7.94	7.51
Temp	- 25.2°C	22.6°C
Cond	- 1224 uS/cm	1261 uS/cm
Turb	- 1.08 NTU	0.541 NTU
PH pre	- 7.05/9.98 (32.2)	7.06/10.03 (33.9°C)
PH post	- 7.02/10.01	7.05/10.01
		IDW - 4.5 gal

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211004 1430 B	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2795	ALS
1431 B	= (FB)	=	=	=	=
1432 B	607/Bromacil	Ice	(1) 1L Amber	0103501G	SRL
1500 B	Low Level NOMA	=	=	=	=
1520 B	= (Dup)	=	=	=	=
1501 B	= (FB)	=	=	=	=
1545 B	SVOA by 8270D	=	(2) 1L Amber	000813383	ALS
1601 B	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	=
1611 B	= (Dup)	=	=	=	=

Continued from page

Read and Understood By

Signed — 10/4/21 Date — Signed — 10-5-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/4/21 Page 1 of 1

Sample Location: ST.7.544

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	607/Bro	LL NDMA	SVOA 8270				Charge Number
211004/1430B	3	A	X							XGMD
1431B	3		X							
1432B	1			X						
1500B	1				X					
1501B (FB)	1				X					
1520B (Dup)	1				X					
1545B	2	↓				X				↓

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 7 Metals							Charge Number
211004/1610B	2	A	X							XGMD
1611B (Dup)	2	↓	X							↓

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	10/4/21 @1631		[signature]	10-5-21 /0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Tony Torrez present. Weather is clear & cool. This zone will be purged & sampled using a Hydrasystem. Purge pressure set @ 228 psi & Sample pressure set @ 107 psi. Parameter stabalization or at least 4 gallons will be purged prior to sampling. 15-20 min recovery between purges. Bubbler set @ 3psi & stable @ 7 psi. Carboy G-5 *** PER JR WE PURGED ALL DAY TO ALLOW PARAM'S TO STABILIZE. ** changed pH/cond METER

ER Sample Parameters	**				Meter ID
pH - 8.27	8.51	7.73	8.50	8.20	pH/Cond - #61
Temp - 21.7	22.0	21.9°C	23.1	23.9	Turb - #21
Cond - 888 µs/cm	1081	1100	1075	1078	= STD - 11.61 NTU
Turb - ~~11.61 NTU~~ 1.85	0.66	0.63	0.31	0.55	= RDG - 10.6
					= LOT - 91017
					= EXP - 10/31/21

* VOLUME PURGED MET @ 111.5 BUT PARAM'S NOT STABLE

Initial Parameters	Final
Time - 211006 1325B	1416B
pH - 8.36	8.48
Temp - 27.8°C	26.4
Cond - 1102 µs/cm	1111 µs/cm
Turb - 0.90 NTU's	0.62 NTU's
pH pre - 6.95 / 9.95 (33.2°C)	6.98 / 9.94 (34.8°C
pH post - 7.01 / 9.98	7.04 / 9.96
	IDW -

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211006 1326B	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2795	ALS
— 1327B	= (FB)	=	=	=	=
— 1328B	607/Bromacil	Ice	(1) 1L Amber	040350KG	SRI
— 1410B	Low Level NDMA	=	=	=	=
— 1411B	= (FB)	=	=	=	=
— 1445B	SVOA by 8270D	=	(2) =		ALS
— 1515B	Total Metals	HNO3/Ice	(2) 125ml poly	210121	↓

pH	8.35	8.38	8.41	10/6/21 860	8.20	8.45	
Temp	27.9	~~27.5~~ 28.0	7 23.7	23.9	23.8°C	22.9	
Cond	1088	1075	1071	1095	996	1080	
Turb	0.47	0.44	2 METER VERIFICATION	0.37		0.51	Continued from page

Read and Understood By

T. D. — Signed — 10.6.21 — Date

Ron Munch — Signed — 10-7-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-6-21 Page 1 of 1

Sample Location: St. 7-779

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260D	601	LVOA4	8270D	TOTAL METALS			Charge Number
										XGMD
211006 1326B	3	A	X							
1327B (FB)	3		X							
1328B	1			X						
1410B	1				X					
1411B (FB)	1				X					
1445B	2					X				
1515B	2						O			

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [illegible]	10-6-21 / 1545		[illegible] Jmuch	10-7-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Marcus Avalos & Tony Torrez present. Weather is clear & cool. This zone will be purged & sampled using a Flute system. Purge pressure set @ 128 psi & sample pressure set @ 207 psi. Parameter stabalization or at least 4 gallons will be purged prior to sampling. 15-20 min recovery between purges. Bubbler set @ 3psi & stable @ 7 psi. Carboy Gr-5 ~~***~~ Per JR WE purged all day to allow Param's To stabilize.
** changed pH/cond METER since original would not cal

Pre Sample Parameters/***						Meter ID
pH -	8.13	8.56	7.80	8.55	8.20	pH/Cond - #61
Temp -	21.0	21.9	21.7	22.8	23.2	Turb - #21
Cond -	976	973 µs/cm	980 µs/cm	984	978	: STD - 11.61 NTU
Turb -	1.46	0.78	0.46	0.34	0.44	: EXP - 10.6
						: LOT - 91017
						: Exp - 10/31/21

*Volume purged METER 11/5 BUT param's not stable

Initial Parameter 1340B	Final
Time - 211006 ~~1325B~~ **	211006 1526B
pH - 8.26	8.20
Temp - 25.3°c	24.4°c
Cond - 982 µs/cm	1002 µs/cm
Turb - ~~0.90 NTU~~ 0.62	0.31
PHpre - 7.01/10.02 (32.2)	7.04/9.84 (34.9)
PHpost - 7.04/9.98	6.99/9.98
	IDW -

Samples

Sample #	Analysis	Preserve	Container	lot	lab
211006 1341B	VOA by 8260LL	HCl/Ice	(3) 40 ml vials	2745	ALS
—— 1342B	: (FB)	:	:	:	:
—— 1343B	607/Bromacil	Ice	(1) 1L Amber	0103501Gr	SRI
—— 1421B	Low Level NDMA	:	:	:	:
—— 1422B	: (FB)	:	:	:	:
—— 1500B	SVOA by 8270D	:	(2) :		ALS
—— 1525B	Total Metals	HNO3/Ice	(2) 125 ml poly	210121	:

pH	8.38	~~8.38~~ 8.52 ~~8.44~~ 8.50	10 Cal 8.20	8.24	8.17
Temp	23.8°c	1075 µs/cm 071 µs/cm	22.7°c	23.0°c	22.3
Cond	977	24.3°c 24.3°c	969	862	965
Turb	0.37	0.40 2 METER VERIFICATION	0.38		0.52

Continued from page

Read and Understood By

T. [signature] Signed — 10-6-21 Date — [signature] Signed — 10-7-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-6-21 Page 1 of 1

Sample Location: ST-7-970

Analytical Requirement: 8260C | 6010 | Ln/Sn/Mg | 8270D | Total Metals

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260C	6010	Ln/Sn/Mg	8270D	Total Metals			Charge Number
										X6mD
211006 ~~1326B~~ 1341B	3	A	X							
— ~~1327B~~ 1342B (F13)	3		X							
— ~~1328B~~ 1343B	1			X						
— ~~1401B~~ 1421B	1				X					
— ~~1411B~~ 1422B (F13)	1				X					
— ~~1445B~~ 1500B	2					X				
— ~~1454~~ ~~1525B~~ 1526B	2					~~X~~	X			

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T.	10.6.21 / 1545			10-7-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

PROJECT WW-5-459 FLUTE WJI

Notebook No. DSZ # 122 (B) 27

Continued from page _____

DAN HALVORSEN & TONY TORRES PRESENT. THE WEATHER IS CLEAN & COOL THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SYSTEM. PURGE PRESSURE SET @ 22 PSI & SAMPLE PRESSURE @ 20 PSI. A MIN OF 4 GALLONS PURGED OR UNTIL PARAM'S STABLE. 15 MIN PURGED RECOVERY BETWEEN PURGES. BUBBLER SET @ 3 PSI & STABLE @ 5 PSI. CARBOY 6-5

	PARAM'S PRE	
pH	7.96	7.90
TEMP	20.6°C	20.7°C
COND	1081 µs/cm	1085 µs/cm
TURB	0.46	1.15

INITIAL	FINAL
211019 1045	211019 1300 B
pH 7.88	7.90
TEMP 21.8°C	22.2
COND 1079	1060 µs/cm
TURB 0.39 NTU's	0.40
pHPRE 7.01/10.02 (21.3	7.04/10.02 (25.9)
pHPOST 7.03/9.98	7.02/10.03

METER ID'S
pH/COND #61
TURB # 21
11 STD = 11.6
11 STD = _____
11 LOT # = 91017
11 EXP = 10-31-21

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
211019 1046B	8260 11	ICE/HCl	2795	(3) 40 mLvials	ALS
—— 1047B	" (FB)	"	"	"	"
—— 1048B	8270	ICE	010350 16	(1) 1L AMBER	SNT
—— 1310B	11 NDMA	"	"	"	"
—— 1311B	" (FB)	"	"	"	"
—— 1315B	SUOA	"	N/A	(2) "	ALS
—— 1350B	TOTAL METALS	ICE/HNO3	210121	(2) 125 ml poly	"
—— 1351B	NO2/NO3	ICE/H2SO4	~~210121~~ N/A	(1) 250 ml poly	"
—— 1352B					

TJ

Continued from page

Read and Understood By

T. J. 10.19.21 Tom Munch 10-20-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-19-21 Page 1 of 1

Sample Location: WW-5-459

Sample Number	# of Containers	Sample Matrix*	8260D	607	1,4-Dioxane	8270	Total Metals			Charge Number
Pertinent Notes (if any)										XGMD
211019 1046B	3	A	X							
— 1047B (FB)	3		X							
— 1048B	1			X						
— 1310B	1				X					
— 1311B (FB)	1				X	X				
— 1315B	2					X	X			
— 1350B	2	—					X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Total Metals NO2/NO3							Charge Number
Pertinent Notes (if any)										
— 1351B (DUP)	2	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T-D-B	10-19-21 / 1530		[signature]	10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

DAN HALVORSEN & TONY TORRES PRESENT. THE WEATHER IS CLEAR & COOL. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 22 psi & SAMPLE PRESSURE SET @ 20 3. BLADDER SET @ 3 psi & STABLE @ 5 psi. A MIN. OF 4 GALLONS PURGED UNTIL PARAMS STABLE. 15 MINS OF RECOVERY PRIOR TO EACH PURGE. CARboy 6-5

PARAM's	PRE	
pH	7.98	7.99
TEMP	20.5°C	20.3
COND	1022	1027
TURB	0.83 NTU's	0.91 NTU's

	INITIAL	FINAL
	211019 1100B	211019 1420B
pH	7.94	7.96
TEMP	21.9	22.5°C
COND	1031	1035
TURB	1.09	0.37
pHPRE	7.02/10.00(21.5)	7.00/10.01 (26.1)
pHPOST	7.01/10.01	7.01/10.03

METER ID's
pH/COND #
TURB #
" STD
" ADS
" LOT #
" EXP

Samples

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	LAB
211019 1101B	8260 (FULL)	ICE/HCl	2795	(3) 40 mL VIALS	ALS
1102B	" (FB)	"	"	"	"
1103B	8260	ICE	01035016	" / 1L AMBER	SKL
1325B	CLNSMA	"	"	"	"
1326B	" (FB)	"	"	"	"
1327B	SVOA	"	N/A	(2) "	ALS
1410B	TOTAL METALS	ICE/HNO3	210121	(2) 125 mL POLY	"
1411B	" (DUP)	"	"	"	"

Continued from page

Read and Understood By

T. D. — Signed — 10.19.21 Date

Dan Munch — Signed — 10-20-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-19-21 Page 1 of 1

Sample Location: WW-5-575

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260D	607	LINGMA	SUM4	Total Metals			Charge Number
Pertinent Notes (if any)										X6MD
211019 1101B	3	A	X							
1102B (FB)	3		X							
1103B	1			X						
1325B	1				X					
1326B (FB)	1				X					
1327B	2					X				
1410B	2						X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Total Metals							Charge Number
Pertinent Notes (if any)										
1411B (Dup)	2	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Dg	10-19-21 1330		Jon W Jumdt	10-20-21 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Dan Haworth & Tony Torrez present. Weather is clear and cool. This zone will be purged and sampled using a FLUTE system. Purge pressure set at 224 psi. and sample pressure at 203 psi. Bubbler set at 3 psi and stable at 5 psi. min. of 4 gallons or parameters stability will be purged prior to sampling. 15-20 minute recovery between purges. Cardboy BS is used.

TOW = 6 gal

Prelim. Parameters

pH = 8.59	8.53
Temp = 18.9	19.7
Cond = 1002	968
Turb = 0.58	0.36

Initial Parameters	Final Parameters	Meter ID
Time = 211020 1025 B	211020 1410 B	pH/Cond = 61
pH = 8.61	8.55	Turb = 21
Temp = 20.9°C	20.9	DO = 11.6
Cond = 1001 us/cm	1007	ORP = 10.09
Turb = 0.84	0.90	LOT = 91017
pH Pre = 7.04-10.01 (@ 23.8°C)	7.06-10.04	Exp = 10/21
pH Post = 7.03-10.03	7.04-10.03	

Trip Blanks

Sample #	Analysis	Preserve	Container	LOT	LAB
211020 710 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2795	ACS
0711 B	NDMA LL	Ice	(1) 1L Amber	103501	SRL

Samples

Sample #	Analysis	Preserve	Container	LOT	LAB
211020 1051 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml vial	2795	ACS
1052 B	" " (FB)	"	"	"	"
1053 B	NDMA 1DMN Bromacil by 607	Ice	(1) 1L Amber	103501	SRL
1054 B	NDMA LL	"	"	"	"
1055 B	" " (Dup)	"	"	"	"
1303 B	SVOA by 8270 D	"	(2) "	"	ACS
1352 B	Total metals	Ice/HNO3	(2) 125 ml Poly	210121	"
1056 B	NDMA LL (FB)	Ice	(1) 1L Amber	103501	SRL

Continued from page

Read and Understood By

10-20-2021 Date

Signed

10-21-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-20-2021 Page 1 of 1

Sample Location: WW-5-809

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOC	LOT	UDMA-LL					Charge Number
										X6MD
211020 0710 B TB	3	A	X							
1051 B	3		X							
1052 B FB	3		X							
1053 B	1			X						
0711 B TB	1				X					
1054 B	1				X					
1055 B FB	1				X					

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: SVOC	metals	UDMA-LL					Charge Number
211020 1303 B	2	A	X							
1352 B	2			X						
1056 B	1	A			X					

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
WD	10-20-2021 1530	Jon W Lynch	10-21-21 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

0

ROJECT WW 5-909 ENV-0020

Notebook No. D32 #122 B

Continued from page _____

Dan Halvorsen + Tony Torrez present. Weather is clear and cool. This zone will be purged and sampled using a FLUTe system. Purge pressure set at 224 psi, sample pressure set at 203 psi. Bubbler set at 3 psi and stable at 5 psi. A minimum of 4 gallons or parameter stability will be purged prior to sampling. 15-20 minute recovery between purges. Carboy G15 in use.

Prelim. Parameters

pH	8.19	8.27
TEMP	19.7	20.0
COND	1297	1292
TURB	0.44	0.76

IDW = 6 gal.

Initial Parameters

Time	211020 1030 B
pH	8.71
TEMP	20.9
COND	1313 mS/cm
TURB	0.81 NTU's
pH PRE	7.03-10.04 (22.6°C)
pH POST	7.04-10.04

Final Parameters

211020 1418 B	
8.69	
20.8	
1310	
0.86	
7.04-10.01	
7.03-10.01	

Meter ID

PH/COND	61
TURB	21
DO	11.6
ORP	10.9
LOT	9/017
EXP	10/21

SAMPLES

SAMPLE #	Analysis	Preserv.	Container	LOT	LAB
211020 1032 B	VOA by 8260 LC	Iced	(3) 40 ml VOA	2795	ALS
1033 B	" " (FB)	"	"	"	"
1103 B	Bromacil by 607	Ice	(1) 1L Amber	103801	SRL
1104 B	UDMH LC	"	"	"	"
1105 B	" " (FB)	"	"	"	"
1328 B	SVOA by 8270 D	"	(2) "	"	ALS
1329 B 1400 B	Total Metals	Ice/HNO3	(2) 125 ml Poly	21012	"

Continued from page

Read and Understood By

Signed

10-20-2021

Date

Signed

10-21-21

Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10-20-2021 Page 1 of 1

Sample Location: UW-5-909

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOC	SVOC	NDMA LL	SVOC	metals			Charge Number
										XGMD
211020 1032 B	3	A	X							
1033 B FB	3		X							
1103 B	1			X						
1104 B	1				X					
1105 B FB	1				X					
1328 B	2					X				
1400 B	2						X			

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	10-20-2021 1530			10-21-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

Project WELL K WSI CONV 0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MIRAZAL PRESENT. WEATHER IS CLEAR & COOL. CARBOY G-5 IN USE.

PARAMETERS

TIME = 0930 HRS
PH = 7.64
TEMP = 23.8°C
COND = 1005 us/cm
TURB = .79 NTUS
PHPRE = 7.07 - 10.21 (14.4°C)
PHPOST = 7.06 - 10.21

METER ID

PH/COND = 12
TURB = 7
" STD = 5.07 NTUS
" EXP = 5.08 NTUS
" LOT = 91017
" EXP = 11-30-20

BUFFERS

7 400269 8/21
10 400100S 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LABS
20 11 13 0945	VOA by 8260 LL	ICE/HCL	(3) 40 ml VIALS	ALS
——— 0946	" " (CFB)	"	" "	"
20 11 13 0947	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
——— 0948	" " (CFB)	"	" "	"

Continued on Page

Read and Understood By

Richard Mitchell — Signed
13 Nov 20 — Date
Jon W Jones — Signed
11-16-20 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 13 Nov 20 Page 1 of 1

Sample Location: Wall K

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 CC	8260 CC (RP)	Al/Mn/Li CC	Al/Mn/Li CC (RP)				Charge Number
20111130945	3		X							
" 0946	3			X						
" 0947	1				X					
" 0948	1					X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	13 Nov 20 / 1000		[signature]	11-16-20 / 0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project WELL M WJI ENV 0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & COLD. CARBOY G-2 IN USE.

PARAMETERS

TIME = 0730 HRS
PH = 7.35
TEMP = 23.1°C
COND = 890 us/cm
TURB = 1.18 NTUS
PH PRE = 7.02 - 10.05 (15.7°C)
PH POST = 7.05 - 10.09

METER ID

PH/COND = 61
TURB = 21
" STD = 59.1 NTUS
" LOG = 59.6 NTUS
" LOT = 91017
" EXP = 31 NOV

BUFFERS

7 4002691 8/21
10 4001005 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LABS
20110 0735	Survey 8260 LL	ICE/HCL	(3) 40 mL VIALS	ALS
——— 0736	" " (CEB)	"	" "	"
20110 0737	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRL
——— 0738	" " (CEB)	"	" "	"

Continued on Page

Read and Understood By

Richard Mirabal — Signed
10 NOV 20 — Date
Tom Minnick — Signed
11-10-20 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10 Nov 20 Page 1 of 1

Sample Location: Well M

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 LL (CB)	LL NDMA	LL NDMA (CB)							
20 11 10 0735	3		X	X									
" 0736	3												
" 0737	1				X								
" 0738	1					X							

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	10 Nov 20 / 0820	[signature]	11-10-20 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (03/09)

Project WELL K NJT EXN0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MINABAL PRESENT. WEATHER IS CLEAR & COOL. CANBOY G-5 IN USE.

PARAMETERS

TIME = 1315 HRS
PH = 7.67
TEMP = 19.6 °C
COND = 996 us/cm
TURB = 1.77 NTUS
PH+HG = 7.05 - 10.07 (14.4°C)
PH POST = 7.07 - 10.11

METER ID

PH/COND = 11
TURB = 20
" STD = 6.18 NTUS
" RDG = 6.22 NTUS
" LOT = 91017
" EXP = 12-31-20

BUFFERS

7 4002181 8/2
10 4001065 6/2

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT
20120301255	VOA by 8260 LL (TB)	ICE/HCL	
1256	LOW LEVEL NDMA (TB)	ICE	
20120301340	VOA by 8260 LL	ICE/HCL	
1341	" " (FB)	"	
20120301342	LOW LEVEL NDMA	ICE	
1343	" " (FB)	"	

Continued on Page

Read and Understood By

Signed — Date 12/3/20

Signed — Date 12-7-20

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 3 DEC 20 Page 1 of 1

Sample Location: Well K

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL (TB)	8260 LL	8260 LL (FB)	NDMA LL (TB)	NDMA LL	NDMA LL (FB)	Charge Number
20120312 55	3		X						XGMD
" 1256	1					X			
" 1340	3			X					
" 1341	3				X				
" 1342	1						X		
" 1343	1							X	

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
MKRABM	3 DEC 20 / 1425	[signature]	12-7-20 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project WELL M WJI ENV 0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MIRABAL PRESENT, WEATHER IS CLEAR & COOL.
CARBOY G-2 IN USE.

PARAMETERS

TIME = 0850 HRS
PH = 7.87
TEMP = 21.0°C
COND = 1054 uS/CM
TURB = 2.60 NTUS
PH PRE = 7.05 - 10.11 (14.4°C)
PH POST = 7.04 - 10.10

METER ID

PH/COND = 12
TURB = 7
" STD = 5.25 NTUS
" RDG = 5.09 NTUS
" LOT = 91017
" EXP = 12-31-20

BUFFERS

7 4002691 6/2
10 4001165 6/2

SAMPLE #	ANALYSIS	SAMPLES PRESERVE	CONT	LAB
201201 0900	VOA by 8260 LC	ICE/HCL	(3) 40 ML VIALS	ALS
—— 0901	" " (FB)	"	" "	"
201201 0902	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0903	" " (FB)	"	" "	"

Continued on Page

Read and Understood By

Signed — Date — Signed — Date

1 DEC 20 — 12-1-20

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 1 DEC 20 Page 1 of 1

Sample Location: Well M

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 LL (1,4 Dioxane)	NDMA LL	NDMA LL (RSK)			Charge Number
									XGMD
201201 0900	3		X						
" 0901	3		X	X					
" 0902	1			X	X				
" 0903	1				X	X			

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement						Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	1 DEC 20 / 1020		[signature]	12-2-20 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project WELL K WJ1 GW 0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MICHAUD PRESENT. WEATHER IS CLEAR & WARM. CARBOY G-5 IN USE.

PARAMETERS

TIME = 0910 HRS
PH = 8.27
TEMP = 22.5°C
COND = 1108 uS/cm
TURB = .52 NTUS
PH PRE = 7.06 - 9.99 (4.6°C)
PH POST = 7.05 - 10.05

MESER ID

PH/COND = 11
TURB = 20
" STD = 5.49 NTUS
" RDG = 5.52 NTUS
" LOT = 91017
" EXP = 1-29-21

BUFFERS

7 4002691 8/2
10 4001065 6/2

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LAB
210108 0915	VOA by 8260 LL	ICE/HCL	(3) 40ML VIALS	ALS
—— 0916	" " (FB)	"	" "	"
210108 0917	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0918	" " " (FB)	"	" "	"

Continued on Page

Read and Understood By

Richard Michaud — Signed
8 JAN 21 — Date
Jon Munck — Signed
1-11-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8 JAN 21 Page 1 of 1

Sample Location: Well K

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (FB)	NDMA LL	NDMA LL (EB)				Charge Number
										XGMD
210108 0915	5		X							
" 0916	3			X						
" 0917	1				X					
" 0918	1					X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
M CRABAL	8 JAN 21 / 0955		[signature]	1-11-21 / 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & COOL.
CARBOY G-1 IN USE.

PARAMETERS
TIME = 0725 HRS
PH = 7.75
TEMP = 23.7°C
COND = 1043 uS/cm
TURB = 1.84 NTUS
PH PRE = 7.08 - 10.04 (14.3°C)
PH POST = 7.09 - 10.02

METER ID
PH/COND = 11
TURB = 20
" STD = 5.49 NTUS
" RDG = 5.52 NTUS
" LOT = 91017
" EXP = 1-29-21

BUFFERS
7 = 4002691 9/21
10 = 4001065 6/2

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LAB
210130740	VOA by 8260 LL	ICE/HCL	(3) 40 mL VIALS	ALS
—— 0741	" " " (FB)	"	" "	"
210130742	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0743	" " (FB)	"	" "	"

Continued on Page

Read and Understood By

Richard Mirabal — Signed
13 JAN 21 — Date
Jon Munch — Signed
1-13-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 13 JAN 21 Page 1 of 1

Sample Location: Well M

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 LL (FB)	LL NDMA	LL NDMA (FB)				Charge Number
210130740	3		X							
" 0741	3			X						
" 0742	1				X					
" 0743	1					X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MICHAEL	13 JAN 21/0815		[signature]	1-13-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project WELL K WJI GW 0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MIKABA PRESENT. WEATHER IS PARTLY CLOUDY & COOL. CARBOY G-1 IN USE.

PARAMETERS

TIME = 0800 HRS
PH = 0809
TEMP = 19.8°C
COND = 1092 us/cm
TURB = .56 NTUS
PH PRE = 6.98 - 10.10 (8.7°C)
PH POST = 6.99 - 10.11

METER ID

PH/COND = 12
TURB = 20
" STD = 5.63 NTUS
" STD = 5.47 NTUS
" LOT = 91017
" EXP = 2-28-21

BUFFERS

7 4002691 8/21
10 4001065 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LAB
21020508 05	VOA by 8260 LL	ICE/HCL	(3) 40ml VIALS	ALS
0806	" " (FB)	"	" "	"
21020508 07	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
0808	" " (FB)	"	" "	"

Continued on Page

Read and Understood By

Richard Mitchell 5 FEB 21
Signed Date

Pam Mumby 2-8-21
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 2/5/21 Page 1 of 1

Sample Location: WELL K

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: LL VOA	Analytical Requirement: LL UDMH						Charge Number
210205 0805	3	A	X							XCMD
0806	3	1	X							
0807	1	1		X						
0808	1	L		X						

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Mark	2/5/21 0900			2-8-21 /0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project WELL M NJ1CRV0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & WARM.
CARBOY G-1 IN USE.

PARAMETERS

TIME = 0950 HRS
PH = 7.48
TEMP = 23.5°C
COND = 1072 us/cm
TURB = .57 NTUS
PH PRE = 7.05-10.10 (13.3°C)
PH POST = 7.05-10.07

METER ID

PH/COND = 12
TURB = 20
" STD = 5.63 NTUS
" ROG = 5.76 NTUS
" LOT = 91017
" EXP = 2-28-21

BUFFERS

7 400269J 8/21
10 400104S 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LAB
210223 0915	VOAs by 8260 LL (TB)	ICE/HCL	(3) 40mL VIALS	ALS
—— 0916	LOW LEVEL NDMA (TB)	ICE	(1) 1L AMBER	SWRI
210223 1000	VOAs by 8260 LL	ICE/HCL	(3) 40mL VIALS	ALS
—— 1001	" " " " (FB)	"	" "	"
210223 1002	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 1003	" " " (EB)	"	" "	"

Continued on Page

Read and Understood By

Signed

23 FEB 21
Date

Signed

2-23-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 23 FEB 21 Page 1 of 1

Sample Location: Well M

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260 LL (TB)	Low Level NDMA (TB)	8260 LL	LL NDMA	8260 LL (FB)	LL NDMA (FB)		Charge Number
										XGMD
2102230915	3		X							
" 0916	1			X						
" 1000	3				X					
" 1001	1						X			
" 1002	3					X				
" 1003	1							X		

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Mirabal	23 FEB 21 / 1040		[signature]	2-24-21 / 0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & COLD. CARBOY G-2 IN USE.

PARAMETERS
TIME = 1000 HRS
PH = 7.64
TEMP = 22.7°C
COND = 1288 uS/cm
TURB = .16 NTUS
PH PRE = 7.10-9.97 (18.0°C)
PH POST = 7.10-9.99

METER ID
PH/COND = 13
TURB = 21
" STD = 66.5 NTUS
" RDG = 65 NTUS
" LOT = 91017
" EXP = 3-31-21

BUFFERS
7 4002691 8/21
10 4001645 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LAB
210301 1005	VOAs by 8260 LL	ICE/HCL	(3) 40mL VIAL	ALS
—— 1006	" " (FB)	"	" "	"
210301 1007	LOW LEVEL NDMA	ICE	(1) LL AMBER	SwRI
—— 1008	" " (FB)	"	" "	"

Continued on Page

Read and Understood By

Signed — Date — Signed — Date

1 Mar 21 — 3-1-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 1 Mar 21 Page 1 of 1

Sample Location: Well K

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 CC (FB)	NDMA LL	NDMA LL (FB)				Charge Number
210301 1005	3	A	X							
" 1006	3	A		X						
" 1007	1	A			X					
" 1008	1	A				X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Mirabal	1 Mar 21 / 1030			3-2-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project Well M WSI GW 0012 Notebook No. DW 07

Continues from Page

M. Garcia, R. Minassal present. Weather is clear & cool.
Carboy C-2 in use.

Parmetrs

Time	= 0715
PH	= 7.72
Temp	= 22.5°C
Cond	= 1280 us/cm
Turb	= 2.66 NTUs
Pre	= 7.10 - 10.07 (13.5°C)
Post	= 7.10 - 10.16

Meters

PH/Cond	= 13
Turb	= 21
" STD	= 66.5 NTUs
" Rng	= 56.7 NTUs
" Lot	= 91017
" Exp	= 3-31-21

Buffers

7	400 2691	9/2
10	400 1045	6/21

Samples

Sample #	Analysis	Preserve	Container	Lab
2103020725	VOA by 8260 LC	Ice/HCl	(3) 40 ml VOAs	TLS
0726	" " (FB)	"	" "	"
2103020727	Low Level NDMA	Ice	(1) 1L Amber	SwRI
0728	" " (FB)	"	" "	"

Continued on Page

Read and Understood By

Rich McGal 2 Mar 21 — Signed / Date

Tom Wunch 3-2-21 — Signed / Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 2 Mar 21 Page 1 of ____

Sample Location: New M

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260 LL	8260 LL (GC)	LL NDMA	LL NDMA (GC)				Charge Number
Sample Number										
210302 0725	3		X							
" 0726	3			X						
" 0727	1				X					
" 0728	1					X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any)	# of Containers	Sample Matrix*							Charge Number
Sample Number									

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Mirabal	2 Mar 21 / 0245			3-2-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Project WELL K WJI ENV 0012 Notebook No. DW #7

Continues from Page

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & COOL. CARBOY G-3 IN USE.

PARAMETERS

TIME = 0740 HRS
PH = 8.27
TEMP = 19.2°C
COND = 1348 us/cm
TURB = .98 NTU
PH PRE = 7.03-10.04 (14.3°C)
PH POST = 7.02-10.04

METER ID

PH/COND = 13
TURB = 20
K STD = 5.71 NTUS
" RDG = 5.70 NTUS
" LOT = 91017
" EXP = 4-30-21

BUFFERS

7 400209| 6/2
10 400/045 6/

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONT	LAB
210402 0745	VOA by 8260 LL	ICE/HCL	(3) 40ml VIAL	ALS
0746	" " (FB)	"	" "	"
210402 0747	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
0748	" " (FB)	"	" "	"

Continued on Page

Read and Understood By

Richard Mirabal
Signed

2 APR 21
Date

Jose Munoz
Signed

4-6-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 4/2/21 Page 1 of 1

Sample Location: well K

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: V04 8260LL	LL NDMA						Charge Number
										XGMD
210402 0745	3	A	X							
" 0746	3	"	X							
" 0747	1	"		X						
" 0748	1	↓		X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Matt S	4/2/21 0800		Paul Mundt	4-5-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R MIRABAL PRESENT. WEATHER IS CLEAR & WARM. CARBOY G-1 IN USE.

PARAMETERS
TIME = 0745
PH = 7.90
TEMP = 23.8°C
COND = 1074 us/cm
TURB = .86 NTUS
PH PRE = 7.05-10.05 (24.0°C)
PH POST = 7.03-10.06

METER ID
PH/COND = 12
TURB = 21
" STD = 37.0 NTUS
" RDG = 58.0 NTUS
" LOT = 91017
" EXP = 4-30-21

BUCKETS
7 4002691 6/21
10 4001065 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINER	LAB
21040607501	VOA by 8260 LL	ICE/HCL	(3) 40 mL VOAs	ALS
0951	" " (FB)	"	" "	"
21040607521	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
0753	" " (FB)	"	" "	"

Continued from page

Read and Understood By

Richard Mirabal — Signed
6 APR 21 — Date
Jon W Munch — Signed
4-6-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6 APR 21

Sample Location: Well K1

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 LL (PB)	LL NDMA	LL NDMA (FB)				Charge Number
2104060750	3		X							
" 0751	3			X						
" 0752	1				X					
" 0753	1					X				

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MIRABAL	6 APR 21 / 0855		[signature]	4-6-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Notebook No. DW # 8

OJECT WELL K WJ1 GW 0012 Continued from page

. GALLIP, R. MIRABAL PRESENT. WEATHER CLEAR & WARM.
AQUA 4 G-5 IN USE.

RAMETERS
IME = 0705.
H = 7.99
EMP = 22.6°C
OND = 1062 us/cm
RB = 1.34 NTUs
H PRE = 7.08 - 10.08 (17.8°C)
POST = 7.05 - 10.08

METER ID
PH/COND = #61
TURB = #21
" STD = 55.5 NTUs
" LOT = 91027
" EXP = 5-31-21

BUFFERS
7 4002691 2/21
10 4001065 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
210503 0710	VOA by 8260 LL	ICE/HCL	(5) 40 mL VIALS	ALS
—— 0711	" " (FB)	"	" "	"
210503 0712	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0713	" " (FB)	"	" "	"
210503 0714	GRO by 8015D	ICE	(3) 40 mL VIAL	ALS
—— 0715	SVOA by 8270D	"	(2) 1L AMBER	"
—— 0716	DRO by 8015D	"	(1) "	"

Continued from page

Read and Understood By

Richard Mirabal — Signed — 3 May 21 — Date

Lori Munch — Signed — 5-3-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 3 May 21 Page 1 of 1

Sample Location: Well K

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (GB)	NDMA LL	NDMA LL (GB)	GRO	SVOA	DRO	Charge Number
210503 0710	3	A	X							XGMD
" 0711	3	A		X						
" 0712	1	A			X					
" 0713	1	A				X				
" 0714	3	A					X			
" 0715	2	A						X		
" 0716	1	A							X	

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	3 May 21 / 0750		[signature]	5-3-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & WARM. CARBOY GS (W CASE.

PARAMETERS
TIME = 0710 HRS
PH = 7.89
TEMP = 23.2°C
COND = 1071 us/cm
TURB = 2.34 NTUS
PH PRE = 7.03 - 10.05 (16.8°C)
PH POST = 7.05 - 10.07

METER ID
PH/COND = #61
TURB = #21
" STD = 55.5 NTUS
" RDG = 55.7 NTUS
" LOT = 91027
" EXP = 5-31-21

BUFFERS
7 400269I 9/21
10 400106S 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINER	LAB
210504 0715	VOA by 8260 LL	ICE/HCL	(3) 40m VIAL	ALS
—— 0716	" " (CRB)	"	" "	"
210504 0717	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0718	" " (CRB)	"	" "	"
210504 0719	GRO by 8015D	ICE	(3) 40m VIALS	ALS
—— 0720	SVOA by 8270D	"	(2) 1L AMBER	"
—— 0721	DRO by 8015D	"	(1) 1L AMBER	"

Continued from page

Read and Understood By

Richard Mirabal Signed 4 May 21 Date

Lori Munch Signed 5-4-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 4 May 21 Page 1 of 1

Sample Location: Well M

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (FB)	NDMA LL	NDMA LL (FB)	GRO	SVOA	DRO	Charge Number
210504 0715	3	A	X							
" 0716	3	A		X						
" 0717	1	A			X					
" 0718	1	A				X				
" 0719	3	A					X			
" 0720	2	A						X		
" 0721	1	A							X	

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Minabal	4 May 21 / 0900		[signature]	5-4-20 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT Well K WJSEAW0012

Notebook No. DW# 8

Continued from page _____

M. Garcia, R. Mirabal present. Weather is clear & warm. Carboy G-3 in use.

PARAMETERS

TIME = 0715 HRS
PH = 7.82
TEMP = 23.5°C
COND = 1260 us/cm
PRE = 6.97 - 10.07 (15.0°C)
POST = 7.00 - 10.09
TURB = 1.52 NTUs

METER ID

PH/COND = 13
TURB = 21
" STD = 58 NTUs
" EDG = 59.2 NTUs
" COT = 91017
" EXP = 6-30-21

BUFFERS

7 400269I 6/21
10 400I065 6/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	POINT	LAB
210602 0725	VOA 4 @ 20 ml	ICE/HCL	(3) 40 ml VIAL	ALS
0726	" " (EB)	"	" "	"
210602 0727	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
0728	" " (EB)	"	" "	"

Continued from page

Read and Understood By

Signed — Date: 2 JUN 21

Signed — Date: 6-2-21

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 2 Jun 21 Page 1 of 1

Sample Location: Well K

Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 LL (-13)	NDMA LL	NDMA LL (R)				Charge Number
Sample Number										
210602 0725	3		X							
" 0726	3			X						
" 0727	1				X					
" 0728	1					X				

Sample Location:

Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number
Sample Number										

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	2 Jun 21 / 0825		[signature]	6-2-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R. MORABAL PRESENT. WEATHER IS CLEAR & WARM. CARBOY G-1 IN USE.

PARAMETERS

TIME = 0710 HRS
PH = 7.90
TEMP = 23.9°C
COND = 1105 uS/cm
TURB = 1.53 NTUS
PH PRE = 7.05 - 10.02 (21.4°)
PH POST = 7.03 - 10.02

METER ID

PH/COND = 12
TURB = 6
" STD = 4.73 NTUS
" LOW = 4.70 NTUS
" LOT = 91017
" EXP = 6-30-21

BUFFERS

7 400291 9/21
10 400165 9/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINER	LAB
210601 0715	VOA by 8260 LL	ICE/HCL	(3) 40 mL VIALS	ALS
0716	" " (EB)	"	" "	"
210601 0717	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SGRL
0718	" " (EB)	"	" "	"

Continued from page

Read and Understood By

Richard Morabal — Signed
1 Jun 21 — Date
Jon Munch — Signed
6-2-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 1 JUN 21 Page 1 of 1

Sample Location: WEK M

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL (FB)	8260 LL	NDMA LL (FB)	NDMA LL				Charge Number
210601 0715	3			X						
" 0716	3		X							
" 0717	1					X				
" 0718	1				X					

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MNABM	1 JUN 21 / 0900			6-1-21 / 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS HOT. CARBOY G-3 IN USE.

PARAMETERS

TIME = 1250 HRS
PH = 7.84
TEMP = 30.3°C
COND = 1052 uS/cm
PRE = 7.05 - 10.07 (30.4°C)
POST = " "
TURB = .44 NTUS

METER ID

PH/COND = 12
TURB = 7
" STD = 47.5 NTUS
" ROG = 49.8 NTUS
" LOT = 9/017
" EXP = 7-31-21

BUFFERS

7 4002691 8/21
10 4101656 7/22

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
210706 1300	VOA L 8260LL	ICE/HCL	(3) 40m VOAs	ACS
1301	" " (FB)	"	" "	"
210706 1302	LOW LEVEL NDMA	ICE	(1) (AMBER	SW21
1303	" " (FB)	"	" "	"

Continued from page

Read and Understood By

Richard M. Gal — Signed — 6 JUL 21 — Date

Lori Munch — Signed — 7-7-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6 Jul 21 Page 1 of 1

Sample Location: Well 1C

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (15)	LL NDMA	LL NDMA (15)				Charge Number
210706 1300	3		X							
" 1301	3			X						
" 1302	1				X					
" 1303	1					X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	6 Jul 21 / 1345		[signature]	7-7-21 / 0830

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

OJECT WELL M WELL LTW 0012

Notebook No. DW # 8

Continued from page _____

1. GARCIA, R. MIRABAL PRESENT. WEATHER IS COOL & CLOUDY.
'OREBOY G-3 IN USE.

ARAMETERS
IME = 0710
H = 8.19
EMP = 23.7°C
ND = 1136 uS/cm
URB = 1.57 NTUs
E = 7.05-10.05 (9.7°C)
ST = 7.05-10.04

METER ID
PH/COND = 12
TURB = 7
" STD = 47.5 mS/cm
" RDG = 48.4 mS/cm
" LOT = 91017
" EXP = 7-31-21

BUFFERS
7 4001691 7/21
10 4101656 7/22

SAMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
2107070715	VOA EDB DLL	ICE/HCL	(3) 40 mL VIALS	DHS
— 0716	" " (FB)	"	" "	"
2107070717	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRL
— 0718	" " (FB)	"	" "	"

Continued from page

Read and Understood By

Richard Mirabal
Signed

7 Jul 21
Date

Signed

7-7-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7 Jul 21 Page 1 of 7

Sample Location: Well M

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260 LL	8260 LL (FB)	LL MDMT	LL NDMA (FB)				Charge Number
2107070715	3		X							
" 0716	3			X						
" 0717	1				X					
" 0718	1					X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Mirabal	7 Jul 21 / 0740		[signature]	7-7-21 / 0830

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. Garcia, R. Mirabal present, Weather is warm & clear. Conbuoy B-5 in use

PARAMETERS

TIME	= 0715 hrs
PH	= 7.42
TEMP	= 24.2 °C
COND	= 1118 us/cm
TURB	= 1.53 NTUs
PH PRE	= 7.06 - 9.98 (24.8 °C)
PH POST	= 7.07 - 10.01

METER ID

PH/COND	= 61
TURB	= 20
" STD	= 6.06 NTUs
" ROG	= 6.17 NTUs
" LOT	= 91017
" EXP	= 8.31-21

BUFFERS

7	4002691 9/21
10	4401656 7/22

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
21080907 20	VOA 8260 LL	ICE/HCL	(3) 40 mL VIMS	ALS
—— 0721	" " (FB)	"	" "	"
21080907 22	LOW LEVEL NH4	ICE	(1) 1 L AMBER	SWRI
—— 0723	" " (FB)	"	" "	"

Continued from page

Read and Understood By

Richard Mirabal Signed 9 AUG 21 Date

Jon Munch Signed 8-10-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 9 AUG 21 Page 1 of 1

Sample Location: Well K

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: E260 LL	E260 LL (FB)	LL NDMA	LL NDMA (FB)				Charge Number
										XGMD
210E090720	3	A	X							
" 0721	3	A		X						
" 0722	1	A			X					
" 0723	1	A				X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	9 AUG 21 / 0800		[signature]	8-9-21 / 0910

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

OJECT NEW M WJC GW 0012

Notebook No. DW # 8

Continued from page _____

N. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLOUDY & WARM. ARRAY G-5 IN USE.

ARAMETERS
INCE = 0725 HRS
H = 7.24
EMP = 24.3°C
ND = 1073 us/cm
ND = .38 mMS
H PRE = 7.08 - 10.25 (21.9°C)
H POST = 7.05 - 10.22

METER ID
PH/COND = 61
TURB = 20
" STD = 6.06 mMS
" RBG = 5.29 mMS
" LOT = 9/017
" EXP = 8-31-21

BUFFERS
7 4/0026911 9/21
10 4/0/6536 7/22

SAMPLES

MPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
2/08/10 0735	VOA 8260 LL	ICE/HCL	(3) 40ml VIAL	ALS
— 0736	" " (EB)	"	" "	"
2/08/10 0737	LOW LEVEL NNMA	ICE	(1) 1L AMBER	SWRI
— 0738	" " (EB)	"	" "	"

Continued from page

Read and Understood By

Richard Mirabal
Signed

10 Aug 21
Date

Jon Munch
Signed

8-10-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10 Aug 21 Page 1 of 1

Sample Location: Well M

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL CFB	NDMA LL	NDMA LL CFB				Charge Number
2108100735	3	A	X							
" 0736	3	A		X						
" 0737	1	A			X					
" 0738	1	A				X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
M Karson	10 Aug 21 / 0820		[signature]	8-10-21 / 1000

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

PROJECT WELL K WJ1 ENV 0012

Notebook No. DW #8

Continued from page _____

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & WARM.
CARBOY G-1 IN USE.

PARAMETERS

TIME = 1315 HRS
PH = 8.00
TEMP = 29.6 c
COND = 1045 us/cm
TURB = .27 NTUS
PH PRE = 7.05-10.15 (28.2 c)
PH POST = 7.05-10.12

METER ID

PH/COND = #21
TURB = #61
" STD = 10.1 NTUS
" RDG = 9.96 NTUS
" LOT = 91017
" EXP = 9-30-21

BUFFERS

7 4007947 R/21
10 4101613 7/22

SAMPLE #	ANALYSIS	SAMPLES PRESERVE	CONTAINERS	LAB
21 09 13 1320	VOA 8260 LL	ICE/HCL	(3) 40ml VIALS	ALS
—— 1321	" " (FB)	"	" "	"
21 09 13 1322	LOW LEVEL NDMA	ICE	(1) LITER	SAN 21
—— 1323	" " (FB)	"	" "	"

Continued from page

Read and Understood By

Richard MacGel
Signed

13 SEPT 21
Date

Lori Munch
Signed

9-14-21
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 13 SEPT 21 Page 1 of 1

Sample Location: Well K

Analytical Requirement: 8260 LL | 8260 LL (CAS) | NMMA LL | NMMA LL (FRS)

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (CAS)	NMMA LL	NMMA LL (FRS)				Charge Number
2109131320	3	A	X							
" 1321	3	A		X						
" 1322	1	A			X					
" 1323	1	A				X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MICHAEL	13 SEPT 21 / 1330			9-14-21 / 0900

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. Gracen, R. Mcrae present. Weather is clear & warm.
Carboy G-1 in use.

PARAMETERS

TIME = 0710 hrs
PH = 8.61
TEMP = 22.9°C
COND = 1040 µs/cm
TURB = .64 NTUs
7H PRE = 7.05-10.15 (17.0;)
7H POST = 7.05-10.15

METER ID

PH/COND = 21
TURB = 61
" STD = 10.1 NTUs
" RNG = 9.62 NTUs
" LOT = 91017
" EXP = 9-30-21

BUFFERS

7 4007147 12/2
10 4101613 7/21

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
210914 0650	VOA 8260LL (TB)	ICE/HCL	(3) 40mL Vials	ALS
—— 0651	LOW LEVEL NDMA (FB)	ICE	(1) 1L AMBER	SWRI
210914 0715	VOA 8260LL	ICE/HCL	(3) 40mL Vials	ALS
—— 0716	" " " (FB)	"	" "	"
210914 0717	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0718	" " " (FB)	"	" "	"

Continued from page

Read and Understood By

Richard M. Gracen — Signed — 14 SEPT 21 — Date
Jon Munch — Signed — 9-14-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 14 SEPT 21 Page 1 of 1

Sample Location: Wall M

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	E260 LL (FB)	NDMA LL (TB)	E260 LL	E260 LL (FB)	NDMA LL	NDMA LL (FB)		Charge Number
210914 0650	3	A	X							
" 0651	1	A		X						
" 0715	3	A			X					
" 0716	3	A				X				
" 0717	1	A					X			
" 0719	1	A						X		

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time		Accepted by:	Date / Time
MICHAEL	14 SEPT 21 / 0800		[signature]	9-15-21 / 0920

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. Garcia & T. Kondy present. Weather is windy & cool. Carboy -62

Parameters	
Time	= 211012 0825
PH	= 7.05
Temp	= 20.4°c
Cond	= 1021 us/cm
Turb	= 1.19 ntu's
PH Pre	= 7.00 - 10.02 (15.5°C)
PH Post	= 7.00 - 10.01

Meter ID	
PH/Cond	= #60
Turb	= #6
" STD	= 2.97 ntu's
" RDG	= 3.15 ntu's
" Lot	= 91017
" EXP	= 10/31/21

Buffers	EXP
7 - 4002691	12/21
10 - 4101613	7/22

Samples

Sample	Analysis	Preservative	Container	Lab
211012 0830	VOA 8260LL	ICE/HCL	(3) 40mL vials	ALS
—— 0831	" (FB)	"	"	"
—— 0832	Low Level NDMA	ICE	(1) 1L Amber	SWRI
—— 0833	" (FB)	"	"	"

Continued from page

Read and Understood By

Signed 10/12/21 Date

Signed 10-12-21 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 10/12/21 Page 1 of 1

Sample Location: well K

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA 8260LL	L.L UDMA						Charge Number
										XGMD
2110120830	3	A	X							
0831 (FB)	3		X							
0832	1			X						
0833 (FB)	1			X						

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Matt	10/12/21 0915			10-12-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

OJECT WELL M NJI EBW 0012

Notebook No. DW #8

Continued from page _____

I. GARCIA, R. MIKASAL PRESENT. WEATHER IS CLEAR & COOL. CAREBOY -3 IN USE.

ARAMETERS

TIME = 0920 HRS
PH = 7.68
TEMP = 23.5°C
COND = 1175 uS/cm
ORP = .39 mVOLTS
PRE = 7.02-1014 (22.9°C)
POST = 7.02-10.15

METER ID

PH/COND = 61
TURB = 7
" SYD = 46.7 NTUs
" RDO = 44.6 mVOLTS
" LOT = 91017
" EXP = 10/31/21

BUFFERS

7 400794 12/21
10 410613 7/22

SAMPLES

AMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
21/019 0930	VOA 8260 LL	ICE/HCL	(3) 40mL VIALS	ALS
—— 0931	" " " (FB)	"	" "	"
21/0 19 0932	LOW LEVEL NDMA	ICE	(1) 1L AMBER	SWRI
—— 0933	" " " (FB)	"	" "	~~ALS~~ SWRI

Continued from page

Read and Understood By

Richard Mikasal — Signed
19 OCT 21 — Date
Jon Munch — Signed
10-19-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 19 OCT 21 | Page 1 of 1

Sample Location: Well M

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (FS)	LL NDMA	LL NDMA (FS)				Charge Number
2110190930	3	A	X							
" 0931	3	A		X						
" 0932	1	A			X					
" 0933	1	A				X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MIRABAL	19 OCT 21 / 1000		[signature]	10-20-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. GARCIA, R. MIRABAL PRESENT. WEATHER IS CLEAR & COOL. CARBOY G-I IN USE.

PARAMETERS
TIME = 0825 HRS
PH = 8.64
TEMP = 22.3°C
COND = 1047 us/cm
TURB = 2.25 NTUS
PH PRE = 7.05 - 10.02 (17.4°C)
PH POST = " "

METER ID
PH/COND = 11
TURB = 20
" STD = 4.62 NTUS
" RDG = 5.01 NTUS
" LOT = 200445
" EXP = 11-30-21

BUFFERS
7 4007847 7/2
10 4101613 7/2

SAMPLES

SAMPLE #	ANALYSIS	PRESERVE	CONTAINERS	LAB
21110800830	VOA 8260 LL	ICE/HCL	(3) 40 ml VIALS	ALS
—— 0832	" " (CB)	"	" "	"
21110800833	LOW LEVEL NOMA	ICE	(1) 1L AMBER	SWRI
—— 0834	" " " (CB)	"	" "	"

Continued from page

Read and Understood By

Richard Mirabal — Signed
8 Nov 21 — Date
Lori Munch — Signed
11-8-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8 Nov 21 Page 1 of 1

Sample Location: WELL K

Analytical Requirement: E260 LL | E260 LL (08) | NDMA LL | NDMA LL (14)

Sample Number	# of Containers	Sample Matrix*	E260 LL	E260 LL (08)	NDMA LL	NDMA LL (14)				Charge Number
										X6MD
211108 0830	3	A	X							
" 0831	3	A		X						
" 0832	1	A			X					
" 0833	1	A				X				

Sample Location:

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
MINABAL	8 NOV 21 / 0900		[signature]	11-8-21 / 0915

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

M. Garcia & R. Miraball present. Weather is clear & cool.

Parameters		Meter I.D.		Buffers	
Time	= 0840hrs	PH/cond	= #61	7 - 4002691	12/21
PH	= 7.65	Turb	= #8	10 - 4101613	7/22
Temp	= 23.5°C	" SID	= 53.6 NTU's		
Cond	= 1224 us/cm	" RDG	= 52.2 NTU's		
Turb	= .21 NTU's	" Lot	= 200445		
PH Pre	= 7.00 - 10.10 (12.5°C)	" Exp	= 11-30-21		
PH Post	= 6.98 - 10.09				

Samples

Sample	Analysis	Presev.	Container	Lab
211102 0845	VOA 8260 LL	Ice/HCL	(3) 40 ML Vials	ALS
—— 0846	" (FB)	"	"	"
—— 0847	Low Level VOMA	Ice	(1) 1L Amber	SRI
—— 0848	" (FB)	"	"	"

Continued from page

Read and Understood By

Richard Miraball — Signed — 2 Nov 21 — Date

Jon Munck — Signed — 11-3-21 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 2 Nov 21 Page 1 of 1

Sample Location: WSTF M

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	8260 LL (FB)	NDMA LL	NDMA LL (FB)				Charge Number
211020845	3	A	X							
" 0846	3	A		X						
" 0847	1	A			X					
" 0848	1	A				X				

Sample Location:

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
R Mirabal	2 Nov 21 / 1000			11-3-21 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Appendix C
Chemical Analytical Program
(Internal QA reports)

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility Groundwater Monitoring Data

August 2021

NM 8800019434

Report Submitted: January 25, 2022

Report Prepared by:
Carlyn A. Tufts
Environmental Scientist
Navarro Research and Engineering, Inc.

1.0 Introduction

The WSTF Groundwater Monitoring Plan (GMP) requires the preparation of a periodic report to assess the quality of groundwater analytical data reported. The monthly Quality Assurance Report (QAR) prepared and reviewed by responsible environmental contractor data management personnel provides the following information:

- A summary of notable anomalies and a follow-up on previous anomalies, if necessary.
- A summary of notable data quality issues by analytical method, if any.
- A list of the sample events for which groundwater samples were collected in August 2021.
- The quantity and type of quality control samples collected or prepared in August 2021.
- Definitions of data qualifiers used in WSTF analytical data reporting.
- The quantity and type of data qualifiers applied to individual analytical results.
- A list of quality assurance narratives for the month arranged by analytical method.
- A summary table of detections in equipment blank, field blank, and trip blank samples.

2.0 Data Quality

2.1 Notable Anomalies Identified in Previous Quality Assurance Reports

There were no notable anomalies requiring follow-up associated with previous QARs.

2.2 Notable Anomalies

There were no notable anomalies in the groundwater data associated with the August 2021 QAR.

3.0 Data Tables

Table 1 summarizes the groundwater sample events initiated in August 2021. This report is based on data quality issues related to the sample events listed in Table 1. Tables 2 through 8 contain information related to the sample events identified in Table 1. As specified by the GMP, specific quality control samples are utilized to assess the quality of analytical data. Table 2 presents the quantity of quality control samples collected for each analytical method. Table 3 compares the quality control sample percentages collected to the requirements in the GMP. When data quality criteria are not met, data qualifiers are applied to the data. Definitions of data qualifiers used for WSTF chemical analytical data are listed in Table 4. Table 5 and Table 6 present the total number of individual result records and summarize the quantity of field and laboratory data qualifiers assigned to individual analyte result records in the WSTF analytical database. Table 7 provides all quality assurance narratives associated with the sample events in Table 1. Narratives associated with qualified data are identified by **bold text** in Table 7. Table 8 provides a summary of all detections in WSTF blank samples.

Table 1 – Sample Events for August 2021

Well ID	Event Date
400-EV-131	8/2/2021
400-JV-150	8/2/2021
ST-4-589	8/2/2021
ST-5-655	8/2/2021
ST-5-985	8/2/2021
400-GV-125	8/3/2021
BLM-23-431	8/3/2021
BLM-25-455	8/3/2021
PL-12-800	8/3/2021
ST-5-815	8/3/2021
PL-12-570	8/4/2021
ST-5-1175	8/4/2021
ST-5-485	8/4/2021
BLM-21-400	8/5/2021
PL-7-560	8/5/2021
BLM-32-543	8/9/2021
BLM-32-571	8/9/2021
BLM-32-632	8/9/2021
NASA 3	8/9/2021
PL-7-480	8/10/2021
200-H-331	8/11/2021

Well ID	Event Date
200-H-433	8/11/2021
200-H-225	8/12/2021
400-D-355	8/12/2021
B650-EFF-1	8/12/2021
B650-INF-1	8/12/2021
B655-EFF-2	8/12/2021
B655-INF-2	8/12/2021

Well ID	Event Date
400-D-195	8/16/2021
400-D-275	8/16/2021
MPE-1	8/16/2021
MPE-10	8/16/2021
MPE-11	8/16/2021
MPE-8	8/16/2021
MPE-9	8/16/2021

Well ID	Event Date
WB-5-345	8/17/2021
700-E-458	8/18/2021
WB-5-280	8/18/2021
WB-5-250	8/19/2021
WB-14-520	8/23/2021

Table 2 - Quantity of Quality Control Samples

Method	Samples	Field Blanks	Equip Blanks	Trip Blanks	Blind Controls	Duplicates	Matrix Spikes
Nitrate plus Nitrite as N by EPA Method 353.2	**15**	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**36**	**1**	**1**	0	**1**	**4**	**1**
Perchlorate by SW-846 Method 6850	**16**	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0
Pesticides by SW-846 Method 8081	**1**	0	0	0	0	0	0
PCBs by SW-846 Method 8082	**1**	0	0	0	0	0	0
Herbicides by SW-846 Method 8151	**1**	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**25**	**19**	**6**	**2**	**1**	**4**	0
Low Level Volatile Organics by SW-846 Method 8260C	**15**	**4**	**11**	**7**	0	0	**1**
Semi-Volatile Organics by SW-846 Method 8270D	**5**	0	0	0	0	0	0
Dioxins/Furans by SW-846 Method 8290	**1**	0	0	0	0	0	0
Cyanide by SW-846 Method 9012B	**1**	0	0	0	0	0	0
Sulfide by SW-846 Method 9034	**1**	0	0	0	0	0	0
Phenolics by SW-846 Method 9066	**1**	0	0	0	0	0	0
Anions by Various EPA Methods	**16**	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**24**	**1**	**2**	0	**1**	**2**	0
Nitrosamines by Low-Level Method	**18**	**11**	**7**	**7**	**1**	**2**	0
Total Dissolved Solids by Standard Method 2540C	**15**	0	0	0	0	0	0

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement %	Samp. Qty. since 9/1/2020	QC Qty. since 9/1/2020	QC % since 9/1/2020	Sample Quantity August 2021	QC Quantity August 2021	QC % August 2021
VOA Duplicates	10	527	56	**11**	40	4	10
VOA Matrix Spikes	2	527	12	**2**	40	1	2
607 Duplicates	10	330	34	**10**	36	4	11
607 Matrix Spikes	2	330	8	**2**	36	1	3
607 Equipment Blanks	2	330	10	**3**	36	1	3
607 Field Blanks	2	330	10	**3**	36	1	3
NDMA_LL Duplicates	10	311	36	**12**	18	2	11
NDMA_LL Matrix Spikes	2	311	9	**3**	18	0	0
Metals Duplicates	10	216	22	**10**	24	2	8
Metals Matrix Spikes	2	216	6	**3**	24	0	0
Metals Equipment Blanks	5	216	12	**6**	24	2	8
Metals Field Blanks	5	216	12	**6**	24	1	4

Quality Control Requirement	Requirement %	Sample Events since 9/1/2020	QC Qty. since 9/1/2020	QC % since 9/1/2020	Sample Events August 2021	QC Quantity August 2021	QC % August 2021
VOA Equipment Blanks and Field Blanks	*Should approach 100%*	527	527	**100%**	40	40	100%
Low Level Nitrosamine Equipment Blanks and Field Blanks	*Should approach 100%*	311	311	**100%**	18	18	100%

Quality Control Requirement	Requirement %	Shipments since 9/1/2020	TB Qty. since 9/1/2020	TB % since 9/1/2020	Shipments in August 2021	TB Quantity August 2021	QC % August 2021
VOA Trip Blank (per shipment)	*Should approach 100%*	101	101	**100%**	8	8	100%
Low Level Nitrosamine Trip Blank (per shipment)	*Should approach 100%*	95	95	**100%**	7	7	100%

Table 4 - Definitions of Data Qualifiers

Qualifier	Definition
*	User defined qualifier. See quality assurance narrative.
A	The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
AD	Relative percent difference for analyst (laboratory) duplicates was outside standard limits.
D	The reported result is from a dilution.
EB	The analyte was detected in the equipment blank.
FB	The analyte was detected in the field blank.
G	The result is an estimated value greater than the upper calibration limit.
i	The result, quantitation limit, and/or detection limit may have been affected by matrix interference.
J	The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NA	The value/result was either not analyzed for or not applicable.
ND	The analyte was not detected above the detection limit.
Q	The result for a blind control sample was outside standard limits.
QD	The relative percent difference for a field duplicate was outside standard limits.
R	The result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RB	The analyte was detected in the method blank.
S	The result was determined by the method of standard addition.
SP	The matrix spike recovery and/or the relative percent difference for matrix spike duplicates was outside standard limits.
T	The sample was analyzed outside the specified holding time or temperature.
TB	The analyte was detected in the trip blank.
TIC	The analyte was tentatively identified by a GC/MS library search and the amount reported is an estimated value.

Table 5 - Quantity of Field Based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Nitrate plus Nitrite as N by EPA Method 353.2	**15**	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**120**	0	0	0	0	0	0	0
Perchlorate by SW-846 Method 6850	**16**	0	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0	0
Pesticides by SW-846 Method 8081	**21**	0	0	0	0	0	0	0

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
PCBs by SW-846 Method 8082	**7**	0	0	0	0	0	0	0
Herbicides by SW-846 Method 8151	**6**	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**1900**	**11**	0	0	**8**	0	0	0
Low Level Volatile Organics by SW-846 Method 8260C	**975**	**1**	**2**	**2**	0	0	0	0
Semi-Volatile Organics by SW-846 Method 8270D	**611**	0	0	0	0	0	0	0
Dioxins/Furans by SW-846 Method 8290	**25**	0	0	0	0	0	0	0
Cyanide by SW-846 Method 9012B	**1**	0	0	0	0	0	0	0
Sulfide by SW-846 Method 9034	**1**	0	0	0	0	0	0	0
Phenolics by SW-846 Method 9066	**1**	0	0	0	0	0	0	0
Anions by Various EPA Methods	**64**	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**702**	0	**1**	0	0	**4**	0	0
Nitrosamines by Low-Level Method	**40**	**10**	**7**	**3**	**1**	**2**	0	0
Total Dissolved Solids by Standard Method 2540C	**15**	0	0	0	0	0	0	0

Table 6 - Quantity of Laboratory based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"*"	"A"	"AD"	"G"	"RB"	"T"	"D"	"i"	"J"
Nitrate plus Nitrite as N by EPA Method 353.2	**15**	0	0	0	0	0	0	0	0	**3**
Nitrosamines by EPA Method 607	**120**	0	0	0	0	0	0	0	0	**4**
Perchlorate by SW-846 Method 6850	**16**	0	0	0	0	0	0	0	0	**1**
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0	0	0	0
Pesticides by SW-846 Method 8081	**21**	0	0	0	0	0	0	0	0	0
PCBs by SW-846 Method 8082	**7**	0	0	0	0	0	0	0	0	0
Herbicides by SW-846 Method 8151	**6**	0	0	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**1900**	0	**10**	0	0	**10**	0	0	0	**41**
Low Level Volatile Organics by SW-846 Method 8260C	**975**	0	**8**	0	0	**5**	0	0	0	**16**
Semi-Volatile Organics by SW-846 Method 8270D	**611**	0	**6**	0	0	0	0	0	0	0
Dioxins/Furans by SW-846 Method 8290	**25**	0	0	0	0	**3**	0	0	0	**3**
Cyanide by SW-846 Method 9012B	**1**	0	0	0	0	0	0	0	0	0
Sulfide by SW-846 Method 9034	**1**	0	0	0	0	0	0	0	0	0
Phenolics by SW-846 Method 9066	**1**	0	0	0	0	0	0	0	0	0
Anions by Various EPA Methods	**64**	0	0	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**702**	0	0	0	0	0	0	0	0	**119**
Nitrosamines by Low-Level Method	**40**	**4**	**4**	0	0	**5**	0	0	**1**	**4**
Total Dissolved Solids by Standard Method 2540C	**15**	0	0	0	0	0	0	0	0	0

Table 7 – Quality Assurance Narratives

Well ID	Event Date	SW-846 Method 8260C QA Narratives
NASA 3	8/9/2021	For Low Level SW-846 Method 8260C, 2-butanone (MEK) (0.97 ug/L) was detected in the field blank (2108090951C) below the reporting limit. No groundwater data are affected by this field blank contamination.
B655-EFF-2	**8/12/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (3.7 ug/L) and chloromethane (0.42 ng/L) were detected in the field blank (2108121006) below the reporting limit. Affected data are appropriately qualified.**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
WB-14-520	**8/23/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (3.8 ug/L) and chloromethane (0.29 ug/L) were detected in the trip blank (2108230730Y) below the reporting limit. Affected data are appropriately qualified.**
400-D-195	**8/16/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (5.1 ug/L) was detected below the reporting limit and two unknown compounds were tentatively identified by a GC.MS library search in the equipment blank (2108161520Y). Affected data are appropriately qualified.**
400-D-355	**8/12/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (9.6 ug/L) and chloromethane (0.59 ug/L) were detected in the equipment blank (2108121430Y) below the reporting limit for 2-propanol only. Affected data are appropriately qualified.**
ST-5-1175	8/4/2021	For Low Level SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-5-485	**8/4/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. Affected data are appropriately qualified.**
ST-5-815	**8/3/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. Affected data are appropriately qualified.**
ST-5-985	8/2/2021	For Low Level SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-D-275	8/16/2021	For Low Level SW-846 Method 8260C, chloromethane (0.35 ug/L) was detected in the trip blank (2108160800Y) below the reporting limit. No groundwater data are affected by this trip blank contamination.
400-D-275	8/16/2021	For Low Level SW-846 Method 8260C, chloromethane (0.35 ug/L) was detected in the equipment blank (2108160930Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, chloromethane (0.38 ug/L) was detected in the trip blank (2108120900) below the reporting limit. No groundwater data are affected by this trip blank contamination.
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, chloromethane (0.43 ug/L) was detected in the field blank (2108161336) below the reporting limit. No groundwater data are affected by this field blank contamination.
400-D-195	**8/16/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. Affected data are appropriately qualified.**
400-D-275	8/16/2021	For Low Level SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. No groundwater data are affected by this method blank contamination.
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-D-355	**8/12/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.68 ug/L) was detected in the method blank for analytical batch 735951 below the reporting limit. Affected data are appropriately qualified.**
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, chloromethane (0.68 ug/L) was detected in the method blank for analytical batch 735951 below the reporting limit. No groundwater data are affected by this method blank contamination.
B655-EFF-2	**8/12/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.68 ug/L) was detected in the method blank for analytical batch 735951 below the reporting limit. Affected data are appropriately qualified.**
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, due to a sample numbering error, the original effluent sample and field blank collected 8/12/2021 were discarded and a replacement sample and field blank were collected 8/16/2021.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
400-D-355	8/12/2021	For Low Level SW-846 Method 8260C, matrix spike recoveries for sample 2108121526Y were within laboratory control limits.
400-D-195	**8/16/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one analyte. There were no detections of the analyte in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples was performed and is reported on another analytical run. The analyte affected is flagged in the LCS Summary. Affected data are appropriately qualified.**
400-D-275	**8/16/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one analyte. There were no detections of the analyte in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples was performed and is reported on another analytical run. The analyte affected is flagged in the LCS Summary. Affected data are appropriately qualified.**
B650-EFF-1	**8/12/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one analyte. There were no detections of the analyte in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples was performed and is reported on another analytical run. The analyte affected is flagged in the LCS Summary. Affected data are appropriately qualified.**
400-D-195	8/16/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-D-275	8/16/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-D-355	8/12/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B655-EFF-2	8/12/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-7-480	8/10/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-5-1175	8/4/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-5-485	8/4/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-5-815	8/3/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-5-985	8/2/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WB-14-520	8/23/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-D-195	**8/16/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS).There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.Affected data below the reporting limit are appropriately qualified.**
400-D-275	**8/16/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS).There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.Affected data below the reporting limit are appropriately qualified.**
400-D-355	**8/12/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
B650-EFF-1	**8/12/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
B655-EFF-2	8/12/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-4-589	8/2/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-5-1175	8/4/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-5-485	**8/4/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples above the reporting limit. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
ST-5-655	8/2/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-5-815	**8/3/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples above the reporting limit. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
ST-5-985	8/2/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WB-14-520	**8/23/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS).There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit is appropriately qualified.**
400-D-195	8/16/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-D-275	8/16/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-D-355	8/12/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
B650-EFF-1	8/12/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
B655-EFF-2	8/12/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-7-480	8/10/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-4-589	8/2/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-5-1175	8/4/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-5-485	8/4/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-5-655	8/2/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-5-815	8/3/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-5-985	8/2/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WB-14-520	8/23/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 3	8/9/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
PL-7-480	8/10/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
PL-7-480	8/10/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-7-560	8/5/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-7-560	8/5/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-4-589	8/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-4-589	8/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-5-1175	8/4/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-5-485	8/4/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-5-655	8/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-5-815	8/3/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-5-985	8/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
WB-14-520	8/23/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
BLM-23-431	**8/3/2021**	**For SW-846 Method 8260C in blind control sample (2108031426C), the percent recoveries for 1,1,2-trichloro-1,2,2-trifluoroethane (184%), trichloroethene (152%), tetrachloroethene (138%), and trichlorofluoromethane (166%) were outside of the**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		standard limits (75-125%). Additionally, 1,1-dichloroethene (0.4 ug/L) and vinyl chloride (0.31 ug/L) were detected below the reporting limit but none was added. Affected data are appropriately qualified.
200-H-225	8/12/2021	For SW-846 Method 8260C, 2-propanol (11 ug/L), chloromethane (0.28 ug/L), and tetrachloroethene (PCE) (0.27 ug/L) were detected in the equipment blank (2108120850Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
WB-5-280	8/18/2021	For SW-846 Method 8260C, 2-propanol (12 ug/L) was detected in the equipment blank (2108181340Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
700-E-458	8/18/2021	For SW-846 Method 8260C, 2-propanol (14 ug/L) was detected in the field blank (2108180926C) below the reporting limit. No groundwater data are affected by this field blank contamination.
MPE-10	8/16/2021	For SW-846 Method 8260C, 2-propanol (4.6 ug/L) was detected in the field blank (2108161221) below the reporting limit. No groundwater data are affected by this field blank contamination.
400-JV-150	**8/2/2021**	**For SW-846 Method 8260C, 2-propanol (6.0 ug/L) and chloromethane (0.35 ug/L) were detected below the reporting limit and one unknown compound (7.2 ug/L) was tentatively identified by a GC/MS library search in the field blank (2108021419C). Affected data are appropriately qualified.**
PL-12-570	**8/4/2021**	**For SW-846 Method 8260C, 2-propanol (7.2 ug/L) and chloromethane (0.3 ug/L) were detected below the reporting limit and silane, methoxytrimethyl- (8.3 ug/L) and one unknown compound (7.3 ug/L) were tentatively identified by a GC/MS library search in the field blank (2108040941C). Affected data are appropriately qualified.**
WB-5-250	**8/19/2021**	**For SW-846 Method 8260C, carbon disulfide (0.65 ug/L) was detected below the reporting limit and sulfur dioxide (26 ug/L) was tentatively identified by a GC/MS library search in the equipment blank (2108191410Y). Affected data are appropriately qualified.**
400-GV-125	**8/3/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. Affected data are appropriately qualified.**
BLM-25-455	**8/3/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. Affected data are appropriately qualified.**
PL-12-570	**8/4/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. Affected data are appropriately qualified.**
PL-12-800	**8/3/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 734632 below the reporting limit. Affected data are appropriately qualified.**
MPE-11	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the field blank (2108161242) below the reporting limit. Affected data are appropriately qualified.**
MPE-9	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.32 ug/L) was detected in the field blank (2108160956) below the reporting limit. Affected data are appropriately qualified.**
PL-12-800	**8/3/2021**	**For SW-846 Method 8260C, chloromethane (0.33 ug/L) was detected in the field blank (2108041436C) below the reporting limit. Affected data are appropriately qualified.**
MPE-1	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.34 ug/L) and tetrahydrofuran (THF) (2.2 ug/L) were detected in the field blank (2108160927) below the reporting limit. Affected data are appropriately qualified.**
BLM-23-431	8/3/2021	For SW-846 Method 8260C, chloromethane (0.34 ug/L) was detected in the method blank for analytical batch 734908 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-EV-131	**8/2/2021**	**For SW-846 Method 8260C, chloromethane (0.38 ug/L) was detected in the field blank (2108021002C) below the reporting limit. Affected data are appropriately qualified.**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-23-431	8/3/2021	For SW-846 Method 8260C, chloromethane (0.38 ug/L) was detected in the field blank (2108031422C) below the reporting limit. No groundwater data are affected by this field blank contamination.
MPE-8	8/16/2021	For SW-846 Method 8260C, chloromethane (0.45 ng/L) was detected in the field blank (2108160946) below the reporting limit. No groundwater data are affected by this field blank contamination.
MPE-1	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. Affected data are appropriately qualified.**
MPE-10	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. Affected data are appropriately qualified.**
MPE-11	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. Affected data are appropriately qualified.**
MPE-8	8/16/2021	For SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. No groundwater data are affected by this method blank contamination.
MPE-9	**8/16/2021**	**For SW-846 Method 8260C, chloromethane (0.58 ug/L) was detected in the method blank for analytical batch 736172 below the reporting limit. Affected data are appropriately qualified.**
400-EV-131	8/2/2021	For SW-846 Method 8260C, field duplicate samples 2108021000C and 2108021001C the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 21.8%. Upper acceptance limit for relative percent difference is 25%.
400-EV-131	8/2/2021	For SW-846 Method 8260C, field duplicate samples 2108021000C and 2108021001C the relative percent difference for trichlorofluoromethane (CFC 11) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, field duplicate samples 2108031420C and 2108031421C the relative percent difference for dichlorofluoromethane (CFC 21) was 1.4%. Upper acceptance limit for relative percent difference is 25%.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, field duplicate samples 2108031420C and 2108031421C the relative percent difference for 1,2-dichloro-1,1,2-trifluoroethane (CFC 123a) was 6.9%. Upper acceptance limit for relative percent difference is 25%.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, field duplicate samples 2108031420C and 2108031421C the relative percent difference for trichlorofluoromethane (CFC 11) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, field duplicate samples 2108031420C and 2108031421C the relative percent difference for trichloroethene (TCE) was 3.8%. Upper acceptance limit for relative percent difference is 25%.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, field duplicate samples 2108031420C and 2108031421C the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 0.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108160925 and 2108160926 the relative percent difference for trichloroethene (TCE) was 6.9%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108160925 and 2108160926 the relative percent difference for trichlorofluoromethane (CFC 11) was 6.9%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108160925 and 2108160926 the relative percent difference for tetrachloroethene (PCE) was 9.5%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108160925 and 2108160926 the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 2.8%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
MPE-11	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108161240 and 2108161241 the relative percent difference for trichloroethene (TCE) was 7.2%. Upper acceptance limit for relative percent difference is 25%.
MPE-11	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108161240 and 2108161241 the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 18.2%. Upper acceptance limit for relative percent difference is 25%.
MPE-11	8/16/2021	For SW-846 Method 8260C, field duplicate samples 2108161240 and 2108161241 the relative percent difference for trichlorofluoromethane (CFC 11) was 13.3%. Upper acceptance limit for relative percent difference is 25%.
200-H-433	**8/11/2021**	**For SW-846 Method 8260C, silane, fluorotrimethyl- (19 ug/L) and silane, methoxytrimethyl- (5.6 ug/L) were tentatively identified by a GC/MS library search in sample 2108111510Y.**
400-EV-131	**8/2/2021**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (13 ug/L) was tentatively identified by a GC/MS library search in sample 2108021001C.**
MPE-1	**8/16/2021**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (6.2 ug/L) and one unknown compound (9.7 ug/L) were tentatively identified by a GC/MS library search in duplicate sample 2108160926.**
PL-12-570	**8/4/2021**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (8.8 ug/L) and two unknown compounds were tentatively identified by a GC/MS library search in sample 2108040940C.**
WB-5-250	**8/19/2021**	**For SW-846 Method 8260C, sulfur dioxide (150 ug/L) and two unknown compounds were tentatively identified by a GC/MS library search in sample 2108191500Y.**
WB-5-345	**8/17/2021**	**For SW-846 Method 8260C, sulfur dioxide (20 ug/L) and one unknown compound (110 ug/L) were tentatively identified by a GC/MS library search in sample 2108180845Y.**
WB-5-280	**8/18/2021**	**For SW-846 Method 8260C, sulfur dioxide (77 ug/L) and one unknown compound (20 ug/L) were tentatively identified by a GC/MS library search in sample 2108191305Y.**
200-H-225	8/12/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
200-H-331	8/11/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
200-H-433	8/11/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-EV-131	8/2/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-GV-125	8/3/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-JV-150	8/2/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-E-458	8/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
B650-INF-1	8/12/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B655-INF-2	8/12/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-21-400	8/5/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-25-455	8/3/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-12-570	8/4/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-12-800	8/3/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WB-5-250	8/19/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WB-5-280	8/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WB-5-345	8/17/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-EV-131	8/2/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
400-GV-125	**8/3/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples above the reporting limit. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
400-JV-150	8/2/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
700-E-458	8/18/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-25-455	**8/3/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples above the reporting limit. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
MPE-1	**8/16/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
MPE-10	**8/16/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
MPE-11	**8/16/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
MPE-8	**8/16/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
MPE-9	**8/16/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
PL-12-570	**8/4/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples above the reporting limit. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
PL-12-800	**8/3/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples above the reporting limit. The error associated with elevated recovery equates to a high bias. The sample data is not**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.
WB-5-250	8/19/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WB-5-280	8/18/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WB-5-345	8/17/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
400-EV-131	8/2/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-GV-125	8/3/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-JV-150	8/2/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
700-E-458	8/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-23-431	8/3/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-25-455	8/3/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
MPE-1	8/16/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
MPE-10	8/16/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		(MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
MPE-11	8/16/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
MPE-8	8/16/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
MPE-9	8/16/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-12-570	8/4/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-12-800	8/3/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WB-5-250	8/19/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WB-5-280	8/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WB-5-345	8/17/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
200-H-331	8/11/2021	For SW-846 Method 8260C, there were no detections in the equipment blank.
200-H-433	8/11/2021	For SW-846 Method 8260C, there were no detections in the equipment blank.
WB-5-345	8/17/2021	For SW-846 Method 8260C, there were no detections in the equipment blank.
400-GV-125	8/3/2021	For SW-846 Method 8260C, there were no detections in the field blank.
B650-INF-1	8/12/2021	For SW-846 Method 8260C, there were no detections in the field blank.
B655-INF-2	8/12/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-21-400	8/5/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-25-455	8/3/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-32-543	8/9/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-32-571	8/9/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-32-632	8/9/2021	For SW-846 Method 8260C, there were no detections in the field blank.
700-E-458	8/18/2021	For SW-846 Method 8260C, there were no detections in the trip blank.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-25-455	8/3/2021	For SW-846 Method 8260C, there were no detections in the trip blank.

Well ID	Event Date	Modified EPA Method 607 QA Narratives
BLM-23-431	8/3/2021	For Modified EPA Method 607 in blind control sample (2108031427C), all recoveries were within standard limits.
400-JV-150	8/2/2021	For Modified EPA Method 607, field duplicate samples 2108021420C and 2108021421C the relative percent difference for bromacil was 0.0%. Upper acceptance limit for relative percent difference is 25%.
400-JV-150	8/2/2021	For Modified EPA Method 607, field duplicate samples 2108021420C and 2108021421C the relative percent difference for N-nitrosodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
400-JV-150	8/2/2021	For Modified EPA Method 607, field duplicate samples 2108021420C and 2108021421C the relative percent difference for N-nitrodimethylamine was 2.2%. Upper acceptance limit for relative percent difference is 25%.
BLM-21-400	8/5/2021	For Modified EPA Method 607, field duplicate samples 2108050855B and 2108050856B the relative percent difference for bromacil was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-21-400	8/5/2021	For Modified EPA Method 607, field duplicate samples 2108050855B and 2108050856B the relative percent difference for N-nitrosodimethylamine was 2.5%. Upper acceptance limit for relative percent difference is 25%.
BLM-21-400	8/5/2021	For Modified EPA Method 607, field duplicate samples 2108050855B and 2108050856B the relative percent difference for N-nitrodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-10	8/16/2021	For Modified EPA Method 607, field duplicate samples 2108161222 and 2108161223 the relative percent difference for N-nitrodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-10	8/16/2021	For Modified EPA Method 607, field duplicate samples 2108161222 and 2108161223 the relative percent difference for bromacil was 2.7%. Upper acceptance limit for relative percent difference is 25%.
MPE-10	8/16/2021	For Modified EPA Method 607, field duplicate samples 2108161222 and 2108161223 the relative percent difference for N-nitrosodimethylamine was 3.4%. Upper acceptance limit for relative percent difference is 25%.
MPE-11	8/16/2021	For Modified EPA Method 607, field duplicate samples 2108161243 and 2108161244 the relative percent difference for N-nitrodimethylamine was 4.7%. Upper acceptance limit for relative percent difference is 25%.
MPE-11	8/16/2021	For Modified EPA Method 607, field duplicate samples 2108161243 and 2108161244 the relative percent difference for N-nitrosodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
ST-4-589	8/2/2021	For Modified EPA Method 607, matrix spike recoveries for sample 2108020938B were within laboratory control limits.
200-H-433	8/11/2021	For Modified EPA Method 607, there were no detections in the equipment blank.
B655-EFF-2	8/12/2021	For Modified EPA Method 607, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
NASA 3	**8/9/2021**	**For Low Level Nitrosamine Method in blind control sample (2108091550C), the percent recovery for N-nitrosodimethylamine (136%) was outside of the standard limits (70-130%). Additionally, N-nitrodimethylamine (2.4 ng/L) was detected but none was added. Affected data are appropriately qualified.**
BLM-32-543	**8/9/2021**	**For Low Level Nitrosamine Method, field duplicate samples 2108091505B and 2108091550B the relative percent difference for N-nitrosodimethylamine was 31.6%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-25-455	8/3/2021	For Low Level Nitrosamine Method, for field blank 2108031005B the recovery of the internal standard NDMA-d6 (8.16%) was outside laboratory control limits (10-100%). No

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
		corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
BLM-32-571	**8/9/2021**	**For Low Level Nitrosamine Method, for sample 2108091510B the recoveries of the internal standards NDMA-d6 (146%) and DMN-d6 (145%) were outside laboratory control limits (10-100%). This is dure to matrix interferences in the sample causing instability in the lock mass. This resulted in suppression of the recovery standard, which is in a different acquisition function than either of the internal standards. As the associated native compounds elute closely to their internal standards in the same function, the effect of this instability is reduced. Affected data are appropriately qualified.**
ST-4-589	**8/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21H04CM1) below the reporting limit. Affected data are appropriately qualified.**
ST-5-655	8/2/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21H04CM1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-5-985	8/2/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21H04CM1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-5-485	**8/4/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.35 ng/L) was detected in the equipment blank (2108040941Y) below the reporting limit. Affected data are appropriately qualified.**
ST-4-589	**8/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.37 ng/L) was detected in the trip blank (2108020751B) below the reporting limit. Affected data are appropriately qualified.**
B650-EFF-1	**8/12/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21H19CM1) below the reporting limit. Affected data are appropriately qualified.**
B655-EFF-2	**8/12/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21H19CM1) below the reporting limit. Affected data are appropriately qualified.**
BLM-25-455	8/3/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the trip blank (2108030741B) below the reporting limit. No groundwater data are affected by this trip blank contamination.
BLM-25-455	8/3/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.41 ng/L) was detected in the field blank (2108031005B) below the reporting limit. No groundwater data are affected by this field blank contamination.
PL-7-560	**8/5/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.43 ng/L) was detected in the equipment blank (2108051331Y) below the reporting limit. Affected data are appropriately qualified.**
ST-5-1175	**8/4/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.43 ng/L) was detected in the equipment blank (2108041401Y) below the reporting limit. Affected data are appropriately qualified.**
PL-7-560	**8/5/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.45 ng/L) was detected in the trip blank (2108051031Y) below the reporting limit. Affected data are appropriately qualified.**
700-E-458	**8/18/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.46 ng/L) was detected in the method blank (PB21H23HE1) below the reporting limit. Affected data are appropriately qualified.**
PL-12-570	**8/4/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.49 ng/L) was detected in the field blank (2108040944C). Affected data are appropriately qualified.**
PL-7-480	**8/10/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.1 ng/L) was detected in the equipment blank (2108100831Y). Affected data are appropriately qualified.**
ST-5-985	**8/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (2.4 ng/L) was detected in the equipment blank (2108021531Y). Affected data are appropriately qualified.**

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
700-E-458	**8/18/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108180941C) at 0.63 ng/L. Affected data are appropriately qualified.**
700-E-458	**8/18/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the trip blank (2108180731C) at 0.75 ng/L. Affected data are appropriately qualified.**
B650-EFF-1	**8/12/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108120925) at 0.72 ng/L. Affected data are appropriately qualified.**
B655-EFF-2	**8/12/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108121010) at 0.62 ng/L. Affected data are appropriately qualified.**
BLM-32-543	**8/9/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108091506B) at 0.73 ng/L. Affected data are appropriately qualified.**
NASA 3	**8/9/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108090954C) at 0.53 ng/L. Affected data are appropriately qualified.**
PL-12-800	**8/3/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108041439C) at 0.6 ng/L. Affected data are appropriately qualified.**
ST-4-589	**8/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the field blank (2108020940B) at 0.55 ng/L. Affected data are appropriately qualified.**
ST-5-655	**8/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the equipment blank (2108020901Y) at 2.3 ng/L. Affected data are appropriately qualified.**
ST-5-815	**8/3/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine was detected in the equipment blank (2108031341Y) at 0.93 ng/L. Affected data are appropriately qualified.**
B650-EFF-1	8/12/2021	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2108120923 and 2108120924 were within control limits or below the calculable range.
700-E-458	**8/18/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (59%) for the laboratory control sample (LCS21H23HE1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
700-E-458	**8/18/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (41%) in the laboratory fortified blank (LFB21H23HE1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
B650-EFF-1	**8/12/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (63%) for the laboratory control sample (LCS21H19CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
B650-EFF-1	**8/12/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (48%) in the laboratory fortified blank (LFB21H19CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
B655-EFF-2	**8/12/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (48%) in the laboratory fortified blank (LFB21H19CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
B655-EFF-2	**8/12/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (63%) for the laboratory control sample (LCS21H19CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
B650-EFF-1	8/12/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-32-571	8/9/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-32-632	8/9/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
NASA 3	8/9/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
PL-7-480	8/10/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
BLM-32-543	**8/9/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (2,200 ug/L), seven unknown hydrocarbons, and two unknown compounds were tentatively identified by a GC/MS library search in sample 2108091630B.**

Well ID	Event Date	SW-846 Method 8270D QA Narratives
NASA 3	**8/9/2021**	**For SW-846 Method 8270D, five unknown hydrocarbons and four unknown compounds were tentatively identified by a GC/MS library search in sample 2108090955C.**
BLM-32-543	**8/9/2021**	**For SW-846 Method 8270D, nine unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 385244. Affected data are appropriately qualified.**
NASA 3	**8/9/2021**	**For SW-846 Method 8270D, nine unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 385244. Affected data are appropriately qualified.**
BLM-25-455	**8/3/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. Precision is also outside limits. There were no detections of the analyte(s) in the associated field samples. The LCS/batch MS/MSD are within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
PL-12-570	**8/4/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. Precision is also outside limits. There were no detections of the analyte(s) in the associated field samples. The LCS/batch MS/MSD are within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
PL-12-800	**8/3/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. Precision is also outside limits. There were no detections of the analyte(s) in the associated field samples. The LCS/batch MS/MSD are within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
BLM-32-543	8/9/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
NASA 3	8/9/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-25-455	8/3/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-32-543	8/9/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
NASA 3	8/9/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-12-570	8/4/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-12-800	8/3/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-32-543	8/9/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more surrogates in sample 21080911630B. The elevated recovery equates to a high bias. Since no target analytes were detected in the sample(s), the quality of the sample data is not significantly affected. No further corrective action was appropriate.
BLM-32-543	8/9/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 3	8/9/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-32-543	8/9/2021	For SW-846 Method 8270D,The upper control limit was exceeded for one or more surrogates in one or more samples in this report. The elevated recovery equates to a high bias. Since no target analytes were detected in the sample(s), the quality of the sample data is not significantly affected. No further corrective action was appropriate.

Well ID	Event Date	Total Metals QA Narratives
BLM-23-431	8/3/2021	For Total Metals, blind control sample (2108031428C) was prepared at a concentration below the reporting limits for calcium and boron. The results for these metals are not qualified based on this control.
200-H-331	**8/11/2021**	**For Total Metals, copper (0.006 mg/L), magnesium (0.04 mg/L), nickel (0.005 mg/L), strontium (0.01 mg/L), and zinc (0.021 mg/L) were detected in the equipment blank (2108110821Y) below the reporting limit with the exception of zinc. Affected data are appropriately qualified.**
BLM-32-632	8/9/2021	For Total Metals, field duplicate samples 2108091542B and 2108091615B the relative percent difference for strontium was 0.5%. Upper acceptance limit for relative percent difference is 25%.
BLM-32-632	8/9/2021	For Total Metals, field duplicate samples 2108091542B and 2108091615B the relative percent difference for calcium was 0.7%. Upper acceptance limit for relative percent difference is 25%.
BLM-32-632	8/9/2021	For Total Metals, field duplicate samples 2108091542B and 2108091615B the relative percent difference for magnesium was 0.3%. Upper acceptance limit for relative percent difference is 25%.
BLM-32-632	8/9/2021	For Total Metals, field duplicate samples 2108091542B and 2108091615B the relative percent difference for sodium was 0.3%. Upper acceptance limit for relative percent difference is 25%.
BLM-32-632	**8/9/2021**	**For Total Metals, field duplicate samples 2108091542B and 2108091615B the relative percent difference for zinc was 30.2%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
200-H-331	8/11/2021	For Total Metals, field duplicate samples 2108111005Y and 2108111006Y the relative percent difference for magnesium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
200-H-331	**8/11/2021**	**For Total Metals, field duplicate samples 2108111005Y and 2108111006Y the relative percent difference for zinc was 69.4%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
200-H-331	8/11/2021	For Total Metals, field duplicate samples 2108111005Y and 2108111006Y the relative percent difference for strontium was 0.0%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	Total Metals QA Narratives
200-H-331	8/11/2021	For Total Metals, field duplicate samples 2108111005Y and 2108111006Y the relative percent difference for calcium was 0.7%. Upper acceptance limit for relative percent difference is 25%.
200-H-331	8/11/2021	For Total Metals, field duplicate samples 2108111005Y and 2108111006Y the relative percent difference for sodium was 6.4%. Upper acceptance limit for relative percent difference is 25%.
200-H-225	8/12/2021	For Total Metals, magnesium (0.06 mg/L), strontium (0.01 mg/L), and zinc (0.004 mg/L) were detected in the equipment blank (2108120851Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
700-E-458	8/18/2021	For Total Metals, there were no detections in the field blank.

Well ID	Event Date	Miscellaneous QA Narratives
BLM-25-455	8/3/2021	For SW-846 Method 8015D, gasoline range organics (GRO) (13.0 ug/L) was detected in the method blank for analytical batch 753506 below the reporting limit. No groundwater data are affected by this method blank contamination.
NASA 3	8/9/2021	For SW-846 Method 8081B, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
NASA 3	8/9/2021	For SW-846 Method 8082A, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
NASA 3	8/9/2021	For SW-846 Method 8082A, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 3	8/9/2021	For SW-846 Method 8151A, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken
NASA 3	**8/9/2021**	**For SW-846 Method 8290A, several compounds were detected below the reporting limit in method blank WBLANK_19AUG21. Affected data are appropriately qualified.**

Table 8 – WSTF Blank Sample Detections

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
WB-5-250	8/19/2021	Carboy G2	8260	VOA-EB	7446-09-5	Sulfur Dioxide	26	ug/L	TIC EB
700-E-458	8/18/2021	Carboy G3	8260	VOA-FB	67-63-0	2-Propanol	14	ug/L	J FB
WB-5-280	8/18/2021	Carboy G2	8260	VOA-EB	67-63-0	2-Propanol	12	ug/L	J EB
200-H-225	8/12/2021	Carboy G2	8260	VOA-EB	67-63-0	2-Propanol	11	ug/L	J EB
400-D-355	8/12/2021	Carboy G2	8260_LL	VOA-EB	67-63-0	2-Propanol	9.6	ug/L	J EB
PL-12-570	8/4/2021	Carboy G5	8260	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	8.3	ug/L	TIC FB
PL-12-570	8/4/2021	Carboy G5	8260	VOA-FB	TIC	Unknown	7.3	ug/L	TIC FB
400-JV-150	8/2/2021	Carboy G5	8260	VOA-FB	TIC	Unknown	7.2	ug/L	TIC FB
PL-12-570	8/4/2021	Carboy G5	8260	VOA-FB	67-63-0	2-Propanol	7.2	ug/L	J FB
400-JV-150	8/2/2021	Carboy G5	8260	VOA-FB	67-63-0	2-Propanol	6	ug/L	J FB
400-D-195	8/16/2021	Carboy G2	8260_LL	VOA-EB	TIC	Unknown	5.8	ug/L	TIC EB
400-D-195	8/16/2021	Carboy G2	8260_LL	VOA-EB	TIC	Unknown	5.4	ug/L	TIC EB
400-D-195	8/16/2021	Carboy G2	8260_LL	VOA-EB	67-63-0	2-Propanol	5.1	ug/L	J EB

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
MPE-10	8/16/2021	Carboy G3	8260	VOA-FB	67-63-0	2-Propanol	4.6	ug/L	J FB
WB-14-520	8/23/2021	Carboy G3	8260_LL	VOA-TB	67-63-0	2-Propanol	3.8	ug/L	J TB
B655-EFF-2	8/12/2021		8260_LL	VOA-FB	67-63-0	2-Propanol	3.7	ug/L	J FB
ST-5-985	8/2/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	2.4	ng/L	RB EB
ST-5-655	8/2/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	2.3	ng/L	RB EB
MPE-1	8/16/2021	Carboy G3	8260	VOA-FB	109-99-9	Tetrahydrofuran (THF)	2.2	ug/L	J FB
PL-7-480	8/10/2021	Carboy G2	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	1.1	ng/L	EB
NASA 3	8/9/2021	Carboy G3	8260_LL	VOA-FB	78-93-3	2-Butanone (MEK)	0.97	ug/L	J FB
ST-5-815	8/3/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.93	ng/L	EB
700-E-458	8/18/2021	Carboy G3	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.75	ng/L	RB * A TB FB
BLM-32-543	8/9/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.73	ng/L	FB
B650-EFF-1	8/12/2021	Carboy G3	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.72	ng/L	RB * A TB FB
WB-5-250	8/19/2021	Carboy G2	8260	VOA-EB	75-15-0	Carbon Disulfide	0.65	ug/L	J EB
700-E-458	8/18/2021	Carboy G3	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.63	ng/L	RB * A TB FB
B655-EFF-2	8/12/2021		NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.62	ng/L	RB * A FB
PL-12-800	8/3/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.6	ng/L	FB
400-D-355	8/12/2021	Carboy G2	8260_LL	VOA-EB	74-87-3	Chloromethane	0.59	ug/L	RB A EB
ST-4-589	8/2/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.55	ng/L	RB TB FB
NASA 3	8/9/2021	Carboy G3	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.53	ng/L	FB Q
PL-12-570	8/4/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.49	ng/L	FB
PL-7-560	8/5/2021	Carboy G3	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.45	ng/L	J TB EB
MPE-8	8/16/2021	Carboy G3	8260	VOA-FB	74-87-3	Chloromethane	0.45	ug/L	J RB A FB
ST-5-1175	8/4/2021	Carboy G2	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.43	ng/L	J EB
B650-EFF-1	8/12/2021	Carboy G3	8260_LL	VOA-FB	74-87-3	Chloromethane	0.43	ug/L	J RB A TB FB
PL-7-560	8/5/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.43	ng/L	J TB EB
B655-EFF-2	8/12/2021		8260_LL	VOA-FB	74-87-3	Chloromethane	0.42	ug/L	J RB A FB
BLM-25-455	8/3/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.41	ng/L	J TB FB *
BLM-25-455	8/3/2021	Carboy G2	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.39	ng/L	J TB FB
BLM-23-431	8/3/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.38	ug/L	J RB FB
B650-EFF-1	8/12/2021	Carboy G3	8260_LL	VOA-TB	74-87-3	Chloromethane	0.38	ug/L	J RB A TB FB
400-EV-131	8/2/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.38	ug/L	J FB
ST-4-589	8/2/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.37	ng/L	J RB TB FB
ST-5-485	8/4/2021	Carboy G2	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.35	ng/L	J EB
400-D-275	8/16/2021	Carboy G2	8260_LL	VOA-TB	74-87-3	Chloromethane	0.35	ug/L	J RB A TB EB
400-D-275	8/16/2021	Carboy G2	8260_LL	VOA-EB	74-87-3	Chloromethane	0.35	ug/L	J RB A TB EB
400-JV-150	8/2/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.35	ug/L	J FB
MPE-1	8/16/2021	Carboy G3	8260	VOA-FB	74-87-3	Chloromethane	0.34	ug/L	J RB A FB
PL-12-800	8/3/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.33	ug/L	J RB A FB

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
MPE-9	8/16/2021	Carboy G3	8260	VOA-FB	74-87-3	Chloromethane	0.32	ug/L	J RB A FB
MPE-11	8/16/2021		8260	VOA-FB	74-87-3	Chloromethane	0.31	ug/L	J RB A FB
PL-12-570	8/4/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.3	ug/L	J RB A FB
WB-14-520	8/23/2021	Carboy G3	8260_LL	VOA-TB	74-87-3	Chloromethane	0.29	ug/L	J A TB
200-H-225	8/12/2021	Carboy G2	8260	VOA-EB	74-87-3	Chloromethane	0.28	ug/L	J EB
200-H-225	8/12/2021	Carboy G2	8260	VOA-EB	127-18-4	Tetrachloroethene (PCE)	0.27	ug/L	J EB
200-H-225	8/12/2021	Carboy G2	METALS	METALS-EB	7439-95-4	Magnesium, Total	0.06	mg/L	J EB
200-H-331	8/11/2021	Carboy G2	METALS	METALS-EB	7439-95-4	Magnesium, Total	0.04	mg/L	J EB
200-H-331	8/11/2021	Carboy G2	METALS	METALS-EB	7440-66-6	Zinc, Total	0.021	mg/L	EB
200-H-225	8/12/2021	Carboy G2	METALS	METALS-EB	7440-24-6	Strontium, Total	0.01	mg/L	J EB
200-H-331	8/11/2021	Carboy G2	METALS	METALS-EB	7440-24-6	Strontium, Total	0.01	mg/L	J EB
200-H-331	8/11/2021	Carboy G2	METALS	METALS-EB	7440-50-8	Copper, Total	0.006	mg/L	J EB
200-H-331	8/11/2021	Carboy G2	METALS	METALS-EB	7440-02-0	Nickel, Total	0.005	mg/L	J EB
200-H-225	8/12/2021	Carboy G2	METALS	METALS-EB	7440-66-6	Zinc, Total	0.004	mg/L	J EB

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility Groundwater Monitoring Data

September 2021

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1.0 Introduction

The WSTF Groundwater Monitoring Plan (GMP) requires the preparation of a periodic report to assess the quality of groundwater analytical data reported. The monthly Quality Assurance Report (QAR) prepared and reviewed by responsible environmental contractor data management personnel provides the following information:

- A summary of notable anomalies and a follow-up on previous anomalies, if necessary.
- A summary of notable data quality issues by analytical method, if any.
- A list of the sample events for which groundwater samples were collected in September 2021.
- The quantity and type of quality control samples collected or prepared in September 2021.
- Definitions of data qualifiers used in WSTF analytical data reporting.
- The quantity and type of data qualifiers applied to individual analytical results.
- A list of quality assurance narratives for the month arranged by analytical method.
- A summary table of detections in equipment blank, field blank, and trip blank samples.

2.0 Data Quality

2.1 Notable Anomalies Identified in Previous Quality Assurance Reports

There were no notable anomalies requiring follow-up associated with previous QARs.

2.2 Notable Anomalies

There were no notable anomalies in the groundwater data associated with the September 2021 QAR.

3.0 Data Tables

Table 1 summarizes the groundwater sample events initiated in September 2021. This report is based on data quality issues related to the sample events listed in Table 1. Tables 2 through 8 contain information related to the sample events identified in Table 1. As specified by the GMP, specific quality control samples are utilized to assess the quality of analytical data. Table 2 presents the quantity of quality control samples collected for each analytical method. Table 3 compares the quality control sample percentages collected to the requirements in the GMP. When data quality criteria are not met, data qualifiers are applied to the data. Definitions of data qualifiers used for WSTF chemical analytical data are listed in Table 4. Table 5 and Table 6 present the total number of individual result records and summarize the quantity of field and laboratory data qualifiers assigned to individual analyte result records in the WSTF analytical database. Table 7 provides all quality assurance narratives associated with the sample events in Table 1. Narratives associated with qualified data are identified by **bold text** in Table 7. Table 8 provides a summary of all detections in WSTF blank samples.

Table 1 – Sample Events for September 2021

Well ID	Event Date
BLM-7-509	9/1/2021
WW-1-452	9/1/2021
WW-3-469	9/1/2021
WW-3-569	9/1/2021
BLM-9-419	9/2/2021
PL-8-455	9/2/2021
PL-8-605	9/2/2021

Well ID	Event Date
ST-4-481	9/2/2021
ST-4-690	9/2/2021
200-SG-1	9/7/2021
BLM-42-569	9/7/2021
BLM-42-709	9/7/2021
WW-2-489	9/8/2021
WW-2-664	9/8/2021

Well ID	Event Date
BW-1-268	9/9/2021
300-A-120	9/13/2021
B655-EFF-2	9/13/2021
B655-INF-2	9/13/2021
PL-11-470	9/13/2021
PL-11-530	9/13/2021
200-KV-150	9/14/2021

Well ID	Event Date
PL-11-710	9/14/2021
PL-11-820	9/14/2021
PL-11-980	9/14/2021
PL-2-504	9/14/2021
PL-4-464	9/14/2021
NASA 10	9/15/2021
NASA 5	9/15/2021
ST-6-528	9/15/2021
ST-6-568	9/15/2021

Well ID	Event Date
300-D-153	9/16/2021
ST-6-678	9/16/2021
ST-6-824	9/16/2021
ST-6-970	9/16/2021
200-JG-110	9/20/2021
BLM-5-527	9/20/2021
BW-6-355	9/20/2021
B650-EFF-1	9/27/2021
B650-INF-1	9/27/2021

Well ID	Event Date
700-D-186	9/28/2021
700-H-350	9/28/2021
700-J-200	9/28/2021
700-A-253	9/29/2021
700-H-535	9/29/2021
700-H-670	9/29/2021
PFE-1	9/30/2021

Table 2 - Quantity of Quality Control Samples

Method	Samples	Field Blanks	Equip Blanks	Trip Blanks	Blind Controls	Duplicates	Matrix Spikes
Nitrate plus Nitrite as N by EPA Method 353.2	**9**	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**36**	**1**	**1**	0	**1**	**4**	**1**
Perchlorate by SW-846 Method 6850	**13**	0	0	0	0	0	0
Pesticides by SW-846 Method 8081	**2**	0	0	0	0	0	0
PCBs by SW-846 Method 8082	**2**	0	0	0	0	0	0
Herbicides by SW-846 Method 8151	**2**	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**21**	**18**	**3**	**2**	**1**	**5**	**1**
Low Level Volatile Organics by SW-846 Method 8260C	**25**	**21**	**4**	**8**	0	0	0
Semi-Volatile Organics by SW-846 Method 8270D	**22**	**1**	0	0	0	**2**	0
Dioxins/Furans by SW-846 Method 8290	**2**	0	0	0	0	0	0
Cyanide by SW-846 Method 9012B	**2**	0	0	0	0	0	0
Sulfide by SW-846 Method 9030	**2**	0	0	0	0	0	0
Phenolics by SW-846 Method 9066	**2**	0	0	0	0	0	0
Anions by Various EPA Methods	**8**	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**25**	**1**	**1**	0	**1**	**3**	**1**
Nitrosamines by Low-Level Method	**29**	**23**	**6**	**9**	**1**	**4**	**1**
Total Dissolved Solids by Standard Method 2540C	**8**	0	0	0	0	0	0

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement %	Samp. Qty. since 10/1/2020	QC Qty. since 10/1/2020	QC % since 10/1/2020	Sample Quantity September 2021	QC Quantity September 2021	QC % September 2021
VOA Duplicates	10	531	57	**11**	46	5	11
VOA Matrix Spikes	2	531	12	**2**	46	1	2
607 Duplicates	10	337	34	**10**	36	4	11
607 Matrix Spikes	2	337	8	**2**	36	1	3
607 Equipment Blanks	2	337	11	**3**	36	1	3
607 Field Blanks	2	337	10	**3**	36	1	3
NDMA_LL Duplicates	10	313	37	**12**	29	4	14
NDMA_LL Matrix Spikes	2	313	9	**3**	29	1	3
Metals Duplicates	10	218	23	**11**	25	3	12
Metals Matrix Spikes	2	218	6	**3**	25	1	4
Metals Equipment Blanks	5	218	13	**6**	25	1	4
Metals Field Blanks	5	218	12	**5**	25	1	4

Quality Control Requirement	Requirement %	Sample Events since 10/1/2020	QC Qty. since 10/1/2020	QC % since 10/1/2020	Sample Events September 2021	QC Quantity September 2021	QC % September 2021
VOA Equipment Blanks and Field Blanks	*Should approach 100%*	531	531	**100%**	46	46	100%
Low Level Nitrosamine Equipment Blanks and Field Blanks	*Should approach 100%*	309	309	**100%**	25	25	100%

Quality Control Requirement	Requirement %	Shipments since 10/1/2020	TB Qty. since 10/1/2020	TB % since 10/1/2020	Shipments in September 2021	TB Quantity September 2021	QC % September 2021
VOA Trip Blank (per shipment)	*Should approach 100%*	100	100	**100%**	9	9	100%
Low Level Nitrosamine Trip Blank (per shipment)	*Should approach 100%*	93	93	**100%**	9	9	100%

Table 4 - Definitions of Data Qualifiers

Qualifier	Definition
*	User defined qualifier. See quality assurance narrative.
A	The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
AD	Relative percent difference for analyst (laboratory) duplicates was outside standard limits.
D	The reported result is from a dilution.
EB	The analyte was detected in the equipment blank.
FB	The analyte was detected in the field blank.
G	The result is an estimated value greater than the upper calibration limit.
i	The result, quantitation limit, and/or detection limit may have been affected by matrix interference.
J	The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NA	The value/result was either not analyzed for or not applicable.
ND	The analyte was not detected above the detection limit.
Q	The result for a blind control sample was outside standard limits.
QD	The relative percent difference for a field duplicate was outside standard limits.
R	The result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RB	The analyte was detected in the method blank.
S	The result was determined by the method of standard addition.
SP	The matrix spike recovery and/or the relative percent difference for matrix spike duplicates was outside standard limits.
T	The sample was analyzed outside the specified holding time or temperature.
TB	The analyte was detected in the trip blank.
TIC	The analyte was tentatively identified by a GC/MS library search and the amount reported is an estimated value.

Table 5 - Quantity of Field Based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Nitrate plus Nitrite as N by EPA Method 353.2	**9**	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**120**	0	0	0	0	**8**	0	0
Perchlorate by SW-846 Method 6850	**13**	0	0	0	0	0	0	0
Pesticides by SW-846 Method 8081	**42**	0	0	0	0	0	0	0
PCBs by SW-846 Method 8082	**14**	0	0	0	0	0	0	0

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Herbicides by SW-846 Method 8151	**12**	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**1703**	**6**	**1**	**1**	**4**	0	**2**	0
Low Level Volatile Organics by SW-846 Method 8260C	**1625**	**2**	0	0	0	0	0	0
Semi-Volatile Organics by SW-846 Method 8270D	**1725**	0	0	0	0	**2**	0	0
Dioxins/Furans by SW-846 Method 8290	**50**	0	0	0	0	0	0	0
Cyanide by SW-846 Method 9012B	**2**	0	0	0	0	0	0	0
Sulfide by SW-846 Method 9030	**2**	0	0	0	0	0	0	0
Phenolics by SW-846 Method 9066	**2**	0	0	0	0	0	0	0
Anions by Various EPA Methods	**32**	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**756**	**1**	**1**	0	0	0	0	0
Nitrosamines by Low-Level Method	**56**	**20**	**4**	**6**	**2**	**6**	0	0
Total Dissolved Solids by Standard Method 2540C	**8**	0	0	0	0	0	0	0

Table 6 - Quantity of Laboratory based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"*"	"A"	"AD"	"G"	"RB"	"T"	"D"	"i"	"J"
Nitrate plus Nitrite as N by EPA Method 353.2	**9**	0	0	0	0	0	0	0	0	**1**
Nitrosamines by EPA Method 607	**120**	**1**	0	0	0	**2**	0	0	0	**5**
Perchlorate by SW-846 Method 6850	**13**	0	0	0	0	0	0	0	0	**2**
Pesticides by SW-846 Method 8081	**42**	0	0	0	0	0	0	0	0	0
PCBs by SW-846 Method 8082	**14**	0	0	0	0	0	0	0	0	0
Herbicides by SW-846 Method 8151	**12**	0	0	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**1703**	0	**7**	0	0	**9**	0	0	0	**32**
Low Level Volatile Organics by SW-846 Method 8260C	**1625**	0	**11**	0	0	**2**	0	0	0	**18**
Semi-Volatile Organics by SW-846 Method 8270D	**1725**	0	**57**	0	0	0	0	0	0	0
Dioxins/Furans by SW-846 Method 8290	**50**	0	0	0	0	**2**	0	0	0	**4**
Cyanide by SW-846 Method 9012B	**2**	0	0	0	0	0	0	0	0	0
Sulfide by SW-846 Method 9030	**2**	0	0	0	0	0	0	0	0	0
Phenolics by SW-846 Method 9066	**2**	0	0	0	0	0	0	0	0	0
Anions by Various EPA Methods	**32**	0	0	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**756**	0	0	0	0	0	0	0	0	**146**
Nitrosamines by Low-Level Method	**56**	**13**	**7**	0	0	**25**	0	0	0	**3**
Total Dissolved Solids by Standard Method 2540C	**8**	0	0	0	0	0	0	0	0	0

Table 7 – Quality Assurance Narratives

Well ID	Event Date	SW-846 Method 8260C QA Narratives
PL-11-470	9/13/2021	For Low Level SW-846 Method 8260C, 2-propanol (10 ug/L) was detected in the trip blank (2109130700B) below the reporting limit. No groundwater data are affected by this trip blank contamination.
WW-2-489	9/8/2021	For Low Level SW-846 Method 8260C, 2-propanol (20 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (7.1 ug/L) was tentatively identified by a GC/MS library search in the trip blank (2109080720B). No groundwater data are affected by this trip blank contamination.
PL-11-470	9/13/2021	For Low Level SW-846 Method 8260C, 2-propanol (23 ug/L) was detected in the field blank (2109131301B) below the reporting limit. No groundwater data are affected by this field blank contamination.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
B655-EFF-2	9/13/2021	For Low Level SW-846 Method 8260C, 2-propanol (3.5 ug/L) was detected in the field blank (2109130942) below the reporting limit. No groundwater data are affected by this field blank contamination.
B650-EFF-1	9/27/2021	For Low Level SW-846 Method 8260C, 2-propanol (4.1 ug/L) was detected in the trip blank (2109270818) below the reporting limit. No groundwater data are affected by this trip blank contamination.
BLM-42-569	9/7/2021	For Low Level SW-846 Method 8260C, 2-propanol (5.3 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (5.1 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 738599. No groundwater data are affected by this method blank contamination.
WW-1-452	9/1/2021	For Low Level SW-846 Method 8260C, 2-propanol (5.4 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (7.6 ug/L) was tentatively identified by a GC/MS library search in the field blank (2109011501B). No groundwater data are affected by this field blank contamination.
PL-11-710	**9/14/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (6.8 ug/L) and chloromethane (0.3 ug/L) were detected in the field blank (2109141351B) below the reporting limit. Affected data are appropriately qualified.**
B650-EFF-1	**9/27/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. Affected data are appropriately qualified.**
ST-6-528	9/15/2021	For Low Level SW-846 Method 8260C, chloromethane (0.3 ug/L) was detected in the trip blank (2109150700B) below the reporting limit. No groundwater data are affected by this trip blank contamination.
PL-8-605	9/2/2021	For Low Level SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the equipment blank (2109021000Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
WW-2-489	**9/8/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.41 ug/L) was detected in the method blank for analytical batch 738470 below the reporting limit. Affected data are appropriately qualified.**
WW-2-664	9/8/2021	For Low Level SW-846 Method 8260C, chloromethane (0.41 ug/L) was detected in the method blank for analytical batch 738470 below the reporting limit. No groundwater data are affected by this method blank contamination.
B650-EFF-1	**9/27/2021**	**For Low Level SW-846 Method 8260C, chloromethane (0.43 ug/L) was detected in the field blank (2109270917) below the reporting limit. Affected data are appropriately qualified.**
BLM-7-509	**9/1/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
PL-8-455	9/2/2021	For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. No groundwater data are affected by this LCS recovery.
PL-8-605	9/2/2021	For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. No groundwater data are affected by this LCS recovery.
ST-4-481	9/2/2021	For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. No groundwater data are affected by this LCS recovery.
ST-4-690	9/2/2021	For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. No groundwater data are affected by this LCS recovery.
WW-1-452	**9/1/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
WW-3-469	**9/1/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
WW-3-569	**9/1/2021**	**For Low Level SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. The LCSD was acceptable. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
B650-EFF-1	9/27/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-6-678	9/16/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-6-824	9/16/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-6-970	9/16/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B650-EFF-1	9/27/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
B655-EFF-2	**9/13/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
BLM-42-569	9/7/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-42-569	9/7/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-42-709	9/7/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-7-509	9/1/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-470	9/13/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples.. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-530	9/13/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples.. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-820	9/14/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-980	**9/14/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
PL-8-455	9/2/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-8-605	**9/2/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
ST-4-481	9/2/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-4-690	9/2/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-6-528	9/15/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-6-568	9/15/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
WW-1-452	9/1/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WW-2-489	**9/8/2021**	**For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
WW-2-664	9/8/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WW-3-469	9/1/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WW-3-569	9/1/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-710	9/14/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-11-820	9/14/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-4-464	9/14/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-528	9/15/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-568	9/15/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-42-569	9/7/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
BLM-42-569	9/7/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-42-709	9/7/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-7-509	9/1/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-7-509	9/1/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
PL-11-530	9/13/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-820	9/14/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-980	9/14/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-4-464	9/14/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-8-455	9/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-4-481	9/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-4-481	9/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-4-690	9/2/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-528	9/15/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-568	9/15/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-678	9/16/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-678	9/16/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-6-824	9/16/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-970	9/16/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-2-489	9/8/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-2-664	9/8/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-3-469	9/1/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
WW-3-569	9/1/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
NASA 5	**9/15/2021**	**For SW-846 Method 8260C in blind control sample (2109151520C), the percent recoveries for 1,1,2-trichloro-1,2,2-trifluoroethane (48%), trichloroethene (44%), tetrachloroethene (44%), and trichlorofluoromethane (48%) were outside of the standard limits (75-125%). Additionally, vinyl chloride (0.21 ug/L) was detected below the reporting limit but none was added. Affected data are appropriately qualified.**
B655-INF-2	9/13/2021	For SW-846 Method 8260C, 2-butanone (MEK) (2.6 ug/L) and acetone (7.3 ug/L) were detected in the field blank (2109130936) below the reporting limit. No groundwater data are affected by this field blank contamination.
PFE-1	**9/30/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 741756 below the reporting limit. Affected data are appropriately qualified.**
700-A-253	9/29/2021	For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. No groundwater data are affected by this method blank contamination.
700-D-186	**9/28/2021**	**For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. Affected data are appropriately qualified.**
700-H-350	9/28/2021	For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. No groundwater data are affected by this method blank contamination.
700-H-535	9/29/2021	For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. No groundwater data are affected by this method blank contamination.
700-H-670	**9/29/2021**	**For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the equipment blank (2109290745Y) below the reporting limit. Affected data are appropriately qualified.**
700-H-670	**9/29/2021**	**For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. Affected data are appropriately qualified.**
700-J-200	**9/28/2021**	**For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. Affected data are appropriately qualified.**
B650-INF-1	9/27/2021	For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 741422 below the reporting limit. No groundwater data are affected by this method blank contamination.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
NASA 5	9/15/2021	For SW-846 Method 8260C, chloromethane (0.3 ug/L) was detected in the field blank (2109150922C) below the reporting limit. No groundwater data are affected by this field blank contamination.
BW-6-355	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.33 ug/L) was detected in the field blank (2109201452C) below the reporting limit. Affected data are appropriately qualified.**
PL-2-504	9/14/2021	For SW-846 Method 8260C, chloromethane (0.33 ug/L) was detected in the field blank (2109140941A) below the reporting limit. No groundwater data are affected by this field blank contamination.
200-KV-150	**9/14/2021**	**For SW-846 Method 8260C, chloromethane (0.35 ug/L) was detected in the method blank for analytical batch 739515 below the reporting limit. Affected data are appropriately qualified.**
PL-2-504	9/14/2021	For SW-846 Method 8260C, chloromethane (0.35 ug/L) was detected in the method blank for analytical batch 739515 below the reporting limit. No groundwater data are affected by this method blank contamination.
700-J-200	**9/28/2021**	**For SW-846 Method 8260C, chloromethane (0.37 ug/L) was detected in the field blank (2109280911A) below the reporting limit. Affected data are appropriately qualified.**
700-D-186	**9/28/2021**	**For SW-846 Method 8260C, chloromethane (0.39 ug/L) was detected in the field blank (2109280903C) below the reporting limit. Affected data are appropriately qualified.**
BW-1-268	9/9/2021	For SW-846 Method 8260C, chloromethane (0.41 ug/L) was detected in the method blank for analytical batch 738470 below the reporting limit. No groundwater data are affected by this method blank contamination.
BLM-5-527	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.42 ug/L) was detected in the field blank (2109201006C) below the reporting limit. Affected data are appropriately qualified.**
BLM-5-527	9/20/2021	For SW-846 Method 8260C, chloromethane (0.47 ug/L) was detected in the method blank for analytical batch 740357 below the reporting limit. No groundwater data are affected by this method blank contamination.
BW-6-355	9/20/2021	For SW-846 Method 8260C, chloromethane (0.47 ug/L) was detected in the method blank for analytical batch 740357 below the reporting limit. No groundwater data are affected by this method blank contamination.
BLM-5-527	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.66 ug/L) was detected in the trip blank (2109200750C) below the reporting limit. Affected data are appropriately qualified.**
200-JG-110	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.74 ug/L) was detected in the method blank for analytical batch 740270 below the reporting limit. Affected data are appropriately qualified.**
BLM-5-527	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.74 ug/L) was detected in the method blank for analytical batch 740270 below the reporting limit. Affected data are appropriately qualified.**
BW-6-355	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.74 ug/L) was detected in the method blank for analytical batch 740270 below the reporting limit. Affected data are appropriately qualified.**
200-JG-110	**9/20/2021**	**For SW-846 Method 8260C, chloromethane (0.76 ug/L) was detected in the field blank (2109200857A) below the reporting limit. Affected data are appropriately qualified.**
200-SG-1	**9/7/2021**	**For SW-846 Method 8260C, Ethene, chlorotrifluoro- (5.5 ug/L) was tentatively identified by a GC/MS library search in sample 2109071050B.**
BLM-9-419	9/2/2021	For SW-846 Method 8260C, field duplicate samples 2109021030C and 2109021031C the relative percent difference for trichlorofluoromethane (CFC 11) was 3.1%. Upper acceptance limit for relative percent difference is 25%.
BLM-9-419	9/2/2021	For SW-846 Method 8260C, field duplicate samples 2109021030C and 2109021031C the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 5.5%. Upper acceptance limit for relative percent difference is 25%.
300-A-120	9/13/2021	For SW-846 Method 8260C, field duplicate samples 2109131000A and 2109131001A the relative percent difference for trichlorofluoromethane (CFC 11) was 3.9%. Upper acceptance limit for relative percent difference is 25%.
200-KV-150	9/14/2021	For SW-846 Method 8260C, field duplicate samples 2109140900C and 2109140902C the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 3.9%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
200-KV-150	9/14/2021	For SW-846 Method 8260C, field duplicate samples 2109140900C and 2109140902C the relative percent difference for trichlorofluoromethane (CFC 11) was 11.8%. Upper acceptance limit for relative percent difference is 25%.
NASA 10	9/15/2021	For SW-846 Method 8260C, field duplicate samples 2109151420C and 2109151421C the relative percent difference for trichlorofluoromethane (CFC 11) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
200-JG-110	9/20/2021	For SW-846 Method 8260C, field duplicate samples 2109200855A and 2109200856A the relative percent difference for trichloroethene (TCE) was 4.3%. Upper acceptance limit for relative percent difference is 25%.
200-JG-110	9/20/2021	For SW-846 Method 8260C, field duplicate samples 2109200855A and 2109200856A the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 0.0%. Upper acceptance limit for relative percent difference is 25%.
200-JG-110	9/20/2021	For SW-846 Method 8260C, field duplicate samples 2109200855A and 2109200856A the relative percent difference for trichlorofluoromethane (CFC 11) was 3.9%. Upper acceptance limit for relative percent difference is 25%.
BW-6-355	**9/20/2021**	**For SW-846 Method 8260C, matrix spike recoveries for sample 2109201451C for acetonitrile (193%) and (203%), styrene (47%) and (49%), and vinyl acetate (42%) and (42%) were outside laboratory control limits (46-154%), (74-136%) and (48-172%). Affected data are appropriately qualified.**
300-D-153	**9/16/2021**	**For SW-846 Method 8260C, one unknown compound (8.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 740352. Affected data are appropriately qualified.**
700-A-253	**9/29/2021**	**For SW-846 Method 8260C, silane, fluorotrimethyl- (9.4 ug/L), silane, methoxytrimethyl- (5.4 ug/L), and one unknown compound (5.4 ug/L) were tentatively identified by a GC/MS library search in sample 2109280900C.**
700-D-186	**9/28/2021**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (5.9 ug/L), silane, fluorotrimethyl- (10 ug/L), and one unknown compound (6.8 ug/L) were tentatively identified by a GC/MS library search in sample 2109280902C.**
700-J-200	**9/28/2021**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (6.1 ug/L) and two unknown compounds were tentatively identified by a GC/MS library search in sample 2109280910A.**
200-JG-110	9/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
300-D-153	9/16/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
300-D-153	9/16/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-A-253	9/29/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-D-186	9/28/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-H-350	9/28/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-H-535	9/29/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-H-670	9/29/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
700-J-200	9/28/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B650-INF-1	9/27/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-5-527	9/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BW-6-355	9/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PFE-1	9/30/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
200-JG-110	**9/20/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit were appropriately qualified.**
200-KV-150	**9/14/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
200-SG-1	9/7/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
300-A-120	**9/13/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
300-D-153	9/16/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
700-A-253	9/29/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
700-D-186	9/28/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
700-H-350	9/28/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
700-H-535	9/29/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
700-H-670	9/29/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
700-J-200	9/28/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
B650-INF-1	9/27/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
B655-INF-2	**9/13/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
BLM-5-527	**9/20/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit were appropriately qualified.**
BLM-9-419	9/2/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BW-1-268	9/9/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BW-6-355	**9/20/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit were appropriately qualified.**
NASA 10	9/15/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
NASA 5	**9/15/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.
PL-2-504	**9/14/2021**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS).There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate. Affected data below the reporting limit are appropriately qualified.**
200-JG-110	9/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
300-D-153	9/16/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-5-527	9/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BW-6-355	9/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 10	9/15/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 5	9/15/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
700-H-350	9/28/2021	For SW-846 Method 8260C, there were no detections in the equipment blank.
700-H-535	9/29/2021	For SW-846 Method 8260C, there were no detections in the equipment blank.
200-KV-150	9/14/2021	For SW-846 Method 8260C, there were no detections in the field blank.
200-SG-1	9/7/2021	For SW-846 Method 8260C, there were no detections in the field blank.
300-A-120	9/13/2021	For SW-846 Method 8260C, there were no detections in the field blank.
300-D-153	9/16/2021	For SW-846 Method 8260C, there were no detections in the field blank.
700-A-253	9/29/2021	For SW-846 Method 8260C, there were no detections in the field blank.
B650-INF-1	9/27/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-9-419	9/2/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BW-1-268	9/9/2021	For SW-846 Method 8260C, there were no detections in the field blank.
NASA 10	9/15/2021	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-1	9/30/2021	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-1	9/30/2021	For SW-846 Method 8260C, there were no detections in the trip blank.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
PFE-1	**9/30/2021**	**For SW-846 Method 8260C, two unknown compounds were tentatively identified by a GC/MS library search in sample 2109301530.**

Well ID	Event Date	Modified EPA Method 607 QA Narratives
NASA 5	9/15/2021	For Modified EPA Method 607 in blind control sample (2109151521C), all recoveries were within standard limits.
BLM-9-419	**9/2/2021**	**For Modified EPA Method 607, bromacil (0.15 ug/L) was detected in the method blank WBLANK_09SEP21. Affected data are appropriately qualified.**
PL-8-605	9/2/2021	For Modified EPA Method 607, bromacil (0.15 ug/L) was detected in the method blank WBLANK_09SEP21. No groundwater data are affected by this method blank contamination.
BLM-9-419	**9/2/2021**	**For Modified EPA Method 607, field duplicate samples 2109021033C and 2109021034C the relative percent difference for bromacil was 149.5%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
300-A-120	9/13/2021	For Modified EPA Method 607, field duplicate samples 2109131003A and 2109131004A the relative percent difference for N-nitrodimethylamine was 22.2%. Upper acceptance limit for relative percent difference is 25%.
300-A-120	9/13/2021	For Modified EPA Method 607, field duplicate samples 2109131003A and 2109131004A the relative percent difference for bromacil was 7.2%. Upper acceptance limit for relative percent difference is 25%.
300-A-120	**9/13/2021**	**For Modified EPA Method 607, field duplicate samples 2109131003A and 2109131004A the relative percent difference for N-nitrosodimethylamine was 26.7%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
PL-2-504	**9/14/2021**	**For Modified EPA Method 607, field duplicate samples 2109140942A and 2109140943A the relative percent difference for N-nitrodimethylamine was 30.3%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
PL-2-504	**9/14/2021**	**For Modified EPA Method 607, field duplicate samples 2109140942A and 2109140943A the relative percent difference for N-nitrosodimethylamine was 26.1%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
PL-2-504	9/14/2021	For Modified EPA Method 607, field duplicate samples 2109140942A and 2109140943A the relative percent difference for bromacil was 0.0%. Upper acceptance limit for relative percent difference is 25%.
NASA 10	9/15/2021	For Modified EPA Method 607, field duplicate samples 2109151423C and 2109151424C the relative percent difference for N-nitrodimethylamine was 4.1%. Upper acceptance limit for relative percent difference is 25%.
NASA 10	9/15/2021	For Modified EPA Method 607, field duplicate samples 2109151423C and 2109151424C the relative percent difference for N-nitrosodimethylamine was 5.3%. Upper acceptance limit for relative percent difference is 25%.
NASA 10	9/15/2021	For Modified EPA Method 607, field duplicate samples 2109151423C and 2109151424C the relative percent difference for bromacil was 5.8%. Upper acceptance limit for relative percent difference is 25%.
PL-8-605	9/2/2021	For Modified EPA Method 607, internal standard area for atrazine-d5 fell below the 50% QC criteria in sample 2109021101Y. Since the internal standard areas of samples before and after this sample were within criteria, the sample extract was not reanalyzed. The only analyte quantitated using this internal standard was bromacil and the compound was not detected in the sample. Groundwater data are not significantly affected by this low internal standard recovery.
BLM-42-709	9/7/2021	For Modified EPA Method 607, matrix spike recoveries for sample 2109071456C were within laboratory control limits.
200-JG-110	9/20/2021	For Modified EPA Method 607, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
ST-6-568	**9/15/2021**	**For Low Level Nitrosamine Method in blind control sample (2109151555B), the percent recovery for N-nitrosodimethylamine (182%) was outside of the standard limits (70-130%). Affected data are appropriately qualified.**

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
BLM-7-509	9/1/2021	For Low Level Nitrosamine Method, due to late, out of temperature shipment of original samples, resampling was conducted on 9/9/2021.
WW-1-452	9/1/2021	For Low Level Nitrosamine Method, due to late, out of temperature shipment of original samples, resampling was conducted on 9/9/2021.
WW-3-469	9/1/2021	For Low Level Nitrosamine Method, due to late, out of temperature shipment of original samples, resampling was conducted on 9/9/2021.
WW-3-569	9/1/2021	For Low Level Nitrosamine Method, due to late, out of temperature shipment of original samples, resampling was conducted on 9/7/2021.
WW-3-569	**9/1/2021**	**For Low Level Nitrosamine Method, field duplicate samples 2109071555Y and 2109071556Y the relative percent difference for N-nitrosodimethylamine was 164.6%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
PL-11-530	**9/13/2021**	**For Low Level Nitrosamine Method, field duplicate samples 2109131318B and 2109131350B the relative percent difference for N-nitrosodimethylamine was 50.0%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
ST-6-568	**9/15/2021**	**For Low Level Nitrosamine Method, field duplicate samples 2109151311B and 2109151345B the relative percent difference for N-nitrosodimethylamine was 69.1%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
PL-8-605	9/2/2021	For Low Level Nitrosamine Method, for equipment blank 2109021001Yand sample 2109021310Y the recoveries of the internal standard NDMA-d6 (7.59%) and (7.75%) were outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
ST-4-481	9/2/2021	For Low Level Nitrosamine Method, for sample 2109021002B the recovery of the internal standard NDMA-d6 (5.17%) was outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
ST-4-690	9/2/2021	For Low Level Nitrosamine Method, for sample 2109021502B and field blank 2109021503B the recoveries of the internal standard NDMA-d6 (3.45%) and (9.28%) were outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
BLM-42-709	9/7/2021	For Low Level Nitrosamine Method, for sample 2109071547C and field blank 2109071458C the recoveries of the internal standard NDMA-d6 (7.58%) and (7.46%) were outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
WW-2-664	9/8/2021	For Low Level Nitrosamine Method, for sample 2109081427B the recovery of the internal standard NDMA-d6 (7.86%) was outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
WW-1-452	9/1/2021	For Low Level Nitrosamine Method, for sample 2109091420B the recovery of the internal standard NDMA-d6 (9.35%) was outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
WW-3-469	9/1/2021	For Low Level Nitrosamine Method, for sample 2109091500Y the recovery of the internal standard NDMA-d6 (9.33%) was outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
PL-11-980	9/14/2021	For Low Level Nitrosamine Method, for sample 2109141416B the recovery of the internal standard NDMA-d6 (5.39%) was outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
PL-4-464	9/14/2021	For Low Level Nitrosamine Method, for sample 2109141512A and field blank 2109141513A the recoveries of the internal standard NDMA-d6 (5.84%) and (9.73%) were outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
B650-EFF-1	9/27/2021	For Low Level Nitrosamine Method, for sample 2109270919 the recovery of the internal standard NDMA-d6 (9.54%) was outside laboratory control limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
BLM-42-569	9/7/2021	For Low Level Nitrosamine Method, for trip blank 2109070701C, sample 2109070923C, and field blank (2109070924C the recoveries of the internal standard NDMA-d6 (3.56%), (4.77%), and (4.58%) were outside laboratory control limits (10-100%). The recovery of the internal standard DMN-d6 (9.27%) for trip blank 2109070701C was outside laboratory limits (10-100%). No corrective action was deemed necessary by the analytical laboratory based on sufficient signal to noise ratios.
WW-2-489	9/8/2021	For Low Level Nitrosamine Method, matrix spike recoveries for sample 2109080959B and 2109081000B were within laboratory control limits.
BLM-42-569	**9/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21J13CM3) below the reporting limit. Affected data are appropriately qualified.**
BLM-42-709	**9/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21J13CM3) below the reporting limit. Affected data are appropriately qualified.**
WW-2-489	9/8/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21J13CM3) below the reporting limit. No groundwater data are affected by this method blank contamination.
WW-2-664	**9/8/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21J13CM3) below the reporting limit. Affected data are appropriately qualified.**
WW-3-569	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.28 ng/L) was detected in the method blank (PB21J13CM3) below the reporting limit. Affected data are appropriately qualified.**
PL-11-710	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21J21CM1) below the reporting limit. Affected data are appropriately qualified.**
PL-11-820	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21J21CM1) below the reporting limit. Affected data are appropriately qualified.**
PL-11-980	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21J21CM1) below the reporting limit. Affected data are appropriately qualified.**
PL-4-464	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21J21CM1) below the reporting limit. Affected data are appropriately qualified.**
ST-6-528	**9/15/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21J21CM1) below the reporting limit. Affected data are appropriately qualified.**
ST-6-568	**9/15/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.39 ng/L) was detected in the method blank (PB21J21CM1) below the reporting limit. Affected data are appropriately qualified.**
PL-11-530	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.4 ng/L) was detected in the field blank (2109131319B) below the reporting limit. Affected data are appropriately qualified.**
BLM-7-509	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.43 ng/L) was detected in the field blank (2109091006B) below the reporting limit. Affected data are appropriately qualified.**
PL-11-470	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.44 ng/L) was detected in the trip blank (2109130701B) below the reporting limit. Affected data are appropriately qualified.**
PL-11-470	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.45 ng/L) was detected in the field blank (2109131304B) below the reporting limit. Affected data are appropriately qualified.**
B650-EFF-1	**9/27/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.46 ng/L) was detected in the trip blank (2109270820) below the reporting limit. Affected data are appropriately qualified.**

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
B650-EFF-1	**9/27/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.47 ng/L) was detected in the method blank (PB21J30CM3) below the reporting limit. Affected data are appropriately qualified.**
PL-8-455	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.47 ng/L) was detected in the method blank (PB21J09CM2) below the reporting limit. Affected data are appropriately qualified.**
PL-8-605	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.47 ng/L) was detected in the method blank (PB21J09CM2) below the reporting limit. Affected data are appropriately qualified.**
ST-4-481	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.47 ng/L) was detected in the method blank (PB21J09CM2) below the reporting limit. Affected data are appropriately qualified.**
ST-4-690	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.47 ng/L) was detected in the method blank (PB21J09CM2) below the reporting limit. Affected data are appropriately qualified.**
WW-2-489	9/8/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.49 ng/L) was detected in the trip blank (2109080721B). No groundwater data are affected by this trip blank contamination.
ST-6-528	**9/15/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.5 ng/L) was detected in the field blank (2109151259B). Affected data are appropriately qualified.**
WW-2-664	**9/8/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.51 ng/L) was detected in the field blank (2109081428B). Affected data are appropriately qualified.**
B655-EFF-2	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.52 ng/L) was detected in the field blank (2109130945). Affected data are appropriately qualified.**
WW-2-489	9/8/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.52 ng/L) was detected in the field blank (2109080958B). No groundwater data are affected by this field blank contamination.
PL-8-455	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.53 ng/L) was detected in the equipment blank (2109021416Y). Affected data are appropriately qualified.**
B655-EFF-2	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the method blank (PB21J16CM2) below the reporting limit. Affected data are appropriately qualified.**
BLM-7-509	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the method blank (PB21J16CM2) below the reporting limit. Affected data are appropriately qualified.**
PL-11-470	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the method blank (PB21J16CM2) below the reporting limit. Affected data are appropriately qualified.**
PL-11-530	**9/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the method blank (PB21J16CM2) below the reporting limit. Affected data are appropriately qualified.**
ST-6-528	**9/15/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the trip blank (2109150701B). Affected data are appropriately qualified.**
WW-1-452	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the method blank (PB21J16CM2) below the reporting limit. Affected data are appropriately qualified.**
WW-3-469	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the method blank (PB21J16CM2) below the reporting limit. Affected data are appropriately qualified.**
PL-11-820	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.56 ng/L) was detected in the field blank (2109141404B). Affected data are appropriately qualified.**
ST-6-568	**9/15/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.6 ng/L) was detected in the field blank (2109151312B). Affected data are appropriately qualified.**
ST-4-481	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.61 ng/L) was detected in the field blank (2109021003B). Affected data are appropriately qualified.**
WW-1-452	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.61 ng/L) was detected in the field blank (2109091421B. Affected data are appropriately qualified.**

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
PL-8-605	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.62 ng/L) was detected in the equipment blank (2109021001Y). Affected data are appropriately qualified.**
ST-6-678	9/16/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.62 ng/L) was detected in the field blank (2109161344B). No groundwater data are affected by this field blank contamination.
ST-6-678	9/16/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.67 ng/L) was detected in the trip blank (2109160701B). No groundwater data are affected by this trip blank contamination.
WW-3-569	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.67 ng/L) was detected in the equipment blank (2109071500Y). Affected data are appropriately qualified.**
B650-EFF-1	**9/27/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.71 ug/L) was detected in the field blank (2109270920). Affected data are appropriately qualified.**
BLM-7-509	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.73 ng/L) was detected in the trip blank (2109090715B). Affected data are appropriately qualified.**
ST-4-481	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.74 ng/L) was detected in the trip blank (2109020701B). Affected data are appropriately qualified.**
BLM-42-709	**9/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.77 ng/L) was detected in the field blank (2109071458C). Affected data are appropriately qualified.**
PL-11-980	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.82 ng/L) was detected in the field blank (2109141417B). Affected data are appropriately qualified.**
ST-4-690	**9/2/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.91 ng/L) was detected in the field blank (2109021503B). Affected data are appropriately qualified.**
WW-3-469	**9/1/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.91 ng/L) was detected in the equipment blank (2109091345Y). Affected data are appropriately qualified.**
ST-6-970	**9/16/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.95 ng/L) was detected in the field blank (2109161339B). Affected data are appropriately qualified.**
ST-6-824	**9/16/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.96 ng/L) and N-nitrodimethylamine (0.29 ng/L) were detected in the field blank (2109161329B) below the reporting limit for N-nitrodimethylamine only. Affected data are appropriately qualified.**
ST-6-678	9/16/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.09 ng/L) was detected in the method blank (PB21J23HE2) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-6-824	**9/16/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.09 ng/L) was detected in the method blank (PB21J23HE2) below the reporting limit. Affected data are appropriately qualified.**
ST-6-970	**9/16/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.09 ng/L) was detected in the method blank (PB21J23HE2) below the reporting limit. Affected data are appropriately qualified.**
BLM-42-569	**9/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.1 ng/L) was detected in the field blank (2109070924C). Affected data are appropriately qualified.**
PL-4-464	**9/14/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.5 ng/L) was detected in the field blank (2109141513A). Affected data are appropriately qualified.**
BLM-42-569	**9/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (5.1 ug/L) was detected in the trip blank (2109070701C). Affected data are appropriately qualified.**
PL-11-710	**9/14/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (139%) for the laboratory control sample (LCS21J21CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
PL-11-820	**9/14/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (139%) for the laboratory control sample (LCS21J21CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
PL-11-980	**9/14/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (139%) for the laboratory control sample (LCS21J21CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
PL-4-464	**9/14/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (139%) for the laboratory control sample (LCS21J21CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
ST-6-528	**9/15/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (139%) for the laboratory control sample (LCS21J21CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
ST-6-568	**9/15/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (139%) for the laboratory control sample (LCS21J21CM1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
ST-6-678	**9/16/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (340%) in the laboratory fortified blank (LFB21J23HE1) was outside laboratory control limits (70-130%). No groundwater data are affected by this QC issue.**
ST-6-824	**9/16/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (340%) in the laboratory fortified blank (LFB21J23HE1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
ST-6-970	**9/16/2021**	**For Low Level Nitrosamine Method, the recovery of N-nitrosodimethylamine (340%) in the laboratory fortified blank (LFB21J23HE1) was outside laboratory control limits (70-130%). Affected data are appropriately qualified.**
PL-11-710	9/14/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
ST-6-970	**9/16/2021**	**For SW_846 Method 8270D, benzenesulfonamide, N-butyl- (220 ug/L), benzene, 1-chloro-4-(trifluorometh (4.3 ug/L) and six unknown hydrocarbons were tentatively identified by a GC/MS library search in sample 2109161420B.**
PL-11-710	**9/14/2021**	**For SW-846 Method 8270D, 6 unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 387770. Affected data are appropriately qualified.**
PL-11-820	9/14/2021	For SW-846 Method 8270D, 6 unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 387770. No groundwater data are affected by this method blank contamination.
PL-11-980	**9/14/2021**	**For SW-846 Method 8270D, 6 unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 387770. Affected data are appropriately qualified.**
PL-11-530	**9/13/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (110 ug/L) was tentatively identified by a GC/MS library search in sample 2109131415B.**
PL-11-820	**9/14/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (130 ug/L) was tentatively identified by a GC/MS library search in sample 2109141455B.**
PL-11-710	**9/14/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (150 ug/L), six unknown hydrocarbons, and one unknown compound (4.4 ug/L) were tentatively identified by a GC/MS library search in sample 2109141435B.**
ST-6-568	**9/15/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (2,400 ug/L) and two unknown compounds were tentatively identified by a GC/MS library search in sample 2109151355B.**
ST-6-678	**9/16/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (260 ug/L), four unknown hydrocarbons, and one unknown compound (180 ug/L) were tentatively identified by a GC/MS library search in sample 2109161345B.**
ST-6-528	**9/15/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (630 ug/L), four unknown hydrocarbons, and two unknown compounds were tentatively identified by a GC/MS library search in sample 2109151330B.**
PL-11-980	**9/14/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (65 ug/L), two unknown hydrocarbons, and one unknown compound (4.9 ug/L) were tentatively identified by a GC/MS library search in sample 2109141425B.**
PL-11-470	**9/13/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (75 ug/L) was tentatively identified by a GC/MS library search in sample 2109131335B.**
ST-6-824	**9/16/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (81 ug/L), eight unknown hydrocarbons, and one unknown compound (16 ug/L) were tentatively identified by a GC/MS library search in sample 2109161405B.**
300-A-120	9/13/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		at 61% and 53% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
PL-11-470	9/13/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 61% and 53% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
PL-11-530	9/13/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 61% and 53% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-6-528	9/15/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 65% recovery, respectively, within laboratory limits. The LCSD is acceptable and should not be flagged on the summary form.
ST-6-568	9/15/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 65% recovery, respectively, within laboratory limits. The LCSD is acceptable and should not be flagged on the summary form.
ST-6-678	9/16/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 60% and 61% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-6-824	9/16/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 60% and 61% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-6-970	9/16/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 60% and 61% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
PL-11-530	9/13/2021	For SW-846 Method 8270D, field duplicate samples 2109131450B and 2109131451B the relative percent difference for 1,4-dioxane was 5.7%. Upper acceptance limit for relative percent difference is 25%.
ST-6-678	**9/16/2021**	**For SW-846 Method 8270D, field duplicate samples 2109161510B and 2109161511B the relative percent difference for 1,4-dioxane was 26.1%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-42-569	**9/7/2021**	**For SW-846 Method 8270D, five unknown hydrocarbons were tentatively identified by a GC/MS library search in sample 2109070925C.**
BLM-42-709	**9/7/2021**	**For SW-846 Method 8270D, seven unknown hydrocarbons were tentatively identified by a GC/MS library search in sample 2109071459C.**
300-A-120	9/13/2021	For SW-846 Method 8270D, several compounds were detected above the reporting limit in the method blank for analytical batch 387659. No groundwater data are affected by this method blank contamination.
PL-11-470	9/13/2021	For SW-846 Method 8270D, several compounds were detected above the reporting limit in the method blank for analytical batch 387659. No groundwater data are affected by this method blank contamination.
PL-11-530	9/13/2021	For SW-846 Method 8270D, several compounds were detected above the reporting limit in the method blank for analytical batch 387659. No groundwater data are affected by this method blank contamination.
PL-11-710	**9/14/2021**	**For SW-846 Method 8270D, several compounds were detected above the reporting limit in the method blank for analytical batch 387769. Affected data are appropriately qualified.**
PL-11-820	9/14/2021	For SW-846 Method 8270D, several compounds were detected above the reporting limit in the method blank for analytical batch 387769. No groundwater data are affected by this method blank contamination.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
PL-11-980	9/14/2021	For SW-846 Method 8270D, several compounds were detected above the reporting limit in the method blank for analytical batch 387769. No groundwater data are affected by this method blank contamination.
200-SG-1	**9/7/2021**	**For SW-846 Method 8270D, six unknown hydrocarbons were tentatively identified by a GC/MS library search in sample 2109071100B.**
200-SG-1	9/7/2021	For SW-846 Method 8270D, surrogate recovery of 2-fluorobiphenyl and nitrobenzene- d5 is outside control limits for some field and QC samples in analytical batch 387097. There was no extra volume to re-extract samples. Affected data are appropriately qualified.
BLM-42-569	9/7/2021	For SW-846 Method 8270D, surrogate recovery of 2-fluorobiphenyl and nitrobenzene- d5 is outside control limits for some field and QC samples in analytical batch 387097. There was no extra volume to re-extract samples. Affected data are appropriately qualified.
BLM-42-709	9/7/2021	For SW-846 Method 8270D, surrogate recovery of 2-fluorobiphenyl and nitrobenzene- d5 is outside control limits for some field and QC samples in analytical batch 387097. There was no extra volume to re-extract samples. Affected data are appropriately qualified.
ST-6-678	9/16/2021	For SW-846 Method 8270D, the control limits were exceeded for one or more surrogates in one or more QC samples associated with samples in this report. The associated recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier is flagged accordingly. No further corrective action was appropriate.
ST-6-824	9/16/2021	For SW-846 Method 8270D, the control limits were exceeded for one or more surrogates in one or more QC samples associated with samples in this report. The associated recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier is flagged accordingly. No further corrective action was appropriate.
ST-6-970	9/16/2021	For SW-846 Method 8270D, the control limits were exceeded for one or more surrogates in one or more QC samples associated with samples in this report. The associated recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier is flagged accordingly. No further corrective action was appropriate.
200-SG-1	**9/7/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample/laboratory Control Sample Duplicate (LCS/LCSD) was exceeded for one or more analyte. Precision is also outside limits. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. Affected data are appropriately qualified.**
BLM-42-569	**9/7/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample/laboratory Control Sample Duplicate (LCS/LCSD) was exceeded for one or more analyte. Precision is also outside limits. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. Affected data are appropriately qualified.**
BLM-42-709	**9/7/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample/laboratory Control Sample Duplicate (LCS/LCSD) was exceeded for one or more analyte. Precision is also outside limits. There were no detections of the analyte(s) in the associated field samples. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. Affected data are appropriately qualified.**
200-SG-1	9/7/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
300-A-120	9/13/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
BLM-42-569	9/7/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-42-709	9/7/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-11-470	9/13/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-11-530	9/13/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-6-528	9/15/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-6-568	9/15/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-11-710	9/14/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-820	9/14/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-11-980	9/14/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-6-678	9/16/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-6-824	9/16/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-6-970	9/16/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
200-SG-1	9/7/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-42-569	9/7/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-42-709	9/7/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-11-710	9/14/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-11-820	9/14/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-11-980	9/14/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-528	9/15/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-568	9/15/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-678	9/16/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-824	9/16/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-970	9/16/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-8-455	9/2/2021	For SW-846 Method 8270D, there were no detections in the field blank.
ST-6-528	**9/15/2021**	**For SW-846 Method 8270D, three unknown compounds and five unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 387860. Affected data are appropriately qualified.**
ST-6-568	9/15/2021	For SW-846 Method 8270D, three unknown compounds and five unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 387860. No groundwater data are affected by this method blank contamination.

Well ID	Event Date	Total Metals QA Narratives
NASA 5	9/15/2021	For Total Metals, blind control sample (2109151522C) was prepared at a concentration below the reporting limits for calcium. The result for this metal is not qualified based on this control.
BW-1-268	9/9/2021	For Total Metals, field duplicate samples 2109090818B and 2109090819B the relative percent difference for sodium was 0.3%. Upper acceptance limit for relative percent difference is 25%.
BW-1-268	9/9/2021	For Total Metals, field duplicate samples 2109090818B and 2109090819B the relative percent difference for strontium was 1.3%. Upper acceptance limit for relative percent difference is 25%.
BW-1-268	9/9/2021	For Total Metals, field duplicate samples 2109090818B and 2109090819B the relative percent difference for calcium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BW-1-268	9/9/2021	For Total Metals, field duplicate samples 2109090818B and 2109090819B the relative percent difference for magnesium was 1.6%. Upper acceptance limit for relative percent difference is 25%.
300-D-153	9/16/2021	For Total Metals, field duplicate samples 2109161444C and 2109161445C the relative percent difference for calcium was 0.9%. Upper acceptance limit for relative percent difference is 25%.
300-D-153	9/16/2021	For Total Metals, field duplicate samples 2109161444C and 2109161445C the relative percent difference for magnesium was 1.0%. Upper acceptance limit for relative percent difference is 25%.
300-D-153	9/16/2021	For Total Metals, field duplicate samples 2109161444C and 2109161445C the relative percent difference for sodium was 0.8%. Upper acceptance limit for relative percent difference is 25%.
300-D-153	9/16/2021	For Total Metals, field duplicate samples 2109161444C and 2109161445C the relative percent difference for strontium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
700-H-670	9/29/2021	For Total Metals, field duplicate samples 2109290852Y and 2109290915Y the relative percent difference for magnesium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
700-H-670	9/29/2021	For Total Metals, field duplicate samples 2109290852Y and 2109290915Y the relative percent difference for sodium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
700-H-670	9/29/2021	For Total Metals, field duplicate samples 2109290852Y and 2109290915Y the relative percent difference for calcium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
700-H-670	9/29/2021	For Total Metals, field duplicate samples 2109290852Y and 2109290915Y the relative percent difference for strontium was 1.7%. Upper acceptance limit for relative percent difference is 25%.
PL-11-530	9/13/2021	For Total Metals, for matrix spike sample 2109131453B the concentrations of calcium, magnesium, and sodium in the native sample were greater than four times the concentration of the spike added. The sample results for these metals are not qualified based on this control.
700-H-535	**9/29/2021**	**For Total Metals, magnesium (0.05 mg/L), strontium (0.02 mg/L), vanadium (0.001 mg/L) and zinc (0.003 mg/L) were detected in the equipment blank (2109291511Y) below the reporting limit. Affected data are appropriately qualified.**
BW-1-268	9/9/2021	For Total Metals, the upper control limit was exceeded for antimony and thallium in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BW-1-268	9/9/2021	For Total Metals, the upper control limit was exceeded for selenium in the Contract Required Detection Limit Standard (CRDL). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 10	9/15/2021	For Total Metals, the upper control limit was exceeded for thallium in the Contract Required Detection Limit Standard (CRDL). The field samples analyzed in this sequence did not contain the analyte in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
NASA 5	9/15/2021	For Total Metals, the upper control limit was exceeded for thallium in the Contract Required Detection Limit Standard (CRDL). The field samples analyzed in this sequence did not contain the analyte in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	Total Metals QA Narratives
ST-6-528	9/15/2021	For Total Metals, the upper control limit was exceeded for thallium in the Contract Required Detection Limit Standard (CRDL). The field samples analyzed in this sequence did not contain the analyte in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-6-568	9/15/2021	For Total Metals, the upper control limit was exceeded for thallium in the Contract Required Detection Limit Standard (CRDL). The field samples analyzed in this sequence did not contain the analyte in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
200-KV-150	**9/14/2021**	**For Total Metals, zinc (0.003 mg/L) was detected in the field blank (2109140905C) below the reporting limit. Affected data are appropriately qualified.**

Well ID	Event Date	Miscellaneous QA Narratives
200-SG-1	9/7/2021	For Method Kelada-01, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
300-A-120	9/13/2021	For SW-846 Method 8081B, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
300-A-120	9/13/2021	For SW-846 Method 8082A, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
200-SG-1	9/7/2021	For SW-846 Method 8151A, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
300-A-120	9/13/2021	For SW-846 Method 8151A, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
200-SG-1	**9/7/2021**	**For SW-846 Method 8290A, OCDD (1.22 pg/L) and OCDF (0.436 pg/L) were detected below the reporting limit in method blank WBLANK_28SEP21. Affected data are appropriately qualified.**
300-A-120	**9/13/2021**	**For SW-846 Method 8290A, OCDD (1.22 pg/L) and OCDF (0.436 pg/L) were detected below the reporting limit in method blank WBLANK_28SEP21. Affected data are appropriately qualified.**

Table 8 – WSTF Blank Sample Detections

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
PL-11-470	9/13/2021	Carboy G2	8260_LL	VOA-FB	67-63-0	2-Propanol	23	ug/L	J TB FB
WW-2-489	9/8/2021	Carboy G1	8260_LL	VOA-TB	67-63-0	2-Propanol	20	ug/L	J TB
PL-11-470	9/13/2021	Carboy G2	8260_LL	VOA-TB	67-63-0	2-Propanol	10	ug/L	J TB FB
WW-1-452	9/1/2021	Carboy G1	8260_LL	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	7.6	ug/L	TIC FB

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
B655-INF-2	9/13/2021	Carboy PF1	8260	VOA-FB	67-64-1	Acetone	7.3	ug/L	J FB
WW-2-489	9/8/2021	Carboy G1	8260_LL	VOA-TB	1825-61-2	Silane, methoxytrimethyl-	7.1	ug/L	TIC TB
PL-11-710	9/14/2021	Carboy G2	8260_LL	VOA-FB	67-63-0	2-Propanol	6.8	ug/L	J FB
WW-1-452	9/1/2021	Carboy G1	8260_LL	VOA-FB	67-63-0	2-Propanol	5.4	ug/L	J FB
BLM-42-569	9/7/2021	Carboy G2	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	5.1	ng/L	TB * FB
B650-EFF-1	9/27/2021	Carboy G2	8260_LL	VOA-TB	67-63-0	2-Propanol	4.1	ug/L	J TB
B655-EFF-2	9/13/2021	Carboy PF1	8260_LL	VOA-FB	67-63-0	2-Propanol	3.5	ug/L	J FB
B655-INF-2	9/13/2021	Carboy PF1	8260	VOA-FB	78-93-3	2-Butanone (MEK)	2.6	ug/L	J FB
PL-4-464	9/14/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	1.5	ng/L	RB A * FB
BLM-42-569	9/7/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	1.1	ng/L	RB * TB FB
ST-6-824	9/16/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.96	ng/L	RB * FB
ST-6-970	9/16/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.95	ng/L	RB * FB
WW-3-469	9/1/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.91	ng/L	RB EB
ST-4-690	9/2/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.91	ng/L	RB * FB
PL-11-980	9/14/2021		NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.82	ng/L	RB A FB
BLM-42-709	9/7/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.77	ng/L	RB * FB
200-JG-110	9/20/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.76	ug/L	J RB A FB
ST-4-481	9/2/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.74	ng/L	RB TB FB
BLM-7-509	9/1/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.73	ng/L	RB TB FB
B650-EFF-1	9/27/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.71	ng/L	RB TB FB
WW-3-569	9/1/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.67	ng/L	RB EB
ST-6-678	9/16/2021	Carboy G2	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.67	ng/L	RB * TB FB
BLM-5-527	9/20/2021	Carboy G2	8260	VOA-TB	74-87-3	Chloromethane	0.66	ug/L	J RB A TB FB
PL-8-605	9/2/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.62	ng/L	RB * EB
ST-6-678	9/16/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.62	ng/L	RB * TB FB
ST-4-481	9/2/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.61	ng/L	RB TB FB
WW-1-452	9/1/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.61	ng/L	RB FB
ST-6-568	9/15/2021		NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.6	ng/L	RB A FB Q
PL-11-820	9/14/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.56	ng/L	RB A FB
ST-6-528	9/15/2021		NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.54	ng/L	RB A TB FB
PL-8-455	9/2/2021	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.53	ng/L	RB EB
B655-EFF-2	9/13/2021	Carboy PF1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.52	ng/L	RB FB
WW-2-489	9/8/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.52	ng/L	RB TB FB
WW-2-664	9/8/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.51	ng/L	RB FB
ST-6-528	9/15/2021		NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.5	ng/L	RB A TB FB
WW-2-489	9/8/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.49	ng/L	RB TB FB
B650-EFF-1	9/27/2021	Carboy G2	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.46	ng/L	J RB TB FB
PL-11-470	9/13/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.45	ng/L	J RB TB FB
PL-11-470	9/13/2021	Carboy G2	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.44	ng/L	J RB TB FB
BLM-7-509	9/1/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.43	ng/L	J RB TB FB
B650-EFF-1	9/27/2021	Carboy G2	8260_LL	VOA-FB	74-87-3	Chloromethane	0.43	ug/L	J RB FB
BLM-5-527	9/20/2021	Carboy G2	8260	VOA-FB	74-87-3	Chloromethane	0.42	ug/L	J RB A TB FB
PL-11-530	9/13/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.4	ng/L	J RB FB
700-D-186	9/28/2021		8260	VOA-FB	74-87-3	Chloromethane	0.39	ug/L	J RB FB
700-J-200	9/28/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.37	ug/L	J RB FB

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
PL-2-504	9/14/2021	Carboy G1	8260	VOA-FB	74-87-3	Chloromethane	0.33	ug/L	J RB A FB
BW-6-355	9/20/2021	Carboy G2	8260	VOA-FB	74-87-3	Chloromethane	0.33	ug/L	J RB A FB
PL-8-605	9/2/2021	Carboy G3	8260_LL	VOA-EB	74-87-3	Chloromethane	0.31	ug/L	J A EB
ST-6-528	9/15/2021		8260_LL	VOA-TB	74-87-3	Chloromethane	0.3	ug/L	J A TB
PL-11-710	9/14/2021	Carboy G2	8260_LL	VOA-FB	74-87-3	Chloromethane	0.3	ug/L	J FB
NASA 5	9/15/2021	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.3	ug/L	J A FB
ST-6-824	9/16/2021	Carboy G2	NDMA_LL	NDMA_LL-FB	4164-28-7	N-Nitrodimethylamine	0.29	ng/L	J FB
700-H-670	9/29/2021	Carboy G3	8260	VOA-EB	74-87-3	Chloromethane	0.29	ug/L	J RB EB
700-H-535	9/29/2021	Carboy G3	METALS	METALS-EB	7439-95-4	Magnesium, Total	0.05	mg/L	J EB
700-H-535	9/29/2021	Carboy G3	METALS	METALS-EB	7440-24-6	Strontium, Total	0.02	mg/L	J EB
700-H-535	9/29/2021	Carboy G3	METALS	METALS-EB	7440-66-6	Zinc, Total	0.003	mg/L	J EB
200-KV-150	9/14/2021	Carboy G5	METALS	METALS-FB	7440-66-6	Zinc, Total	0.003	mg/L	J FB
700-H-535	9/29/2021	Carboy G3	METALS	METALS-EB	7440-62-2	Vanadium, Total	0.001	mg/L	J EB

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility Groundwater Monitoring Data

October 2021

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1.0 Introduction

The WSTF Groundwater Monitoring Plan (GMP) requires the preparation of a periodic report to assess the quality of groundwater analytical data reported. The monthly Quality Assurance Report (QAR) prepared and reviewed by responsible environmental contractor data management personnel provides the following information:

- A summary of notable anomalies and a follow-up on previous anomalies, if necessary.
- A summary of notable data quality issues by analytical method, if any.
- A list of the sample events for which groundwater samples were collected in October 2021.
- The quantity and type of quality control samples collected or prepared in October 2021.
- Definitions of data qualifiers used in WSTF analytical data reporting.
- The quantity and type of data qualifiers applied to individual analytical results.
- A list of quality assurance narratives for the month arranged by analytical method.
- A summary table of detections in equipment blank, field blank, and trip blank samples.

2.0 Data Quality

2.1 Notable Anomalies Identified in Previous Quality Assurance Reports

There were no notable anomalies requiring follow-up associated with previous QARs.

2.2 Notable Anomalies

There were no notable anomalies in the groundwater data associated with the October 2021 QAR.

3.0 Data Tables

Table 1 summarizes the groundwater sample events initiated in October 2021. This report is based on data quality issues related to the sample events listed in Table 1. Tables 2 through 8 contain information related to the sample events identified in Table 1. As specified by the GMP, specific quality control samples are utilized to assess the quality of analytical data. Table 2 presents the quantity of quality control samples collected for each analytical method. Table 3 compares the quality control sample percentages collected to the requirements in the GMP. When data quality criteria are not met, data qualifiers are applied to the data. Definitions of data qualifiers used for WSTF chemical analytical data are listed in Table 4. Table 5 and Table 6 present the total number of individual result records and summarize the quantity of field and laboratory data qualifiers assigned to individual analyte result records in the WSTF analytical database. Table 7 provides all quality assurance narratives associated with the sample events in Table 1. Narratives associated with qualified data are identified by **bold text** in Table 7. Table 8 provides a summary of all detections in WSTF blank samples.

Table 1 – Sample Events for October 2021

Well ID	Event Date
BLM-40-517	10/4/2021
BLM-40-595	10/4/2021
ST-7-453	10/4/2021
ST-7-544	10/4/2021
BLM-10-517	10/5/2021
BLM-40-688	10/5/2021
JP-1-424	10/6/2021
PL-10-484	10/6/2021
PL-10-592	10/6/2021
ST-7-779	10/6/2021
ST-7-970	10/6/2021
BLM-39-385	10/7/2021
BLM-39-560	10/7/2021
JER-2-504	10/7/2021
JP-3-689	10/7/2021
PL-6-725	10/12/2021
B650-EFF-1	10/13/2021
B650-INF-1	10/13/2021
JER-2-584	10/13/2021
JER-2-684	10/13/2021
PL-6-545	10/13/2021

Well ID	Event Date
JER-1-483	10/14/2021
PL-1-486	10/14/2021
BLM-6-488	10/15/2021
JER-1-563	10/15/2021
JER-1-683	10/15/2021
400-FV-131	10/18/2021
400-HV-147	10/18/2021
BLM-14-327	10/18/2021
BLM-41-420	10/18/2021

Well ID	Event Date
PFE-1	10/18/2021
PFE-2	10/18/2021
300-C-128	10/19/2021
400-IV-123	10/19/2021
B655-EFF-2	10/19/2021
B655-INF-2	10/19/2021
BLM-41-670	10/19/2021
BW-3-180	10/19/2021
WW-5-459	10/19/2021

Well ID	Event Date
WW-5-579	10/19/2021
200-LV-150	10/20/2021
PFE-4A	10/20/2021
PFE-5	10/20/2021
PFE-7	10/20/2021
WW-5-809	10/20/2021
WW-5-909	10/20/2021
600-G-138	10/21/2021
JP-2-447	10/21/2021

Table 2 - Quantity of Quality Control Samples

Method	Samples	Field Blanks	Equip Blanks	Trip Blanks	Blind Controls	Duplicates	Matrix Spikes
Chloride by EPA Method 300.0	**1**	0	0	0	0	0	0
Nitrate plus Nitrite as N by EPA Method 353.2	**8**	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**38**	**1**	**1**	0	**1**	**3**	**1**
Perchlorate by SW-846 Method 6850	**5**	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**18**	**16**	**2**	0	**1**	**4**	0
Low Level Volatile Organics by SW-846 Method 8260C	**30**	**26**	**4**	9	0	**1**	**1**
Semi-Volatile Organics by SW-846 Method 8270D	**23**	0	0	0	0	**2**	0
Anions by Various EPA Methods	**5**	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**25**	**2**	0	0	**1**	**4**	0
Nitrosamines by Low-Level Method	**32**	**28**	**4**	**10**	**1**	**4**	**1**
Total Dissolved Solids by Standard Method 2540C	**5**	0	0	0	0	0	0

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement %	Samp. Qty. since 11/1/2020	QC Qty. since 11/1/2020	QC % since 11/1/2020	Sample Quantity October 2021	QC Quantity October 2021	QC % October 2021
VOA Duplicates	10	527	55	10.44	48	5	10.42
VOA Matrix Spikes	2	527	12	2.28	48	1	2.08
607 Duplicates	10	336	32	9.52	38	3	7.89
607 Matrix Spikes	2	336	9	2.68	38	1	2.63
607 Equipment Blanks	2	336	10	2.98	38	1	2.63
607 Field Blanks	2	336	9	2.68	38	1	2.63
NDMA_LL Duplicates	10	312	37	11.86	32	4	12.50
NDMA_LL Matrix Spikes	2	312	9	2.88	32	1	3.13
Metals Duplicates	10	219	24	10.96	25	4	16.00
Metals Matrix Spikes	2	219	5	2.28	25	0	0.00
Metals Equipment Blanks	5	219	12	5.48	25	0	0.00
Metals Field Blanks	5	219	12	5.48	25	2	8.00

Quality Control Requirement	Requirement %	Sample Events since 11/1/2020	QC Qty. since 11/1/2020	QC % since 11/1/2020	Sample Events October 2021	QC Quantity October 2021	QC % October 2021
VOA Equipment Blanks and Field Blanks	*Should approach 100%*	527	527	**100%**	48	48	100%
Low Level Nitrosamine Equipment Blanks and Field Blanks	*Should approach 100%*	308	308	**100%**	32	32	100%

Quality Control Requirement	Requirement %	Shipments since 11/1/2020	TB Qty. since 11/1/2020	TB % since 11/1/2020	Shipments in October 2021	TB Quantity October 2021	QC % October 2021
VOA Trip Blank (per shipment)	*Should approach 100%*	100	100	**100%**	10	10	100%
Low Level Nitrosamine Trip Blank (per shipment)	*Should approach 100%*	93	93	**100%**	10	10	100%

Table 4 - Definitions of Data Qualifiers

Qualifier	Definition
*	User defined qualifier. See quality assurance narrative.
A	The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
AD	Relative percent difference for analyst (laboratory) duplicates was outside standard limits.
D	The reported result is from a dilution.
EB	The analyte was detected in the equipment blank.
FB	The analyte was detected in the field blank.
G	The result is an estimated value greater than the upper calibration limit.
i	The result, quantitation limit, and/or detection limit may have been affected by matrix interference.
J	The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NA	The value/result was either not analyzed for or not applicable.
ND	The analyte was not detected above the detection limit.
Q	The result for a blind control sample was outside standard limits.
QD	The relative percent difference for a field duplicate was outside standard limits.
R	The result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RB	The analyte was detected in the method blank.
S	The result was determined by the method of standard addition.
SP	The matrix spike recovery and/or the relative percent difference for matrix spike duplicates was outside standard limits.
T	The sample was analyzed outside the specified holding time or temperature.
TB	The analyte was detected in the trip blank.
TIC	The analyte was tentatively identified by a GC/MS library search and the amount reported is an estimated value.

Table 5 - Quantity of Field Based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Chloride by EPA Method 300.0	**1**	0	0	0	0	0	0	0
Nitrate plus Nitrite as N by EPA Method 353.2	**8**	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**123**	0	0	0	0	0	0	0
Perchlorate by SW-846 Method 6850	**5**	0	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0	0

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Volatile Organics by SW-846 Method 8260C	**1436**	**1**	**1**	0	**8**	**8**	0	0
Low Level Volatile Organics by SW-846 Method 8260C	**2030**	0	**1**	0	0	0	**1**	0
Semi-Volatile Organics by SW-846 Method 8270D	**1851**	0	0	0	0	0	0	0
Anions by Various EPA Methods	**20**	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**783**	0	0	0	0	**4**	0	0
Nitrosamines by Low-Level Method	**72**	**10**	**4**	**2**	0	**4**	0	0
Total Dissolved Solids by Standard Method 2540C	**5**	0	0	0	0	0	0	0

Table 6 - Quantity of Laboratory based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"*"	"A"	"AD"	"G"	"RB"	"T"	"D"	"i"	"J"
Chloride by EPA Method 300.0	**1**	0	0	0	0	0	0	0	0	0
Nitrate plus Nitrite as N by EPA Method 353.2	**8**	0	0	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**123**	0	0	0	0	0	0	**3**	0	**7**
Perchlorate by SW-846 Method 6850	**5**	0	0	0	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**1436**	0	0	0	0	**2**	0	0	0	**31**
Low Level Volatile Organics by SW-846 Method 8260C	**2030**	0	0	0	0	**1**	0	0	0	**12**
Semi-Volatile Organics by SW-846 Method 8270D	**1851**	0	**7**	0	0	0	0	**1**	0	0
Anions by Various EPA Methods	**20**	0	0	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**783**	0	0	0	0	**1**	0	0	0	**144**
Nitrosamines by Low-Level Method	**72**	0	0	0	0	0	0	0	0	**6**
Total Dissolved Solids by Standard Method 2540C	**5**	0	0	0	0	0	0	0	0	0

Table 7 – Quality Assurance Narratives

Well ID	Event Date	SW-846 Method 8260C QA Narratives
PL-6-725	**10/12/2021**	**For Low Level SW-846 Method 8260C, 1,1,2-trichloro-1,2,2-trifluoroethane (0.82 ug/L), trichloroethene (TCE) (0.27 ug/L), and trichlorofluoromethane (CFC 11) (0.3 ug/L) were detected in the equipment blank (2110121005Y) below the reporting limit with the exception of 1,1,2-trichloro-1,2,2-trifluoroethane. Affected data are appropriately qualified.**
WW-5-809	**10/20/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (13 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (5.5 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110201052B). Affected data are appropriately qualified.**
BLM-41-670	10/19/2021	For Low Level SW-846 Method 8260C, 2-propanol (15 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (5.9 ug/L) and silanol, trimethyl- (5.5 ug/L) were tentatively identified by a GC/MS library search in the field blank (2110191436C). No groundwater data are affected by this field blank contamination.
JER-2-504	**10/7/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (4.0 ug/L) was detected below the reporting limit and one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742792. Affected data are appropriately qualified.**
JP-3-689	**10/7/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (4.0 ug/L) was detected below the reporting limit and one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742792. Affected data are appropriately qualified.**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-40-688	**10/5/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (4.5 ug/L) was detected below the reporting limit and one unknown compound (8.3 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110050941A). Affected data are appropriately qualified.**
ST-7-544	**10/4/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (5.5 ug/L) was detected below the reporting limit and one unknown compound (7.4 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110041431B). Affected data are appropriately qualified.**
JP-2-447	10/21/2021	For Low Level SW-846 Method 8260C, 2-propanol (5.8 ug/L) was detected in the trip blank (2110210730C) below the reporting limit. No groundwater data are affected by this trip blank contamination.
BLM-40-517	**10/4/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (6.0 ug/L) and chloromethane (0.30 ug/L) were detected below the reporting limit and one unknown compound (8.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742130. Affected data are appropriately qualified.**
BLM-40-595	**10/4/2021**	**For Low Level SW-846 Method 8260C, 2-propanol (6.0 ug/L) and chloromethane (0.30 ug/L) were detected below the reporting limit and one unknown compound (8.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742130. Affected data are appropriately qualified.**
ST-7-453	10/4/2021	For Low Level SW-846 Method 8260C, 2-propanol (6.0 ug/L) and chloromethane (0.30 ug/L) were detected below the reporting limit and one unknown compound (8.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742130. No groundwater data are affected by this method blank contamination.
ST-7-544	10/4/2021	For Low Level SW-846 Method 8260C, 2-propanol (6.0 ug/L) and chloromethane (0.30 ug/L) were detected below the reporting limit and one unknown compound (8.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742130. No groundwater data are affected by this method blank contamination.
JP-2-447	10/21/2021	For Low Level SW-846 Method 8260C, 2-propanol (6.3 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (6.3 ug/L) and one unknown compound (6.3 ug/L) were tentatively identified by a GC/MS library search in the field blank (2110210936C). No groundwater data are affected by this field blank contamination.
WW-5-459	10/19/2021	For Low Level SW-846 Method 8260C, 2-propanol (8.2 ug/L) was detected in the field blank (2110191047B) below the reporting limit. No groundwater data are affected by this field blank contamination.
BLM-41-420	10/18/2021	For Low Level SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743561 below the reporting limit. No groundwater data are affected by this method blank contamination.
PL-6-725	10/12/2021	For Low Level SW-846 Method 8260C, chloromethane (0.3 ug/L) was detected in the trip blank (2110120800Y) below the reporting limit. No groundwater data are affected by this trip blank contamination.
BLM-40-595	**10/4/2021**	**For Low Level SW-846 Method 8260C, for matrix spike sample 2110041001A the recoveries of the majority of matrix spike duplicate (MSD) analytes and the corresponding relative percent difference (RPD) were outside laboratory control limits high. The exception was the recovery of vinyl acetate (36%) and (40%) outside low (48-172%). Affected data are appropriately qualified.**
JER-2-504	**10/7/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (6.3 ug/L) was tentatively identified by a GC/MS library search in sample 2110071401B.**
BLM-40-517	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in sample 2110041420A.**
JER-2-504	**10/7/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (6.8 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110071402B). Affected data are appropriately qualified.**
BLM-40-517	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (6.9 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110041421A). Affected data are appropriately qualified.**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
JP-3-689	**10/7/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (6.9 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110071001A). Affected data are appropriately qualified.**
BLM-40-595	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7 ug/L) was tentatively identified by a GC/MS library search in the trip blank (2110040800A). Affected data are appropriately qualified.**
ST-7-970	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.1 ug/L) was tentatively identified by a GC/MS library search in sample 2110061341B.**
BLM-40-595	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.2 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110041002A). Affected data are appropriately qualified.**
BLM-40-688	**10/5/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.2 ug/L) was tentatively identified by a GC/MS library search in sample 2110050940A.**
JP-3-689	**10/7/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.3 ug/L) was tentatively identified by a GC/MS library search in the trip blank (2110070750A). Affected data are appropriately qualified.**
ST-7-544	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.4 ug/L) was tentatively identified by a GC/MS library search in sample 2110041430B.**
BLM-40-595	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in sample 2110041000A.**
PL-10-484	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in sample 2110060934Y.**
ST-7-453	10/4/2021	For Low Level SW-846 Method 8260C, one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110041416B). No groundwater data are affected by this field blank contamination.
BLM-40-688	**10/5/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.6 ug/L) was tentatively identified by a GC/MS library search in the trip blank (2110050740A). Affected data are appropriately qualified.**
PL-10-592	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.6 ug/L) was tentatively identified by a GC/MS library search in sample 2110061420Y.**
BLM-10-517	**10/5/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.7 ug/L) was tentatively identified by a GC/MS library search in sample 2110051440A.**
JP-3-689	**10/7/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.7 ug/L) was tentatively identified by a GC/MS library search in sample 2110071000A.**
ST-7-779	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.8 ug/L) was tentatively identified by a GC/MS library search in sample 2110061326B.**
PL-10-484	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (7.9 ug/L) was tentatively identified by a GC/MS library search in the equipment blank (2110060811Y). Affected data are appropriately qualified.**
BLM-10-517	**10/5/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**
BLM-40-688	**10/5/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**
JP-1-424	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**
PL-10-484	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**
PL-10-592	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-7-779	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110061327B). Affected data are appropriately qualified.**
ST-7-779	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**
ST-7-970	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 724527. Affected data are appropriately qualified.**
BLM-10-517	**10/5/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8.1 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110051441A). Affected data are appropriately qualified.**
ST-7-970	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8.1 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110061342B). Affected data are appropriately qualified.**
JP-1-424	**10/6/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8.3 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110061401A). Affected data are appropriately qualified.**
ST-7-544	**10/4/2021**	**For Low Level SW-846 Method 8260C, one unknown compound (8.6 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742303. Affected data are appropriately qualified.**
PL-1-486	10/14/2021	For Low Level SW-846 Method 8260C, relative percent differences (RPD) for duplicate samples 2110141425C and 2110141426C were within control limits or below the calculable range.
WW-5-809	**10/20/2021**	**For Low Level SW-846 Method 8260C, silane, methoxytrimethyl- (5.7 ug/L) was tentatively identified by a GC/MS library search in sample 2110201051B.**
JER-1-563	**10/15/2021**	**For Low Level SW-846 Method 8260C, sulfur dioxide (0.27 ug/L) was tentatively identified by a GC/MS library search in sample 2110151023B.**
B650-EFF-1	10/13/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-10-517	10/5/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-40-517	10/4/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-40-595	10/4/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-40-688	10/5/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-41-420	10/18/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-1-483	10/14/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
JER-1-563	10/15/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-1-683	10/15/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-1-683	10/15/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-2-504	10/7/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-2-584	10/13/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-2-684	10/13/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JP-1-424	10/6/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JP-3-689	10/7/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-10-484	10/6/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-10-592	10/6/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-1-486	10/14/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-6-545	10/13/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PL-6-725	10/12/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-453	10/4/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-7-544	10/4/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-779	10/6/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-970	10/6/2021	For Low Level SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B650-EFF-1	10/13/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
B655-EFF-2	10/19/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-10-517	10/5/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-40-688	10/5/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-41-670	10/19/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-1-483	10/14/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-1-563	10/15/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-1-683	10/15/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-2-504	10/7/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-2-584	10/13/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-2-684	10/13/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JP-1-424	10/6/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JP-3-689	10/7/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-10-484	10/6/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-10-592	10/6/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-1-486	10/14/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-6-545	10/13/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
PL-6-725	10/12/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-544	10/4/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-779	10/6/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-970	10/6/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WW-5-459	10/19/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
WW-5-579	10/19/2021	For Low Level SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
B650-EFF-1	10/13/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
B655-EFF-2	10/19/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-10-517	10/5/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-40-517	10/4/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-40-595	10/4/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-40-688	10/5/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-41-420	10/18/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-41-670	10/19/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL).

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-1-483	10/14/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-1-563	10/15/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-1-683	10/15/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-2-504	10/7/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-2-584	10/13/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-2-684	10/13/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JP-1-424	10/6/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JP-2-447	10/21/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JP-3-689	10/7/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-10-484	10/6/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-10-592	10/6/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL).

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-1-486	10/14/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-6-545	10/13/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PL-6-725	10/12/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-453	10/4/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-544	10/4/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-779	10/6/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-970	10/6/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-459	10/19/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-579	10/19/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-809	10/20/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-909	10/20/2021	For Low Level SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL).

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
B650-EFF-1	10/13/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
B655-EFF-2	10/19/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-41-420	10/18/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
BLM-41-420	10/18/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-41-670	10/19/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
JER-1-483	10/14/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-1-563	10/15/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-1-683	10/15/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-2-584	10/13/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-2-684	10/13/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-10-592	10/6/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-1-486	10/14/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
PL-1-486	10/14/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-6-545	10/13/2021	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
WW-5-579	10/19/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-5-809	10/20/2021	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
WW-5-909	10/20/2021	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JP-1-424	**10/6/2021**	**For Low Level SW-846 Method 8260C, two unknown compounds were tentatively identified by a GC/MS library search in sample 2110061400A.**
BW-3-180	**10/19/2021**	**For SW-846 Method 8260C in blind control sample (2110191115C), the percent recoveries for 1,1,2-trichloro-1,2,2-trifluoroethane (240%), trichloroethene (220%), tetrachloroethene (230%), and trichlorofluoromethane (230%) were outside of the standard limits (75-125%). Affected data are appropriately qualified.**
PFE-2	10/18/2021	For SW-846 Method 8260C, 2-propanol (3.6 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (5.7 ug/L) was tentatively identified by a GC/MS library search in the field blank (2110180942). No groundwater data are affected by this field blank contamination.
B655-INF-2	10/19/2021	For SW-846 Method 8260C, 2-propanol (3.6 ug/L) was detected in the field blank (2110191026) below the reporting limit. No groundwater data are affected by this field blank contamination.
BLM-39-385	**10/7/2021**	**For SW-846 Method 8260C, 2-propanol (4.0 ug/L) was detected below the reporting limit and one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742792. Affected data are appropriately qualified.**
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, 2-propanol (4.0 ug/L) was detected below the reporting limit and one unknown compound (7.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742792. Affected data are appropriately qualified.**
PFE-5	**10/20/2021**	**For SW-846 Method 8260C, 2-propanol (8.3 ug/L) was detected in the field blank (2110200805) below the reporting limit. Affected data are appropriately qualified.**
200-LV-150	10/20/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743909 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-FV-131	10/18/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743561 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-HV-147	10/18/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743561 below the reporting limit. No groundwater data are affected by this method blank contamination.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
600-G-138	**10/21/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743909 below the reporting limit. Affected data are appropriately qualified.**
BLM-14-327	10/18/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743561 below the reporting limit. No groundwater data are affected by this method blank contamination.
PFE-1	10/18/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743561 below the reporting limit. No groundwater data are affected by this method blank contamination.
PFE-2	10/18/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743561 below the reporting limit. No groundwater data are affected by this method blank contamination.
PFE-4A	10/20/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743909 below the reporting limit. No groundwater data are affected by this method blank contamination.
PFE-5	**10/20/2021**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743909 below the reporting limit. Affected data are appropriately qualified.**
PFE-7	10/20/2021	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected in the method blank for analytical batch 743909 below the reporting limit. No groundwater data are affected by this method blank contamination.
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, field duplicate samples 2110071258Y and 2110071259Y the relative percent difference for 1,2-dichloro-1,1,2-trifluoroethane (CFC 123a) was 44.0%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, field duplicate samples 2110071258Y and 2110071259Y the relative percent difference for dichlorofluoromethane (CFC 21) was 29.7%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, field duplicate samples 2110071258Y and 2110071259Y the relative percent difference for trichlorofluoromethane (CFC 11) was 34.5%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, field duplicate samples 2110071258Y and 2110071259Y the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 43.1%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-39-560	10/7/2021	For SW-846 Method 8260C, field duplicate samples 2110071258Y and 2110071259Y the relative percent difference for trichloroethene (TCE) was 23.3%. Upper acceptance limit for relative percent difference is 25%.
PFE-1	10/18/2021	For SW-846 Method 8260C, field duplicate samples 2110180907 and 2110180908 the relative percent difference for trichloroethene (TCE) was 12.6%. Upper acceptance limit for relative percent difference is 25%.
PFE-1	10/18/2021	For SW-846 Method 8260C, field duplicate samples 2110180907 and 2110180908 the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 4.5%. Upper acceptance limit for relative percent difference is 25%.
PFE-1	10/18/2021	For SW-846 Method 8260C, field duplicate samples 2110180907 and 2110180908 the relative percent difference for trichlorofluoromethane (CFC 11) was 8.2%. Upper acceptance limit for relative percent difference is 25%.
400-HV-147	10/18/2021	For SW-846 Method 8260C, field duplicate samples 2110181410A and 2110181412A the relative percent difference for dichlorofluoromethane (CFC 21) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
400-HV-147	10/18/2021	For SW-846 Method 8260C, field duplicate samples 2110181410A and 2110181412A the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 7.6%. Upper acceptance limit for relative percent difference is 25%.
400-HV-147	10/18/2021	For SW-846 Method 8260C, field duplicate samples 2110181410A and 2110181412A the relative percent difference for trichlorofluoromethane (CFC 11) was 0.0%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BW-3-180	10/19/2021	For SW-846 Method 8260C, field duplicate samples 2110191050C and 2110191051C the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-39-385	10/7/2021	For SW-846 Method 8260C, one unknown compound (5.6 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 742817. No groundwater data are affected by this method blank contamination.
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, one unknown compound (6.3 ug/L) and (6.6 ug/L) was tentatively identified by a GC/MS library search in sample 2110071258Y and duplicate sample 2110071259Y.**
BLM-39-560	**10/7/2021**	**For SW-846 Method 8260C, one unknown compound (6.9 ug/L) was tentatively identified by a GC/MS library search in the equipment blank (2110070920Y). Affected data are appropriately qualified.**
600-G-138	**10/21/2021**	**For SW-846 Method 8260C, silane, fluorotrimethyl- (6.7 ug/L) was tentatively identified by a GC/MS library search in sample 2110211105A.**
PFE-1	**10/18/2021**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (5.9 ug/L) and silane, fluorotrimethyl- (5.7 ug/L) were tentatively identified by a GC/MS library search in sample 2110180907.**
BLM-39-385	**10/7/2021**	**For SW-846 Method 8260C, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analytes. The LCSD was acceptable so the data was accepted. Affected data are appropriately qualified.**
200-LV-150	10/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-FV-131	10/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-HV-147	10/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
600-G-138	10/21/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
B650-INF-1	10/13/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-14-327	10/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-39-385	10/7/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-39-385	10/7/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-39-560	10/7/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-6-488	10/15/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PFE-1	10/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PFE-2	10/18/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PFE-4A	10/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PFE-5	10/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
PFE-7	10/20/2021	For SW-846 Method 8260C, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
300-C-128	10/19/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-39-385	10/7/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-39-560	10/7/2021	For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
200-LV-150	10/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
300-C-128	10/19/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-FV-131	10/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-HV-147	10/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
400-IV-123	10/19/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
600-G-138	10/21/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
B655-INF-2	10/19/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-14-327	10/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-39-385	10/7/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-39-560	10/7/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BW-3-180	10/19/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PFE-1	10/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PFE-2	10/18/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PFE-4A	10/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PFE-5	10/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
PFE-7	10/20/2021	For SW-846 Method 8260C, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
200-LV-150	10/20/2021	For SW-846 Method 8260C, there were no detections in the field blank.
300-C-128	10/19/2021	For SW-846 Method 8260C, there were no detections in the field blank.
400-FV-131	10/18/2021	For SW-846 Method 8260C, there were no detections in the field blank.
400-HV-147	10/18/2021	For SW-846 Method 8260C, there were no detections in the field blank.
400-IV-123	10/19/2021	For SW-846 Method 8260C, there were no detections in the field blank.
600-G-138	10/21/2021	For SW-846 Method 8260C, there were no detections in the field blank.
B650-INF-1	10/13/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-14-327	10/18/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-6-488	10/15/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BW-3-180	10/19/2021	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-1	10/18/2021	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-4A	10/20/2021	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-7	10/20/2021	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-39-385	**10/7/2021**	**For SW-846 Method 8260C, trichloroethene (TCE) (0.46 ug/L), 1,2-dichloro-1,1,2-trifluoroethane (CFC 123a) (0.38 ug/L), and 1,1,2-trichloro-1,2,2-trifluoroethane (0.25 ug/L) were detected below the reporting limit and one unknown compound (5.8 ug/L) was tentatively identified by a GC/MS library search in the equipment blank (2110071420Y). Affected data are appropriately qualified.**

Well ID	Event Date	Modified EPA Method 607 QA Narratives
BW-3-180	10/19/2021	For Modified EPA Method 607 in blind control sample (2110191116C), all recoveries were within standard limits.
B650-INF-1	10/13/2021	For Modified EPA Method 607, field duplicate samples 2110131309 and 2110131310 the relative percent difference for N-nitrosodimethylamine was 9.5%. Upper acceptance limit for relative percent difference is 25%.
400-FV-131	10/18/2021	For Modified EPA Method 607, field duplicate samples 2110181002A and 2110181003A the relative percent difference for N-nitrodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
400-FV-131	10/18/2021	For Modified EPA Method 607, field duplicate samples 2110181002A and 2110181003A the relative percent difference for bromacil was 4.0%. Upper acceptance limit for relative percent difference is 25%.
400-FV-131	10/18/2021	For Modified EPA Method 607, field duplicate samples 2110181002A and 2110181003A the relative percent difference for N-nitrosodimethylamine was 4.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-14-327	10/18/2021	For Modified EPA Method 607, field duplicate samples 2110181412C and 2110181413C the relative percent difference for N-nitrosodimethylamine was 3.3%. Upper acceptance limit for relative percent difference is 25%.
BLM-14-327	10/18/2021	For Modified EPA Method 607, field duplicate samples 2110181412C and 2110181413C the relative percent difference for N-nitrodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-14-327	10/18/2021	For Modified EPA Method 607, field duplicate samples 2110181412C and 2110181413C the relative percent difference for bromacil was 2.2%. Upper acceptance limit for relative percent difference is 25%.
BLM-40-688	10/5/2021	For Modified EPA Method 607, matrix spike recoveries for sample 2110050943A were within laboratory control limits.

Well ID	Event Date	Modified EPA Method 607 QA Narratives
400-HV-147	**10/18/2021**	**For Modified EPA Method 607, NDMA and DMN exceeded the calibration range in sample 2110181413A. The sample extract was diluted 50-fold and reanalyzed. Surrogate recovery of this sample was reported from the initial analysis. Affected data are appropriately qualified.**
PL-10-592	10/6/2021	For Modified EPA Method 607, there were no detections in the equipment blank.
200-LV-150	10/20/2021	For Modified EPA Method 607, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
BLM-41-670	10/19/2021	For Low Level Nitrosamine Method in blind control sample (2110191520C), all recoveries were within standard limits.
BLM-41-420	**10/18/2021**	**For Low Level Nitrosamine Method, field duplicate samples 2110181018C and 2110181019C the relative percent difference for N-nitrosodimethylamine was 37.0%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
PFE-7	10/20/2021	For Low Level Nitrosamine Method, field duplicate samples 2110200910 and 2110200911 the relative percent difference for N-nitrosodimethylamine was 6.5%. Upper acceptance limit for relative percent difference is 25%.
WW-5-809	10/20/2021	For Low Level Nitrosamine Method, field duplicate samples 2110201054B and 2110201055B the relative percent difference for N-nitrosodimethylamine was 110.3%. This value is outside the upper acceptance limit for relative percent difference of 25%.
ST-7-544	10/4/2021	For Low Level Nitrosamine Method, for field blank 2110041501B the recovery of the internal standard NDMA-d6 (7.90%) was outside laboratory control limits (10-100%). As the native compound was detected above the PQL, there is minimal impact to the data.
JP-3-689	10/7/2021	For Low Level Nitrosamine Method, for field blank 2110071003A the recovery of the internal standard NDMA-d6 (8.88%) was outside laboratory control limits (10-100%). As the native compound was detected above the PQL in the sample, there is minimal impact to the data.
JER-2-504	10/7/2021	For Low Level Nitrosamine Method, for field blank 2110071426B the recoveries of the internal standard NDMA-d6 (2.33%) and DMN-d6 (6.86%) were outside laboratory control limits (10-100%). As the native N-nitrosodimethylamine was detected above the PQL in the sample, there is minimal impact to the data. With regard to N-nitrodimethylamine, it was not detected in the sample that contained low labeled recovery. However, as signal-to-noise in the low point calibration standard was ~225:1 for the compound, it likely would have been detected if present at the quantitation limit, even at the low recoveries present in the sample.
JP-1-424	10/6/2021	For Low Level Nitrosamine Method, for trip blank 2110060730A the recovery of the internal standard NDMA-d6 (8.06%) was outside laboratory control limits (10-100%). As the native compound was detected above the PQL in the sample, there is minimal impact to the data.
JP-3-689	10/7/2021	For Low Level Nitrosamine Method, for trip blank 2110070751A the recoveries of the internal standard NDMA-d6 (1.26%) and DMN-d6 (2.64%) were outside laboratory control limits (10-100%). As the native N-nitrosodimethylamine was detected above the PQL in the sample, there is minimal impact to the data. With regard to N-nitrodimethylamine, it was not detected in the sample that contained low labeled recovery. However, as signal-to-noise in the low point calibration standard was ~225:1 for the compound, it likely would have been detected if present at the quantitation limit, even at the low recoveries present in the sample.
BLM-40-595	10/4/2021	For Low Level Nitrosamine Method, matrix spike recoveries for sample 2110041005A and 211041006A were within laboratory control limits.
BLM-41-670	**10/19/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.42 ng/L) was detected in the trip blank (2110191251C) below the reporting limit. Affected data are appropriately qualified.**
PFE-7	**10/20/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.42 ng/L) was detected in the field blank (2110200912) below the reporting limit. Affected data are appropriately qualified.**
JER-1-483	10/14/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.46 ng/L) was detected in the field blank (2110141416B) below the reporting limit. No groundwater data are affected by this field blank contamination.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
JP-1-424	10/6/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.46 ng/L) was detected in the field blank (2110061403A) below the reporting limit. No groundwater data are affected by this field blank contamination.
BLM-40-595	10/4/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.47 ng/L) was detected in the trip blank (2110040801A) below the reporting limit. No groundwater data are affected by this trip blank contamination.
BLM-41-420	**10/18/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.49 ng/L) was detected in the field blank (2110181020C). Affected data are appropriately qualified.**
JP-1-424	10/6/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.57 ng/L) was detected in the trip blank (2110060730A). No groundwater data are affected by this trip blank contamination.
PL-10-484	**10/6/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.57 ng/L) was detected in the equipment blank (2110060812Y). Affected data are appropriately qualified.**
BLM-41-670	**10/19/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.59 ng/L) was detected in the field blank (2110191439C). Affected data are appropriately qualified.**
PL-10-592	**10/6/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.59 ng/L) was detected in the equipment blank (2110061321Y). Affected data are appropriately qualified.**
ST-7-970	10/6/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.61 ng/L) was detected in the field blank (2110061422B). No groundwater data are affected by this field blank contamination.
JER-1-683	**10/15/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.67 ng/L) was detected in the field blank (2110151051B). Affected data are appropriately qualified.**
JER-2-684	10/13/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.72 ng/L) was detected in the field blank (2110131421B). No groundwater data are affected by this field blank contamination.
ST-7-779	10/6/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.82 ug/L) was detected in the field blank (2110061411B). No groundwater data are affected by this field blank contamination.
ST-7-453	10/4/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.3 ng/L) was detected in the field blank (2110041451B). No groundwater data are affected by this field blank contamination.
ST-7-544	10/4/2021	For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.3 ng/L) was detected in the field blank (2110041501B). No groundwater data are affected by this field blank contamination.
JER-2-584	**10/13/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (1.4 ng/L) was detected in the field blank (2110131326B). Affected data are appropriately qualified.**
JP-3-689	**10/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (2.1 ng/L) was detected in the field blank (2110071003A). Affected data are appropriately qualified.**
PL-6-725	**10/12/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (2.6 ng/L) and N-nitrodimethylamine (1.1 ng/L) were detected in the equipment blank (2110121006Y). Affected data are appropriately qualified.**
JP-3-689	**10/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (6 ng/L) was detected in the trip blank (2110070751A). Affected data are appropriately qualified.**
JER-2-504	**10/7/2021**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (6.4 ng/L) was detected in the field blank (2110071426B). Affected data are appropriately qualified.**
ST-7-544	10/4/2021	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2110041500B and 2110041520B were within control limits or below the calculable range.
B650-EFF-1	10/13/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
B655-EFF-2	10/19/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-10-517	10/5/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-40-517	10/4/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-40-595	10/4/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-40-688	10/5/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
BLM-40-688	10/5/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-41-420	10/18/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-6-488	10/15/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
JER-1-563	10/15/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
JP-2-447	10/21/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
JP-2-447	10/21/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
PL-1-486	10/14/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
PL-1-486	10/14/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-6-545	10/13/2021	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-6-725	10/12/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-5-459	10/19/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-5-579	10/19/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-5-809	10/20/2021	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-5-809	10/20/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-5-909	10/20/2021	For Low Level Nitrosamine Method, there were no detections in the field blank.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
WW-5-909	**10/20/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (1,100 ug/L), seven unknown hydrocarbons, and four unknown compounds were tentatively identified by a GC/MS library search in sample 2110201328B.**
JER-2-504	**10/7/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (130 ug/L), four unknown hydrocarbons, and two unknown compounds were tentatively identified by a GC/MS library search in sample 2110071445B.**
JER-2-684	**10/13/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (160 ug/L), three unknown hydrocarbons, and six unknown compounds were tentatively identified by a GC/MS library search in sample 2110131445B.**
JER-2-584	**10/13/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (170 ug/L), five unknown hydrocarbons, and five unknown compounds were tentatively identified by a GC/MS library search in sample 2110131345B.**
JER-1-563	**10/15/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (2,800 ug/L) and five unknown compounds were tentatively identified by a GC/MS library search in sample 2110151128B.**
JER-1-683	**10/15/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (2,800 ug/L) and four unknown compounds were tentatively identified by a GC/MS library search in sample 2110151140B.**
ST-7-779	**10/6/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (23 ug/L), sulfurous acid, dodecyl 2-propyl e (11 ug/L), four unknown hydrocarbons, and two unknown compounds were tentatively identified by a GC/MS library search in sample 2110061445B.**
JER-1-483	**10/14/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (270 ug/L) was tentatively identified by a GC/MS library search in sample 2110141446B.**
ST-7-544	**10/4/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (5,100 ug/L) and two unknown compounds were tentatively identified by a GC/MS library search in sample 2110041545B.**
ST-7-453	**10/4/2021**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (540 ug/L) was tentatively identified by a GC/MS library search in sample 2110041515B.**
JER-2-504	10/7/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate (6.7 ug/L) was detected in the method blank for analytical batch 389431. No groundwater data are affected by this method blank contamination.
BLM-40-517	10/4/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		detected at 51% and 45% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-1-483	10/14/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 49% and 43% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-1-563	10/15/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 49% and 43% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-1-683	10/15/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 49% and 43% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-2-504	10/7/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 59% and 62% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-2-584	10/13/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 63% and 58% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-2-684	10/13/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 63% and 58% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-7-453	10/4/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 51% and 45% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-7-544	10/4/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 51% and 45% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-7-779	10/6/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 48% and 54% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
ST-7-970	10/6/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2- ethylhexyl) phthalate was detected at 52% and 56% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
WW-5-459	10/19/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) Phthalate was detected at 56% and 47% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
WW-5-579	10/19/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 56% and 47% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
WW-5-809	10/20/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was detected at 56% and 47% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
WW-5-909	10/20/2021	For SW-846 Method 8270D, bis(2-ethylhexyl) phthalate has been reported as zero percent recovery in the LCS/LCSD due to a limitation in LIMs. Bis(2-ethylhexyl) phthalate was

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		detected at 59% and 58% recovery, respectively, within laboratory limits. The LCS/LCSD is acceptable and should not be flagged on the summary form.
JER-2-504	10/7/2021	For SW-846 Method 8270D, field duplicate samples 2110071515B and 2110071516B the relative percent difference for 1,4-dioxane was 15.4%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For SW-846 Method 8270D, field duplicate samples 2110151110B and 2110151111B the relative percent difference for 1,4-dioxane was 2.7%. Upper acceptance limit for relative percent difference is 25%.
ST-7-779	**10/6/2021**	**For SW-846 Method 8270D, four unknown compounds and five unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 389296. Affected data are appropriately qualified.**
ST-7-970	**10/6/2021**	**For SW-846 Method 8270D, four unknown compounds and five unknown hydrocarbons were tentatively identified by a GC/MS library search in the method blank for analytical batch 389296. Affected data are appropriately qualified.**
WW-5-459	**10/19/2021**	**For SW-846 Method 8270D, four unknown hydrocarbons and one unknown compound were tentatively identified by a GC/MS library search in the method blank for analytical batch 390072. Affected data are appropriately qualified.**
WW-5-579	**10/19/2021**	**For SW-846 Method 8270D, four unknown hydrocarbons and one unknown compound were tentatively identified by a GC/MS library search in the method blank for analytical batch 390072. No groundwater data are affected by this method blank contamination.**
WW-5-809	**10/20/2021**	**For SW-846 Method 8270D, four unknown hydrocarbons and one unknown compound were tentatively identified by a GC/MS library search in the method blank for analytical batch 390072. Affected data are appropriately qualified.**
WW-5-909	**10/20/2021**	**For SW-846 Method 8270D, four unknown hydrocarbons and one unknown compound were tentatively identified by a GC/MS library search in the method blank for analytical batch 390072. Affected data are appropriately qualified.**
JER-1-483	10/14/2021	For SW-846 Method 8270D, seven unknown hydrocarbons and three unknown compounds were tentatively identified by a GC/MS library search in the method blank for analytical batch 389816. No groundwater data are affected by this method blank contamination.
JER-1-563	10/15/2021	For SW-846 Method 8270D, seven unknown hydrocarbons and three unknown compounds were tentatively identified by a GC/MS library search in the method blank for analytical batch 389816. No groundwater data are affected by this method blank contamination.
WW-5-809	**10/20/2021**	**For SW-846 Method 8270D, six unknown hydrocarbons and two unknown compounds were tentatively identified by a GC/MS library search in sample 2110201303B.**
BLM-40-517	10/4/2021	For SW-846 Method 8270D, the control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.
JER-2-504	10/7/2021	For SW-846 Method 8270D, the control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.
ST-7-453	10/4/2021	For SW-846 Method 8270D, the control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.
ST-7-544	10/4/2021	For SW-846 Method 8270D, the control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.
BLM-40-517	**10/4/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The LCSD is within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**

Well ID	Event Date	SW-846 Method 8270D QA Narratives
ST-7-453	**10/4/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The LCSD is within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
ST-7-544	**10/4/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The LCSD is within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
ST-7-779	**10/6/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The LCSD is within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
WW-5-459	**10/19/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample Duplicate (LCSD) was exceeded for one or more analyte. The LCS was within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
WW-5-579	**10/19/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample Duplicate (LCSD) was exceeded for one or more analyte. The LCS was within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
WW-5-809	**10/20/2021**	**For SW-846 Method 8270D, the lower control limit for the spike recovery of the Laboratory Control Sample Duplicate (LCSD) was exceeded for one or more analyte. The LCS was within limits for all analytes. The analytes affected are flagged in the LCS Summary. Affected data are appropriately qualified.**
BLM-40-517	10/4/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
JER-1-683	10/15/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-453	10/4/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-544	10/4/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-779	10/6/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
ST-7-970	10/6/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WW-5-459	10/19/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
WW-5-579	10/19/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WW-5-809	10/20/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
WW-5-909	10/20/2021	For SW-846 Method 8270D, the lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
BLM-40-517	10/4/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-1-483	10/14/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-1-563	10/15/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-1-683	10/15/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
JER-2-504	10/7/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). Precision is also outside limits. There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-453	10/4/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-544	10/4/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-779	10/6/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-7-970	10/6/2021	For SW-846 Method 8270D, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.
BLM-40-517	10/4/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-1-483	10/14/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-1-563	10/15/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-1-683	10/15/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-2-504	10/7/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-2-584	10/13/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
JER-2-684	10/13/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-453	10/4/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-544	10/4/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-779	10/6/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
ST-7-970	10/6/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the

Well ID	Event Date	SW-846 Method 8270D QA Narratives
		exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-459	10/19/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-579	10/19/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-809	10/20/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
WW-5-909	10/20/2021	For SW-846 Method 8270D, the upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
BLM-40-517	10/4/2021	For SW-846 Method 8270D, three unknown compounds and one unknown hydrocarbon were tentatively identified by a GC/MS library search in the method blank for analytical batch 389141. No groundwater data are affected by this method blank contamination.
ST-7-453	10/4/2021	For SW-846 Method 8270D, three unknown compounds and one unknown hydrocarbon were tentatively identified by a GC/MS library search in the method blank for analytical batch 389141. No groundwater data are affected by this method blank contamination.
ST-7-544	10/4/2021	For SW-846 Method 8270D, three unknown compounds and one unknown hydrocarbon were tentatively identified by a GC/MS library search in the method blank for analytical batch 389141. No groundwater data are affected by this method blank contamination.
JER-2-584	**10/13/2021**	**For SW-846 Method 8270D, three unknown compounds and three unknown hydrocarbons was tentatively identified by a GC/MS library search in the method blank for analytical batch 389589. Affected data are appropriately qualified.**
JER-2-684	**10/13/2021**	**For SW-846 Method 8270D, three unknown compounds and three unknown hydrocarbons was tentatively identified by a GC/MS library search in the method blank for analytical batch 389589. Affected data are appropriately qualified.**
WW-5-459	**10/19/2021**	**For SW-846 Method 8270D, two unknown compounds were tentatively identified by a GC/MS library search in sample 2110191315B.**
ST-7-970	**10/6/2021**	**For SW-846 Method 8270D, two unknown hydrocarbons and three unknown compounds were tentatively identified by a GC/MS library search in sample 2110061500B.**

Well ID	Event Date	Total Metals QA Narratives
BW-3-180	10/19/2021	For Total Metals in blind control sample (2110191117C), all recoveries were within standard limits.
JER-2-504	**10/7/2021**	**For Total Metals, aluminum (0.04 mg/L), magnesium (0.05 mg/L), and vanadium (0.0008 mg/L) were detected in the method blank for analytical batch 389622 below the reporting limit. Affected data are appropriately qualified.**
JER-1-683	10/15/2021	For Total Metals, due to a chain of custody error sample 2110151142B was not analyzed as a matrix spike sample. It will be designated and treated as a duplicate sample in the database.
ST-7-544	10/4/2021	For Total Metals, field duplicate samples 2110041610B and 2110041611B the relative percent difference for magnesium was 0.6%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	Total Metals QA Narratives
ST-7-544	10/4/2021	For Total Metals, field duplicate samples 2110041610B and 2110041611B the relative percent difference for sodium was 0.2%. Upper acceptance limit for relative percent difference is 25%.
ST-7-544	10/4/2021	For Total Metals, field duplicate samples 2110041610B and 2110041611B the relative percent difference for calcium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
ST-7-544	10/4/2021	For Total Metals, field duplicate samples 2110041610B and 2110041611B the relative percent difference for strontium was 0.4%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for barium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for calcium was 1.0%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for manganese was 0.7%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for iron was 1.2%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for strontium was 0.4%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for sodium was 1.3%. Upper acceptance limit for relative percent difference is 25%.
JER-1-683	10/15/2021	For Total Metals, field duplicate samples 2110151141B and 2110151142B the relative percent difference for magnesium was 0.5%. Upper acceptance limit for relative percent difference is 25%.
WW-5-579	**10/19/2021**	**For Total Metals, field duplicate samples 2110191410B and 2110191411B the relative percent difference for zinc was 78.2%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
WW-5-579	10/19/2021	For Total Metals, field duplicate samples 2110191410B and 2110191411B the relative percent difference for strontium was 2.6%. Upper acceptance limit for relative percent difference is 25%.
WW-5-579	10/19/2021	For Total Metals, field duplicate samples 2110191410B and 2110191411B the relative percent difference for calcium was 3.0%. Upper acceptance limit for relative percent difference is 25%.
WW-5-579	10/19/2021	For Total Metals, field duplicate samples 2110191410B and 2110191411B the relative percent difference for magnesium was 3.3%. Upper acceptance limit for relative percent difference is 25%.
WW-5-579	10/19/2021	For Total Metals, field duplicate samples 2110191410B and 2110191411B the relative percent difference for sodium was 3.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-41-670	10/19/2021	For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for barium was 1.5%. Upper acceptance limit for relative percent difference is 25%.
BLM-41-670	**10/19/2021**	**For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for manganese was 25.9%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-41-670	10/19/2021	For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for potassium was 1.5%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	Total Metals QA Narratives
BLM-41-670	10/19/2021	For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for magnesium was 1.4%. Upper acceptance limit for relative percent difference is 25%.
BLM-41-670	10/19/2021	For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for calcium was 1.1%. Upper acceptance limit for relative percent difference is 25%.
BLM-41-670	10/19/2021	For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for sodium was 1.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-41-670	10/19/2021	For Total Metals, field duplicate samples 2110191440C and 2110191441C the relative percent difference for strontium was 1.9%. Upper acceptance limit for relative percent difference is 25%.
200-LV-150	10/20/2021	For Total Metals, there were no detections in the field blank.
BLM-40-688	10/5/2021	For Total Metals, there were no detections in the field blank.

Well ID	Event Date	Miscellaneous QA Narratives
BLM-40-517	10/4/2021	For SW-846 Method 8015D, gasoline range organics (GRO) (10 ug/L) was detected in the method blank for analytical batch 775758 below the reporting limit. No groundwater data are affected by this method blank contamination.

Table 8 – WSTF Blank Sample Detections

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
BLM-41-670	10/19/2021	Carboy G5	8260_LL	VOA-FB	67-63-0	2-Propanol	15	ug/L	J FB
WW-5-809	10/20/2021	Carboy G5	8260_LL	VOA-FB	67-63-0	2-Propanol	13	ug/L	J FB
BLM-40-688	10/5/2021	Carboy G1	8260_LL	VOA-FB	TIC	Unknown	8.3	ug/L	TIC RB TB FB
PFE-5	10/20/2021	Carboy PF1	8260	VOA-FB	67-63-0	2-Propanol	8.3	ug/L	J FB
JP-1-424	10/6/2021	Carboy G1	8260_LL	VOA-FB	TIC	Unknown	8.3	ug/L	TIC RB FB
WW-5-459	10/19/2021	Carboy G5	8260_LL	VOA-FB	67-63-0	2-Propanol	8.2	ug/L	J FB
BLM-10-517	10/5/2021	Carboy G1	8260_LL	VOA-FB	TIC	Unknown	8.1	ug/L	TIC RB FB
ST-7-970	10/6/2021	Carboy G5	8260_LL	VOA-FB	TIC	Unknown	8.1	ug/L	TIC RB FB
ST-7-779	10/6/2021	Carboy G5	8260_LL	VOA-FB	TIC	Unknown	8	ug/L	TIC RB FB
PL-10-484	10/6/2021	Carboy G2	8260_LL	VOA-EB	TIC	Unknown	7.9	ug/L	TIC RB EB
BLM-40-688	10/5/2021	Carboy G1	8260_LL	VOA-TB	TIC	Unknown	7.6	ug/L	TIC RB TB FB
ST-7-453	10/4/2021	Carboy G5	8260_LL	VOA-FB	TIC	Unknown	7.5	ug/L	TIC RB FB
ST-7-544	10/4/2021	Carboy G5	8260_LL	VOA-FB	TIC	Unknown	7.4	ug/L	TIC RB FB
JP-3-689	10/7/2021	Carboy G1	8260_LL	VOA-TB	TIC	Unknown	7.3	ug/L	TIC RB TB FB
BLM-40-595	10/4/2021	Carboy G1	8260_LL	VOA-FB	TIC	Unknown	7.2	ug/L	TIC RB TB FB
BLM-40-595	10/4/2021	Carboy G1	8260_LL	VOA-TB	TIC	Unknown	7	ug/L	TIC RB TB FB
JP-3-689	10/7/2021	Carboy G1	8260_LL	VOA-FB	TIC	Unknown	6.9	ug/L	TIC RB TB FB
BLM-40-517	10/4/2021	Carboy G1	8260_LL	VOA-FB	TIC	Unknown	6.9	ug/L	TIC RB FB
BLM-39-560	10/7/2021	Carboy G2	8260	VOA-EB	TIC	Unknown	6.9	ug/L	TIC RB EB
JER-2-504	10/7/2021	Carboy G5	8260_LL	VOA-FB	TIC	Unknown	6.8	ug/L	TIC RB FB
JER-2-504	10/7/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	6.4	ng/L	* FB
JP-2-447	10/21/2021	Carboy G2	8260_LL	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	6.3	ug/L	TIC FB
JP-2-447	10/21/2021	Carboy G2	8260_LL	VOA-FB	67-63-0	2-Propanol	6.3	ug/L	J TB FB
JP-2-447	10/21/2021	Carboy G2	8260_LL	VOA-FB	TIC	Unknown	6.3	ug/L	TIC FB

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
JP-3-689	10/7/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	6	ng/L	* TB FB
BLM-41-670	10/19/2021	Carboy G5	8260_LL	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	5.9	ug/L	TIC FB
BLM-39-385	10/7/2021	Carboy G2	8260	VOA-EB	TIC	Unknown	5.8	ug/L	TIC RB EB
JP-2-447	10/21/2021	Carboy G2	8260_LL	VOA-TB	67-63-0	2-Propanol	5.8	ug/L	J TB FB
PFE-2	10/18/2021	Carboy PF1	8260	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	5.7	ug/L	TIC FB FB
ST-7-544	10/4/2021	Carboy G5	8260_LL	VOA-FB	67-63-0	2-Propanol	5.5	ug/L	J RB FB
BLM-41-670	10/19/2021	Carboy G5	8260_LL	VOA-FB	1066-40-6	Silanol, trimethyl-	5.5	ug/L	TIC FB
WW-5-809	10/20/2021	Carboy G5	8260_LL	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	5.5	ug/L	TIC FB
BLM-40-688	10/5/2021	Carboy G1	8260_LL	VOA-FB	67-63-0	2-Propanol	4.5	ug/L	J FB
PFE-2	10/18/2021	Carboy PF1	8260	VOA-FB	67-63-0	2-Propanol	3.6	ug/L	J FB
B655-INF-2	10/19/2021	Carboy PF1	8260	VOA-FB	67-63-0	2-Propanol	3.6	ug/L	J FB
PL-6-725	10/12/2021	Carboy G1	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	2.6	ng/L	EB
JP-3-689	10/7/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	2.1	ng/L	* TB FB
JER-2-584	10/13/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	1.4	ng/L	FB
ST-7-544	10/4/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	1.3	ng/L	* FB
ST-7-453	10/4/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	1.3	ng/L	FB
PL-6-725	10/12/2021	Carboy G1	NDMA_LL	NDMA_LL-EB	4164-28-7	N-Nitrodimethylamine	1.1	ng/L	EB
ST-7-779	10/6/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.82	ng/L	FB
PL-6-725	10/12/2021	Carboy G1	8260_LL	VOA-EB	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.82	ug/L	EB
JER-2-684	10/13/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.72	ng/L	FB
JER-1-683	10/15/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.67	ng/L	FB
ST-7-970	10/6/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.61	ng/L	FB
BLM-41-670	10/19/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.59	ng/L	TB FB
PL-10-592	10/6/2021	Carboy G2	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.59	ng/L	EB
PL-10-484	10/6/2021	Carboy G2	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.57	ng/L	EB
JP-1-424	10/6/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.57	ng/L	* TB FB
BLM-41-420	10/18/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.49	ng/L	FB
BLM-40-595	10/4/2021	Carboy G1	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.47	ng/L	J TB
JER-1-483	10/14/2021	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.46	ng/L	J FB
BLM-39-385	10/7/2021	Carboy G2	8260	VOA-EB	79-01-6	Trichloroethene (TCE)	0.46	ug/L	J EB
JP-1-424	10/6/2021	Carboy G1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.46	ng/L	J TB FB
PFE-7	10/20/2021	Carboy PF1	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.42	ng/L	J FB
BLM-41-670	10/19/2021	Carboy G5	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.42	ng/L	J TB FB

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
BLM-39-385	10/7/2021	Carboy G2	8260	VOA-EB	354-23-4	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.38	ug/L	J EB
PL-6-725	10/12/2021	Carboy G1	8260_LL	VOA-TB	74-87-3	Chloromethane	0.3	ug/L	J TB
PL-6-725	10/12/2021	Carboy G1	8260_LL	VOA-EB	75-69-4	Trichlorofluoromethane (CFC 11)	0.3	ug/L	J EB
PL-6-725	10/12/2021	Carboy G1	8260_LL	VOA-EB	79-01-6	Trichloroethene (TCE)	0.27	ug/L	J EB
BLM-39-385	10/7/2021	Carboy G2	8260	VOA-EB	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.25	ug/L	J EB

Appendix D
Comparison to Cleanup Levels

Appendix D.1: Groundwater Monitoring Wells
Appendix D.2: PFTS
Appendix D.3: MPITS

Appendix D.1
Groundwater Monitoring Wells

Analytical Results for Groundwater Monitoring Wells that Exceed Clean Up Levels

CAS Number 62-75-9 Analyte N-Nitrosodimethylamine

Cleanup Level 0.0011 ug/L (1.1 ng/L) Source GMP

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
300-A-120	9/13/2021	607	2109131004A	N-Nitrosodimethylamine	1.3	µg/L	0.0097	0.0049	58	QD
300-A-120	9/13/2021	607	2109131003A	N-Nitrosodimethylamine	1.7	µg/L	0.0096	0.0048	58	QD
300-C-128	10/19/2021	607	2110191412A	N-Nitrosodimethylamine	3.9	µg/L	0.0096	0.0048	50	
400-EV-131	8/2/2021	607	2108021003C	N-Nitrosodimethylamine	0.78	µg/L	0.01	0.0052	44	
400-FV-131	10/18/2021	607	2110181002A	N-Nitrosodimethylamine	0.76	µg/L	0.0098	0.0049	53	
400-FV-131	10/18/2021	607	2110181003A	N-Nitrosodimethylamine	0.73	µg/L	0.0094	0.0047	53	
400-GV-125	8/3/2021	607	2108030902C	N-Nitrosodimethylamine	2.5	µg/L	0.0094	0.0047	44	
400-HV-147	10/18/2021	607	2110181413A	N-Nitrosodimethylamine	170	µg/L	0.49	0.24	53	D
400-JV-150	8/2/2021	607	2108021420C	N-Nitrosodimethylamine	2.6	µg/L	0.0098	0.0049	44	
400-JV-150	8/2/2021	607	2108021421C	N-Nitrosodimethylamine	2.6	µg/L	0.0098	0.0049	44	
BLM-14-327	10/18/2021	607	2110181413C	N-Nitrosodimethylamine	0.3	µg/L	0.0095	0.0048	53	
BLM-14-327	10/18/2021	607	2110181412C	N-Nitrosodimethylamine	0.31	µg/L	0.0094	0.0047	53	
BLM-21-400	8/5/2021	607	2108050855B	N-Nitrosodimethylamine	0.4	µg/L	0.0095	0.0048	39	
BLM-21-400	8/5/2021	607	2108050856B	N-Nitrosodimethylamine	0.41	µg/L	0.0095	0.0048	39	
BLM-23-431	8/3/2021	607	2108031423C	N-Nitrosodimethylamine	0.23	µg/L	0.0094	0.0047	44	
BLM-32-543	8/9/2021	NDMA_LL	2108091505B	N-Nitrosodimethylamine	2.2	ng/L	0.48	0.44		FB QD
BLM-32-543	8/9/2021	NDMA_LL	2108091550B	N-Nitrosodimethylamine	1.6	ng/L	0.48	0.44		FB QD
BLM-39-385	10/7/2021	607	2110120835Y	N-Nitrosodimethylamine	3.2	µg/L	0.0094	0.0047	58	
BLM-39-560	10/7/2021	607	2110071300Y	N-Nitrosodimethylamine	0.012	µg/L	0.0095	0.0048	56	
BLM-41-420	10/18/2021	NDMA_LL	2110181018C	N-Nitrosodimethylamine	1.6	ng/L	0.48	0.4		QD FB
BLM-41-420	10/18/2021	NDMA_LL	2110181019C	N-Nitrosodimethylamine	1.1	ng/L	0.48	0.4		QD FB
BLM-42-569	9/7/2021	NDMA_LL	2109070923C	N-Nitrosodimethylamine	1.6	ng/L	0.47	0.4		RB * TB FB
BLM-42-709	9/7/2021	NDMA_LL	2109071457C	N-Nitrosodimethylamine	1.5	ng/L	0.47	0.4		RB * FB
BLM-5-527	9/20/2021	607	2109201007C	N-Nitrosodimethylamine	0.11	µg/L	0.0094	0.0047	54	
BLM-9-419	9/2/2021	607	2109021033C	N-Nitrosodimethylamine	0.0086	µg/L	0.0095	0.0048	42	J
BLM-9-419	9/2/2021	607	2109021034C	N-Nitrosodimethylamine	0.0075	µg/L	0.0094	0.0047	42	J
BW-1-268	9/9/2021	607	2109090817B	N-Nitrosodimethylamine	6.1	µg/L	0.0096	0.0048	58	
JER-2-504	10/7/2021	NDMA_LL	2110071425B	N-Nitrosodimethylamine	3	ng/L	0.5	0.42		FB
JER-2-584	10/13/2021	NDMA_LL	2110131325B	N-Nitrosodimethylamine	1.1	ng/L	0.48	0.4		FB
JER-2-684	10/13/2021	NDMA_LL	2110131420B	N-Nitrosodimethylamine	7.7	ng/L	0.49	0.41		
JP-3-689	10/7/2021	NDMA_LL	2110071002A	N-Nitrosodimethylamine	1.8	ng/L	0.48	0.4		TB FB
NASA 10	9/15/2021	607	2109151423C	N-Nitrosodimethylamine	0.058	µg/L	0.0095	0.0048	58	
NASA 10	9/15/2021	607	2109151424C	N-Nitrosodimethylamine	0.055	µg/L	0.0095	0.0048	58	
NASA 5	9/15/2021	607	2109150923C	N-Nitrosodimethylamine	0.47	µg/L	0.0095	0.0048	58	

CAS Number 62-75-9 Analyte N-Nitrosodimethylamine

Cleanup Level 0.0011 ug/L (1.1 ng/L) Source GMP

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
PL-10-484	10/6/2021	NDMA_LL	2110061015Y	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		EB
PL-11-530	9/13/2021	NDMA_LL	2109131350B	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		RB FB QD
PL-12-570	8/4/2021	NDMA_LL	2108040943C	N-Nitrosodimethylamine	3.2	ng/L	0.49	0.34		FB
PL-12-800	8/3/2021	NDMA_LL	2108041438C	N-Nitrosodimethylamine	4.6	ng/L	0.48	0.33		FB
PL-2-504	9/14/2021	607	2109140943A	N-Nitrosodimethylamine	0.26	µg/L	0.0095	0.0048	58	QD
PL-2-504	9/14/2021	607	2109140942A	N-Nitrosodimethylamine	0.2	µg/L	0.0094	0.0047	58	QD
PL-7-480	8/10/2021	NDMA_LL	2108101001Y	N-Nitrosodimethylamine	1.4	ng/L	0.49	0.45		EB
PL-8-605	9/2/2021	NDMA_LL	2109021310Y	N-Nitrosodimethylamine	1.1	ng/L	0.48	0.4		RB * EB
ST-4-481	9/2/2021	NDMA_LL	2109021002B	N-Nitrosodimethylamine	1.7	ng/L	0.48	0.4		RB * TB FB
ST-4-690	9/2/2021	NDMA_LL	2109021502B	N-Nitrosodimethylamine	1.7	ng/L	0.49	0.41		RB * FB
ST-5-1175	8/4/2021	NDMA_LL	2108050850Y	N-Nitrosodimethylamine	2.4	ng/L	0.48	0.33		EB
ST-5-655	8/2/2021	NDMA_LL	2108021321Y	N-Nitrosodimethylamine	3.3	ng/L	0.49	0.34		EB
ST-5-815	8/3/2021	NDMA_LL	2108040825Y	N-Nitrosodimethylamine	1.3	ng/L	0.48	0.33		EB
ST-5-985	8/2/2021	NDMA_LL	2108030950Y	N-Nitrosodimethylamine	1.6	ng/L	0.47	0.33		EB
ST-6-568	9/15/2021	NDMA_LL	2109151345B	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		RB A FB QD
ST-6-824	9/16/2021	NDMA_LL	2109161328B	N-Nitrosodimethylamine	1.3	ng/L	0.47	0.4		RB * FB
WB-5-345	8/17/2021	607	2108180846Y	N-Nitrosodimethylamine	0.0078	µg/L	0.0097	0.0049	44	J
WW-2-664	9/8/2021	NDMA_LL	2109081427B	N-Nitrosodimethylamine	1.8	ng/L	0.47	0.4		RB * FB
WW-3-469	9/1/2021	NDMA_LL	2109091500Y	N-Nitrosodimethylamine	2.3	ng/L	0.49	0.41		RB EB *
WW-3-569	9/1/2021	NDMA_LL	2109071555Y	N-Nitrosodimethylamine	7.1	ng/L	0.48	0.4		QD
WW-5-459	10/19/2021	NDMA_LL	2110191310B	N-Nitrosodimethylamine	4.5	ng/L	0.49	0.41		
WW-5-579	10/19/2021	NDMA_LL	2110191325B	N-Nitrosodimethylamine	4.1	ng/L	0.49	0.41		
WW-5-809	10/20/2021	NDMA_LL	2110201054B	N-Nitrosodimethylamine	1.3	ng/L	0.47	0.4		QD
WW-5-809	10/20/2021	NDMA_LL	2110201055B	N-Nitrosodimethylamine	4.5	ng/L	0.49	0.41		QD
WW-5-909	10/20/2021	NDMA_LL	2110201104B	N-Nitrosodimethylamine	1.7	ng/L	0.48	0.4		

CAS Number 127-18-4 **Analyte** Tetrachloroethene (PCE)

Cleanup Level 5 ug/L **Source** GMP

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
BLM-39-385	10/7/2021	8260	2110071520Y	Tetrachloroethene (PCE)	6.8	ug/L	1	0.21		

CAS Number 79-01-6 **Analyte** Trichloroethene (TCE)

Cleanup Level 4.9 ug/L **Source** GMP

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
200-JG-110	9/20/2021	8260	2109200855A	Trichloroethene (TCE)	24	ug/L	1	0.2		
200-JG-110	9/20/2021	8260	2109200856A	Trichloroethene (TCE)	23	ug/L	1	0.2		
200-SG-1	9/7/2021	8260	2109071050B	Trichloroethene (TCE)	110	ug/L	1	0.2		
600-G-138	10/21/2021	8260	2110211105A	Trichloroethene (TCE)	32	ug/L	1	0.2		
BLM-14-327	10/18/2021	8260	2110181410C	Trichloroethene (TCE)	75	ug/L	1	0.2		
BLM-21-400	8/5/2021	8260	2108050853B	Trichloroethene (TCE)	48	ug/L	1	0.2		
BLM-23-431	8/3/2021	8260	2108031420C	Trichloroethene (TCE)	53	ug/L	1	0.2		Q
BLM-23-431	8/3/2021	8260	2108031421C	Trichloroethene (TCE)	51	ug/L	1	0.2		Q
BLM-39-385	10/7/2021	8260	2110071520Y	Trichloroethene (TCE)	180	ug/L	1	0.2		
BLM-39-560	10/7/2021	8260	2110071258Y	Trichloroethene (TCE)	12	ug/L	1	0.2		
BLM-39-560	10/7/2021	8260	2110071259Y	Trichloroethene (TCE)	9.5	ug/L	1	0.2		
BLM-5-527	9/20/2021	8260	2109201005C	Trichloroethene (TCE)	28	ug/L	1	0.2		
PL-12-570	8/4/2021	8260	2108040940C	Trichloroethene (TCE)	13	ug/L	1	0.2		
PL-2-504	9/14/2021	8260	2109140940A	Trichloroethene (TCE)	72	ug/L	1	0.2		

Appendix D.2
PFTS

Analytical Results for PFTS and PFE Wells that Exceed Clean Up Levels

CAS Number 62-75-9 **Analyte N-Nitrosodimethylamine**

Cleanup Level 0.0011 ug/L (1.1 ng/L) **Source GMP**

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
B650-INF-1	8/12/2021	607	2108120942	N-Nitrosodimethylamine	0.087	µg/L	0.0097	0.0049	43	
B650-INF-1	10/13/2021	607	2110131309	N-Nitrosodimethylamine	0.033	µg/L	0.0097	0.0049	58	
B650-INF-1	10/13/2021	607	2110131310	N-Nitrosodimethylamine	0.03	µg/L	0.0098	0.0049	58	
B650-INF-1	9/27/2021	607	2109270948	N-Nitrosodimethylamine	0.068	µg/L	0.0099	0.005	61	
PFE-1	10/18/2021	607	2110180911	N-Nitrosodimethylamine	0.063	µg/L	0.0096	0.0048	53	
PFE-1	9/30/2021	607	2109301532	N-Nitrosodimethylamine	0.055	µg/L	0.0095	0.0048	55	
PFE-2	10/18/2021	607	2110180943	N-Nitrosodimethylamine	0.2	µg/L	0.0095	0.0048	53	
PFE-4A	10/20/2021	607	2110200829	N-Nitrosodimethylamine	0.009	µg/L	0.01	0.005	50	J
PFE-5	10/20/2021	607	2110200806	N-Nitrosodimethylamine	0.53	µg/L	0.0095	0.0048	50	
PFE-7	10/20/2021	NDMA_LL	2110200911	N-Nitrosodimethylamine	1.5	ng/L	0.5	0.42		FB
PFE-7	10/20/2021	NDMA_LL	2110200910	N-Nitrosodimethylamine	1.6	ng/L	0.48	0.4		FB

CAS Number 79-01-6 **Analyte** Trichloroethene (TCE)

Cleanup Level 4.9 ug/L **Source** GMP

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
B650-INF-1	8/12/2021	8260	2108120940	Trichloroethene (TCE)	35	ug/L	1	0.2		
B650-INF-1	9/27/2021	8260	2109270946	Trichloroethene (TCE)	13	ug/L	1	0.2		
PFE-1	10/18/2021	8260	2110180907	Trichloroethene (TCE)	5.9	ug/L	1	0.2		
PFE-1	10/18/2021	8260	2110180908	Trichloroethene (TCE)	5.2	ug/L	1	0.2		
PFE-2	10/18/2021	8260	2110180941	Trichloroethene (TCE)	67	ug/L	1	0.2		
PFE-5	10/20/2021	8260	2110200804	Trichloroethene (TCE)	74	ug/L	1	0.2		

Appendix D.3
MPITS

Analytical Results for MPITS and MPE Wells that Exceed Clean Up Levels

CAS Number 62-75-9 **Analyte N-Nitrosodimethylamine**

Clean Up Level 0.0011 ug/L (1.1 ng/L) **Source GMP**

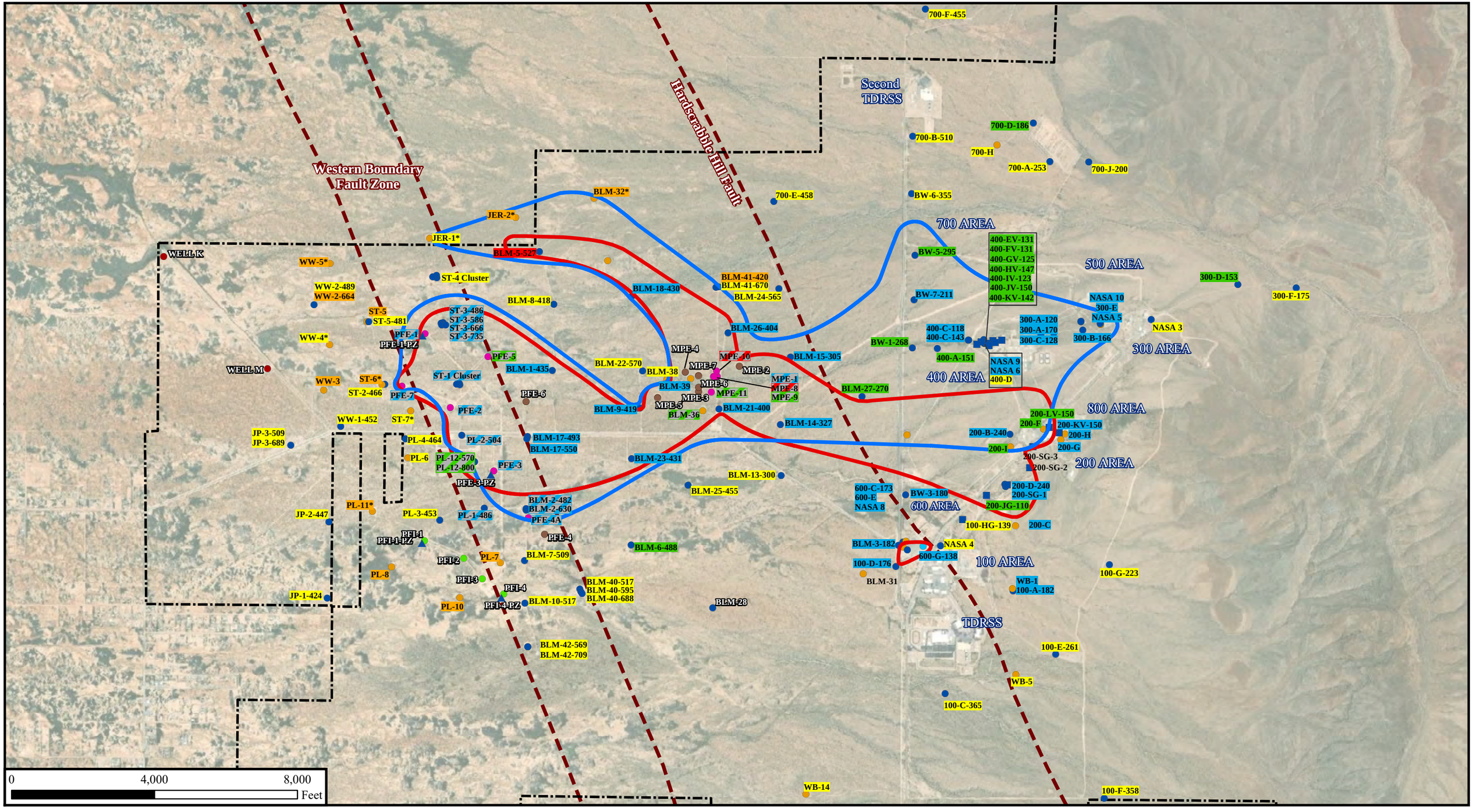
Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
B655-EFF-2	8/12/2021	NDMA_LL	2108121009	N-Nitrosodimethylamine	1.4	ng/L	0.48	0.44		RB * A FB
B655-INF-2	9/13/2021	607	2109130937	N-Nitrosodimethylamine	1.6	µg/L	0.0094	0.0047	58	
B655-INF-2	10/19/2021	607	2110191027	N-Nitrosodimethylamine	1.3	µg/L	0.0095	0.0048	50	
B655-INF-2	8/12/2021	607	2108121027	N-Nitrosodimethylamine	2.6	µg/L	0.0099	0.005	43	
MPE-1	8/16/2021	607	2108160928	N-Nitrosodimethylamine	3.2	µg/L	0.0095	0.0048	44	
MPE-10	8/16/2021	607	2108161222	N-Nitrosodimethylamine	3	µg/L	0.0095	0.0048	44	
MPE-10	8/16/2021	607	2108161223	N-Nitrosodimethylamine	2.9	µg/L	0.0095	0.0048	44	
MPE-11	8/16/2021	607	2108161243	N-Nitrosodimethylamine	0.13	µg/L	0.0095	0.0048	44	
MPE-11	8/16/2021	607	2108161244	N-Nitrosodimethylamine	0.13	µg/L	0.0095	0.0048	44	
MPE-8	8/16/2021	607	2108160947	N-Nitrosodimethylamine	2.3	µg/L	0.0096	0.0048	44	
MPE-9	8/16/2021	607	2108160957	N-Nitrosodimethylamine	4.2	µg/L	0.0097	0.0049	44	

CAS Number 79-01-6 **Analyte** Trichloroethene (TCE)

Clean Up Level 4.9 ug/L **Source** GMP

Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
B655-INF-2	9/13/2021	8260	2109130935	Trichloroethene (TCE)	40	ug/L	1	0.2		
B655-INF-2	8/12/2021	8260	2108121025	Trichloroethene (TCE)	72	ug/L	1	0.2		
B655-INF-2	10/19/2021	8260	2110191025	Trichloroethene (TCE)	39	ug/L	1	0.2		
MPE-1	8/16/2021	8260	2108160925	Trichloroethene (TCE)	75	ug/L	1	0.2		
MPE-1	8/16/2021	8260	2108160926	Trichloroethene (TCE)	70	ug/L	1	0.2		
MPE-10	8/16/2021	8260	2108161220	Trichloroethene (TCE)	61	ug/L	1	0.2		
MPE-8	8/16/2021	8260	2108160945	Trichloroethene (TCE)	71	ug/L	1	0.2		
MPE-9	8/16/2021	8260	2108160955	Trichloroethene (TCE)	87	ug/L	1	0.2		

Appendix E
Time Concentration Plots



Time Concentration Plot Interpretations for Fourth Quarter 2021

Interpretations

- Non-Detect
- Fluctuating Low-Level NDMA Detections (≥1.1 ng/L)
- Natural Migration - No Overall Trend
- Natural Migration - Decreasing T-C
- Natural Migration - Increasing T-C
- Pumping-Related Migration - No Overall Trend
- Pumping-Related Migration - Decreasing T-C
- Pumping-Related Migration - Increasing T-C

Well Type

- Conventional Well
- Perched Well
- Multiport Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well

* Multiport well with FLUTe sampling system.

Other

- NDMA Cleanup Level (1.1 ng/L)
- TCE Cleanup Level (4.9 ug/L)
- Fault
- WSTF Boundary

N W E S

January 2022

Appendix E:

Reporting Period: 4Q/2021

Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Upgradient Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
100-F-358 Conv	2005	Non Detect	0.48 DL	2010	0.24 DL	2021	0.43 DL	2010	0.21 DL	2021	0.63 DL	2010	0.2 DL	2021	0.005 DL	NP	2012	0.004 DL	NP	2021	N/A		N/A	
100-G-223 Conv	2005	Non Detect	0.48 DL	2010	0.24 DL	2021	0.43 DL	2010	0.21 DL	2021	0.63 DL	2010	0.2 DL	2021	0.005 DL	NP	2012	0.004 DL	NP	2021	N/A		N/A	
300-F-175 Conv	2005	Non Detect	0.48 DL	2010	0.24 DL	2021	0.43 DL	2010	0.21 DL	2021	0.63 DL	2010	0.2 DL	2021	0.005 DL	NP	2016	0.004 DL	NP	2021	N/A		N/A	
NASA 3 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	

100/600 Area Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
100-C-365 Conv	1989	Non Detect	1.00 DL	2010	0.24 DL	2021	1.00 DL	2010	0.21 DL	2021	1.00 DL	2010	0.2 DL	2021	0.05 RL	NP	1992	0.004 DL	NP	2021	N/A		N/A	
100-D-176 Conv	1997	Natural Migration (Decreasing)	1.60 DL	2003	0.24 DL	2020	2.00 DL	1999	0.21 DL	2020	9.60	1999	2.50	2020	0.05 RL	NP	1997	0.004 DL	NP	2020	N/A		N/A	
100-HG-139 MSVGM	2011	Non Detect	0.79 J	2011	0.24 DL	2021	0.33 J	2015	0.21 DL	2021	10	2014	0.2 DL	2021	0.005 DL	NP	2020	0.004 DL	NP	2021	0.93 RB FB	2012	0.93 RB FB	2012
600-C-173 Conv	1988	Natural Migration (Decreasing)	5.00 RL	1988	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	9.00	1998	1.80 RB FB	2021	0.1	NP	1988	0.004 DL	NP	2021	N/A		N/A	
600-E WestBay	1998	Natural Migration (Decreasing)	1.60 DL	2002	0.24 DL	2021	2.00 DL	1999	0.21 DL	2021	2.00 DL	1999	0.61 J	2021	0.005 DL	NP	2016	0.004 DL	NP	2021	N/A		N/A	
600-G-138 Conv	2011	Natural Migration (Decreasing)	5.10	2017	0.84 J	2021	0.3 DL	2018	0.21 DL	2021	130	2012	32	2021	0.1 DL	NP	2021	0.1 DL	NP	2021	0.96 RB FB	2012	0.96 RB FB	2012
BW-3-180 Conv	1988	Natural Migration (Decreasing)	10	1988	0.33 J Q	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
NASA 4 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2021	2.50 RL	1995	0.21 DL	2021	3.50	2009	0.33 J RB FB	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
NASA 8 Conv	1988	Natural Migration (Decreasing)	5.00	1996	0.27 DL	2018	2.50 RL	1996	0.28 DL	2018	130	1995	7.90	2018	0.05 RL	NP	1993	0.004 DL	NP	2018	N/A		N/A	

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
WB-1 Westbay	1990	Natural Migration (Decreasing)	15	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.26 J	2021	0.05 RL	NP	1993	0.004 DL	NP	2021	N/A		N/A	

200 Area Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
200-B-240 Conv	1989	Natural Migration (Decreasing)	280	1996	92	2021	15 QD	1989	2.90	2021	290 QD	1989	61	2021	1.60	25	1993	0.37	38	2021	N/A		N/A	
200-C WestBay	1993	Natural Migration (Decreasing)	51	1996	16	2021	2.50 RL	1996	0.21 DL	2021	4.30	2003	2.50	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
200-D-240 Conv	1988	Natural Migration (Decreasing)	240 QD	1995	54	2021	2.50 RL	1995	0.31 J	2021	110	1990	14	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
200-F WestBay	1995	Natural Migration (No Overall Trend)	41	2005	5.50	2021	2.50 RL	1996	0.45 J	2021	34	2009	21	2021	0.41 J A	1	2021	0.41 J A	1	2021	N/A		N/A	
200-G WestBay	1995	Natural Migration (Decreasing)	55	1995	5.10	2020	2.50 RL	1996	0.21 DL	2020	4.80	2004	2.20	2020	0.05 RL	NP	1997	0.004 DL	NP	2020	N/A		N/A	
200-H WestBay	1994	Natural Migration (Decreasing)	6.00	2003	0.92 J	2021	2.50 RL	1996	0.21 DL	2021	3.00 J	1997	0.2 DL	2021	0.05 RL	NP	1997	0.005 DL	NP	2021	N/A		N/A	
200-I WestBay	1997	Natural Migration (No Overall Trend)	2.40 J	1999	0.29 J	2020	2.00 DL	1999	0.62 J RB	2020	35	2019	26	2020	0.021 J	42	2006	0.004 DL	NP	2020	N/A		N/A	
200-JG-110 MSVGM	2012	Natural Migration (No Overall Trend)	17	2013	5.20	2021	2.20	2020	2.10	2021	25	2013	24	2021	0.005 DL	NP	2012	0.004 DL	NP	2021	0.93 J	2012	0.93 J	2012
200-KV-150 MSVGM	2015	Natural Migration (Decreasing)	90	2020	18	2021	0.3 DL	2015	0.21 DL	2021	22	2020	2.90	2021	0.005 DL	NP	2020	0.004 DL	NP	2021	N/A		N/A	
200-LV-150 Conv	2018	Natural Migration (No Overall Trend)	0.27 DL	2018	0.24 DL	2021	0.3 DL	2018	0.21 DL	2021	0.89 J Q	2018	0.24 J	2021	0.004 DL	NP	2018	0.004 DL	NP	2021	N/A		N/A	
200-SG-1 MSVGM	2004	Natural Migration (Decreasing)	81	2008	9.10	2021	17	2007	4.60	2021	380	2007	110	2021	0.016 J	44	2008	0.004 DL	NP	2021	N/A		N/A	
BLM-3-182 Conv	1988	Natural Migration (Decreasing)	10	1988	0.24 DL	2020	2.50 RL	1995	0.21 DL	2020	41	1991	2.80	2020	0.05 RL	NP	1997	0.004 DL	NP	2020	N/A		N/A	

300/400 Area Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
300-A-120 Conv	1988	Natural Migration (Decreasing)	4300 FB	1996	52	2021	2.50 RL	1996	0.21 DL	2021	2.50	2004	0.34 J	2021	46	24	1990	2.90 QD	58	2021	N/A		N/A	
300-A-170 Conv	1988	Natural Migration (Decreasing)	6000	1988	320	2021	2.50 RL	1996	0.21 DL	2021	7.00	1988	1.10	2021	48 QD	21	1995	3.80	39	2021	N/A		N/A	
300-B-166 Conv	1988	Natural Migration (Decreasing)	1600	1988	190	2021	2.50 RL	1996	0.21 DL	2021	8.00	1988	0.2 DL	2021	14	39	1991	7.80	36	2021	N/A		N/A	
300-C-128 Conv	1988	Natural Migration (Decreasing)	3000	1988	420	2021	2.50 RL	1996	0.21 DL	2021	3.70 J	1996	2.10	2021	47	32	2000	7.80	50	2021	N/A		N/A	
300-D-153 Conv	1988	Natural Migration (No Overall Trend)	6.30	2013	2.20	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
300-E WestBay	1995	Natural Migration (Decreasing)	180	1996	9.00	2021	2.50 RL	1996	0.21 DL	2021	9.30	1997	1.40	2021	49 A	1	2021	0.004 DL	NP	2021	N/A		N/A	
400-A-151 Conv	1989	Natural Migration (No Overall Trend)	450	1990	200	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	1.20	2021	280	18	1991	16	34	2021	N/A		N/A	
400-C-118 Conv	1989	Natural Migration (Decreasing)	1600	1989	200	2019	2.50 RL	1996	0.21 DL	2019	5.00	1989	1.60	2019	87	38	1989	4.90	55	2019	N/A		N/A	
400-C-143 Conv	1989	Natural Migration (Decreasing)	1600	1989	190	2020	2.50 RL	1996	0.21 DL	2020	2.50 RL	1996	0.97 J	2020	93	15	1989	6.50	34	2020	N/A		N/A	
400-EV-131 MSVGM	2017	Natural Migration (No Overall Trend)	520	2017	130	2021	0.3 DL	2018	0.21 DL	2021	13	2017	1.00	2021	3.30	46	2020	1.80	44	2021	N/A		N/A	
400-FV-131 MSVGM	2017	Natural Migration (No Overall Trend)	290	2021	28	2021	0.3 DL	2018	0.21 DL	2021	1.90	2021	0.26 J	2021	3.30	60	2020	1.40	53	2021	N/A		N/A	
400-GV-125 MSVGM	2017	Natural Migration (No Overall Trend)	320	2021	180	2021	0.3 DL	2018	0.21 DL	2021	1.80	2021	1.50	2021	5.70	44	2021	5.70	44	2021	N/A		N/A	
400-HV-147 MSVGM	2017	Natural Migration (No Overall Trend)	240	2021	160	2021	0.3 DL	2018	0.21 DL	2021	2.00	2017	0.93 J	2021	320 D	53	2021	320 D	53	2021	N/A		N/A	
400-IV-123 MSVGM	2017	Natural Migration (No Overall Trend)	430	2017	140	2021	0.93 J	2018	0.21 DL	2021	0.29 J	2021	0.29 J	2021	0.041	87	2017	0.004 DL	NP	2021	N/A		N/A	

Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
400-JV-150 MSVGM	2017	Natural Migration (No Overall Trend)	970	2021	500	2021	0.3 DL	2018	0.21 DL	2021	1.50	2017	0.64 J	2021	5.90	44	2021	5.90	44	2021	N/A		N/A	
400-KV-142 MSVGM	2017	Natural Migration (No Overall Trend)	1700	2018	990	2019	7.00 DL	2018	0.21 DL	2019	5.00 DL	2018	0.37 J	2019	1.50	36	2019	1.50	36	2019	N/A		N/A	
BW-1-268 Conv	1989	Natural Migration (No Overall Trend)	1100	1989	190	2021	2.50 RL	1996	0.21 DL	2021	5.00	1989	1.10	2021	130	18	1991	11	58	2021	N/A		N/A	
BW-5-295 Conv	1989	Natural Migration (No Overall Trend)	360	1989	45	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.36 J	2021	1.90	49	1997	1.10	36	2021	N/A		N/A	
BW-7-211 Conv	1989	Natural Migration (Decreasing)	2400	1991	200 QD	2021	2.50 RL	1995	0.21 DL	2021	13	1989	1.30	2021	17	34	1994	2.10	42	2021	N/A		N/A	
NASA 10 Conv	1988	Natural Migration (Decreasing)	250	1996	11	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	4.70	19	1996	0.099	58	2021	N/A		N/A	
NASA 5 Conv	1988	Natural Migration (Decreasing)	350	1991	25 Q	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	13	19	1996	0.81	58	2021	N/A		N/A	
NASA 6 Conv	1988	Natural Migration (Decreasing)	1300	1996	200	2020	2.50 RL	1996	0.21 DL	2020	5.00	1990	0.23 J	2020	95	21	1996	35 D	60	2020	N/A		N/A	
NASA 9 Conv	1988	Natural Migration (Decreasing)	2000	1996	110	2019	12 RL	1988	0.21 DL	2019	12 RL	1988	0.56 J	2019	18	32	1990	1.40	52	2019	N/A		N/A	

Northern Boundary Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
700-A-253 Conv	1990	Non Detect	2.50 RL	1996	0.16 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
700-B-510 Conv	1990	Non Detect	2.50 RL	1995	0.24 DL	2020	2.50 RL	1995	0.21 DL	2020	2.50 RL	1995	0.2 DL	2020	0.05 RL	NP	1997	0.004 DL	NP	2020	N/A		N/A	
700-D-186 Conv	1990	Natural Migration (No Overall Trend)	2.50 RL	1995	0.44 J	2021	2.50 RL	1995	0.21 DL	2021	2.50 RL	1995	0.34 J	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
700-E-458 Conv	1990	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
700-F-455 Conv	1991	Non Detect	2.50 RL	1996	0.37 DL	2005	2.50 RL	1996	0.27 DL	2005	2.50 RL	1996	0.52 DL	2005	0.05 RL	NP	1997	0.005 DL	NP	2005	N/A		N/A	

Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
700-H WestBay	1999	Non Detect	1.60 DL	2003	0.16 DL	2021	0.62 DL	2004	0.21 DL	2021	1.90 RB TB EB	2021	0.2 DL	2021	0.005 DL	NP	2013	0.004 DL	NP	2021	N/A		N/A	
700-J-200 Conv	1999	Non Detect	1.60 DL	2003	0.16 DL	2021	0.62 DL	2004	0.21 DL	2021	3.70	2005	0.2 DL	2021	0.005 DL	NP	2017	0.004 DL	NP	2021	N/A		N/A	
BLM-24-565 Conv	1991	Non Detect	2.50 RL	1995	0.24 DL	2021	2.50 RL	1995	0.21 DL	2021	2.50 RL	1995	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2020	N/A		N/A	
BLM-41-420 Conv	2013	Fluctuating LL NDMA	0.27 DL	2018	0.24 DL	2021	0.3 DL	2013	0.21 DL	2021	1.00	2013	0.2 DL	2021	0.005 DL	NP	2015	0.004 DL	NP	2021	5.40	2017	1.60 QD FB	2021
BLM-41-670 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2021	0.28 DL	2018	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.005 DL	NP	2013	0.004 DL	NP	2021	5.50 FB	2017	0.84 TB FB	2021
BW-6-355 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.32	37	2004	0.004 DL	NP	2021	N/A		N/A	
JER-1 Westbay	2004	Non Detect	0.6 DL	2004	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.72	2011	0.2 DL	2021	0.014 J	41	2005	0.004 DL	NP	2021	360	2009	0.88 FB	2021
JER-2 Westbay	2004	Fluctuating LL NDMA	0.6 DL	2004	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.63 DL	2010	0.2 DL	2021	0.016 J	43	2005	0.005 DL	NP	2021	290 QD	2006	7.70	2021

Southern Boundary Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
100-E-261 Conv	1989	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1996	0.004 DL	NP	2021	N/A		N/A	
BLM-13-300 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
BLM-25-455 Conv	1991	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
BLM-40-517 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2021	0.3 DL	2017	0.21 DL	2021	0.22 DL	2017	0.2 DL	2021	0.005 DL	NP	2018	0.004 DL	NP	2021	1.10	2017	0.48	2021
BLM-40-595 FLUTe	2013	Non Detect	0.27 DL	2018	0.24 DL	2021	0.28 DL	2018	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.005 DL	NP	2019	0.004 DL	NP	2021	0.67 FB	2014	0.4 DL	2021
BLM-40-688 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2021	0.3 DL	2016	0.21 DL	2021	0.22 DL	2016	0.2 DL	2021	0.005 DL	NP	2015	0.004 DL	NP	2021	0.74	2016	0.4 DL	2021
BLM-6-488 Conv	1990	Natural Migration (No Overall Trend)	3.10 J	1999	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	14	1999	2.20	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	45 FB	2001	0.41 J	2021
WB-14 Westbay	1992	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.26 J	2021	0.05 RL	NP	1993	0.004 DL	NP	2021	N/A		N/A	

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Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
WB-5 Westbay	1990	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1991	0.017 J	44	2021	N/A		N/A	

MPCA Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
BLM-14-327 Conv	1990	Natural Migration (Decreasing)	230	1995	95	2021	9.20	2002	3.80	2021	180	1995	75	2021	1.20	18	2002	0.58	53	2021	N/A		N/A	
BLM-15-305 Conv	1989	Natural Migration (Decreasing)	770	1991	130	2021	2.50 RL	1996	0.21 DL	2021	22	1989	1.70	2021	150 A	8	1989	24 D	36	2021	N/A		N/A	
BLM-18-430 Conv	1989	Natural Migration (Decreasing)	120 QD	2005	7.70	2021	2.50 RL	1996	0.21 DL	2021	58	2009	3.90	2021	0.15 QD	31	2009	0.038	36	2021	N/A		N/A	
BLM-21-400 Conv	1991	Natural Migration (Decreasing)	320	1996	79	2021	12	1995	2.40	2021	220	1991	48	2021	5.60	16	1995	1.10	39	2021	N/A		N/A	
BLM-22-570 Conv	1990	Non Detect	2.50 RL	1995	0.24 DL	2021	2.50 RL	1995	0.21 DL	2021	2.50 RL	1995	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
BLM-23-431 Conv	1990	Natural Migration (Decreasing)	240	1995	39 Q	2021	8.00	1991	1.60 Q	2021	240	1995	53 Q	2021	1.10	33	2006	0.52	44	2021	N/A		N/A	
BLM-26-404 Conv	1991	Natural Migration (Decreasing)	110	2008	80	2021	2.50 RL	1996	0.6 J	2021	28	2008	20	2021	1.20	50	1991	0.39	38	2021	N/A		N/A	
BLM-27-270 Conv	1991	Natural Migration (No Overall Trend)	500	2010	490 A	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	1.10	2021	13	41	2006	5.70	42	2021	N/A		N/A	
BLM-36 WestBay	2000	Pumping Related Migration (No Overall Trend)	98	2011	39	2021	4.40	2011	2.70	2021	97	2008	66	2021	2.00	43	2007	1.40	36	2021	N/A		N/A	
BLM-38 WestBay	2000	Non Detect	1.60 DL	2003	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.7 DL	2003	0.2 DL	2021	0.024 J	33	2002	0.004 DL	NP	2021	N/A		N/A	
BLM-39 WestBay	2000	Natural Migration (Decreasing)	340	2005	81	2021	10	2007	6.80	2021	330 QD	2002	180	2021	9.70	19	2002	5.50	58	2021	N/A		N/A	
BLM-5-527 Conv	1988	Natural Migration (Increasing)	23	2020	19	2021	2.50 RL	1996	0.82 J	2021	29	2020	28	2021	0.21	38	2021	0.2	54	2021	220 G	2017	220 G	2017
BLM-8-418 Conv	1988	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	3.80 QD	2001	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	

Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
BLM-9-419 Conv	1989	Natural Migration (Decreasing)	320	1991	3.30	2021	12	1989	0.24 J	2021	240	1989	2.10	2021	8.80	16	1995	0.02 J	42	2021	N/A		N/A	

Main Plume Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
BLM-1-435 Conv	1988	Natural Migration (Decreasing)	270	1991	45	2020	18	1988	2.40	2020	360	1988	62	2020	5.90	108	1997	1.30	68	2020	N/A		N/A	
BLM-17-493 Conv	1989	Natural Migration (Decreasing)	480	1989	86	2021	31	1989	3.30	2021	430	1989	75	2021	11 A Q	7	1989	2.20	36	2021	N/A		N/A	
BLM-17-550 Conv	1990	Natural Migration (Decreasing)	440	1991	89	2021	20	1990	2.90	2021	390	1991	75	2021	8.10	16	1995	1.30	39	2021	N/A		N/A	
BLM-2-482 Conv	1988	Pumping Related Migration (Decreasing)	320	1996	9.40	2012	16	1996	0.35 J	2012	450	1990	11	2012	2.30 QD	30	2006	0.072	58	2012	N/A		N/A	
BLM-2-630 Conv	1988	Pumping Related Migration (Decreasing)	470 QD	1988	0.24 DL	2021	8.00	1991	0.21 DL	2021	310 QD	1988	0.26 J	2021	1.30	31	2002	0.004 DL	NP	2020	N/A		N/A	
PL-1-486 Conv	1988	Pumping Related Migration (Decreasing)	190	1996	0.24 DL	2021	4.60	2004	0.21 DL	2021	180	2004	0.2 DL	2021	0.093	43	2005	0.004 DL	NP	2021	260 QD	2002	0.4 DL	2021
PL-2-504 Conv	1989	Pumping Related Migration (Decreasing)	230	1996	48	2021	2.50 RL	1996	1.40	2021	180	2004	72	2021	0.45 QD	58	2021	0.45 QD	58	2021	300 G RB Q	2020	300 G RB Q	2020
ST-1-473 Conv	1989	Pumping Related Migration (Decreasing)	610	1996	180	2021	13	2010	8.10	2021	370	2005	220	2021	1.70	27	2009	0.84	50	2021	N/A		N/A	
ST-1-541 Conv	1992	Pumping Related Migration (Decreasing)	790	1995	97	2020	37	1995	3.90	2020	650	1995	91	2020	4.80 QD	37	2003	3.80	42	2020	N/A		N/A	
ST-1-630 Conv	1992	Pumping Related Migration (Decreasing)	410	2006	160	2021	19 QD	2007	3.70	2021	440	2000	190	2021	1.90	40	2019	0.39	36	2021	N/A		N/A	
[1]ST-3-486	1991	Pumping Related	800	1996	3.70	2021	19	2003	0.26 J	2021	690	1991	4.50	2021	4.40	45	2011	0.24	38	2021	N/A		N/A	

Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
		Migration (Decreasing)																						
ST-3-586 Conv	1992	Pumping Related Migration (Decreasing)	640 T TB Q	1996	5.20	2021	15	2007	0.29 J	2021	320	2005	6.20	2021	3.80 QD	37	2003	0.057	42	2021	N/A		N/A	
ST-3-666 Conv	1992	Pumping Related Migration (Decreasing)	280	2009	5.50	2021	15	2009	0.5 J	2021	320	2009	24	2021	3.70	30	2006	0.25	38	2021	N/A		N/A	
ST-3-735 Conv	1992	Pumping Related Migration (Decreasing)	240	2005	15	2021	14	2007	0.78 J	2021	320	2005	23	2021	7.80 QD	32	2009	0.9	42	2021	N/A		N/A	

Plume Front Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
BLM-10-517 Conv	1988	Non Detect	5.00 RL	1988	0.33 J	2021	2.50 RL	1996	0.21 DL	2021	4.40	2012	0.2 DL	2021	0.095 RL	NP	1988	0.004 DL	NP	2021	5.90	2020	0.4 DL	2021
BLM-7-509 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.09 J	32	1996	0.004 DL	NP	2021	0.76 FB	2018	0.55 RB TB FB	2021
PL-3-453 Conv	1989	Non Detect	5.00 RL	1989	0.24 DL	2020	2.50 RL	1996	0.21 DL	2020	2.50 RL	1996	0.2 DL	2020	0.05 RL	NP	1997	0.004 DL	NP	2020	3.80 RB FB	2005	3.80 RB FB	2005
PL-4-464 Conv	1990	Non Detect	28	2005	0.46 J	2021	2.50 RL	1996	0.21 DL	2021	21	2005	0.4 J	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	2.70 RB FB	2005	0.78 RB A * FB	2021
PL-6 Westbay	1992	Non Detect	4.10 J	1996	0.24 DL	2021	5.60	1996	0.21 DL	2021	4.90 J	1996	0.2 DL	2021	0.64	28	1999	0.004 DL	NP	2021	23	2001	0.57	2021
PL-7 Westbay	1993	Fluctuating LL NDMA	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	4.90	2021	1.40 EB	2021
ST-2-466 Conv	1989	Non Detect	2.50 RL	1995	0.24 DL	2021	2.50 RL	1995	0.21 DL	2021	2.50 RL	1995	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	2.60 RB	2004	0.33 DL	2021
ST-4-481 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	1.80 FB	2012	1.70 RB * TB FB	2021
ST-4-589 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	1.10 RB Q	2008	0.44 J RB TB FB	2021

Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
ST-4-690 Conv	1992	Non Detect	3.00 J	1998	0.24 DL	2021	2.50 RL	1995	0.21 DL	2021	10	1998	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	2.70	2008	1.70 RB * FB	2021
ST-5 Westbay	1992	Fluctuating LL NDMA	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	7.20	2017	2.40 EB	2021
ST-5-481 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.005 DL	NP	2021	0.7 FB	2002	0.7 FB	2002
ST-6 Westbay	1998	Fluctuating LL NDMA	21 EB	2005	0.25 J	2021	2.00 DL	1999	0.21 DL	2021	67	2004	0.39 J	2021	0.012	90	2017	0.004 DL	NP	2021	28 RB FB Q	2005	1.50	2021
ST-7 Westbay	1999	Non Detect	1.60 DL	2003	0.81	2021	0.62 DL	2004	0.21 DL	2021	0.82	2021	0.76	2021	0.005 DL	NP	2013	0.004 DL	NP	2021	3.80 FB	2002	0.4 DL	2021
WW-1-452 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.3 T	30	2006	0.004 DL	NP	2021	3.20 RB FB	2012	0.55 RB * FB	2021

Sentinel Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
100-A-182 Conv	1989	Natural Migration (Decreasing)	5.00	1995	1.90	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
400-D WestBay	1995	Non Detect	3.30 J EB	1996	0.24 DL	2021	3.50 J	1998	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.29	34	1996	0.004 DL	NP	2021	N/A		N/A	
BLM-42-569 Conv	2020	Non Detect	0.24 DL	2021	0.24 DL	2021	0.21 DL	2021	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.004 DL	NP	2021	0.004 DL	NP	2021	1.60 RB * TB FB	2021	1.60 RB * TB FB	2021
BLM-42-709 Conv	2020	Non Detect	0.24 DL	2021	0.24 DL	2021	0.21 DL	2021	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.004 DL	NP	2020	0.004 DL	NP	2021	1.50 RB * FB	2021	1.50 RB * FB	2021
JP-1-424 Conv	1988	Non Detect	5.50	2001	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	0.2 DL	2021	0.061 J	36	1998	0.005 DL	NP	2021	15 RB QD	2004	0.41 DL	2021
JP-2-447 Conv	1988	Non Detect	2.50 RL	1996	0.24 DL	2021	2.50 RL	1996	0.21 DL	2021	4.50	2001	0.2 DL	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	14	2000	0.4 DL	2021
JP-3-509 Conv	2013	Non Detect	0.27 DL	2019	0.24 DL	2021	0.28 DL	2019	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.004 DL	NP	2017	0.004 DL	NP	2021	0.85 * TB	2021	0.85 * TB	2021
JP-3-689 Conv	2014	Fluctuating LL NDMA	0.27 DL	2019	0.24 DL	2021	0.28 DL	2019	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.005 DL	NP	2014	0.004 DL	NP	2021	1.80 TB FB	2021	1.80 TB FB	2021
PL-10 Westbay	2002	Fluctuating LL NDMA	1.60 DL	2003	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.62 DL	2004	0.2 DL	2021	0.005 DL	NP	2021	0.005 DL	NP	2021	6.10	2019	1.50 EB	2021

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Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
PL-12-570 Conv	2020	Pumping Related Migration (No Overall Trend)	17	2020	9.30	2021	0.46 J	2020	0.34 J	2021	20	2020	13	2021	0.004 DL	NP	2020	0.004 DL	NP	2021	3.60	2020	3.20 FB	2021
PL-12-800 Conv	2020	Pumping Related Migration (No Overall Trend)	14	2020	3.00	2021	0.24 J	2021	0.21 DL	2021	17	2020	2.10	2021	0.004 DL	NP	2021	0.004 DL	NP	2021	4.60 FB	2021	4.60 FB	2021
PL-8 Westbay	2000	Fluctuating LL NDMA	1.60 DL	2002	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.7 DL	2003	0.2 DL	2021	0.005 DL	NP	2015	0.004 DL	NP	2021	12 FB	2002	1.10 RB EB	2021
WW-2-489 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2021	0.28 DL	2018	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.005 DL	NP	2014	0.004 DL	NP	2021	0.41 J FB	2016	0.4 DL	2021
WW-2-664 Conv	2013	Fluctuating LL NDMA	0.27 DL	2018	0.24 DL	2021	0.28 DL	2018	0.21 DL	2021	0.2 DL	2021	0.2 DL	2021	0.005 DL	NP	2014	0.004 DL	NP	2021	1.80 RB * FB	2021	1.80 RB * FB	2021
WW-3 Westbay	2001	Fluctuating LL NDMA	1.60 DL	2002	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.7 DL	2003	0.2 DL	2021	0.012 J	40	2004	0.004 DL	NP	2021	95 RB *	2007	7.10 QD	2021
WW-4 Westbay	2001	Non Detect	1.60 DL	2002	0.24 DL	2019	0.62 DL	2004	0.21 DL	2019	0.7 DL	2003	0.2 DL	2019	0.005 DL	NP	2016	0.004 DL	NP	2018	35	2016	0.22 DL	2019
WW-5 Westbay	2001	Fluctuating LL NDMA	1.60 DL	2003	0.24 DL	2021	0.62 DL	2004	0.21 DL	2021	0.62 DL	2004	0.2 DL	2021	0.005 DL	NP	2016	0.004 DL	NP	2021	6.50 *	2021	4.50 QD	2021

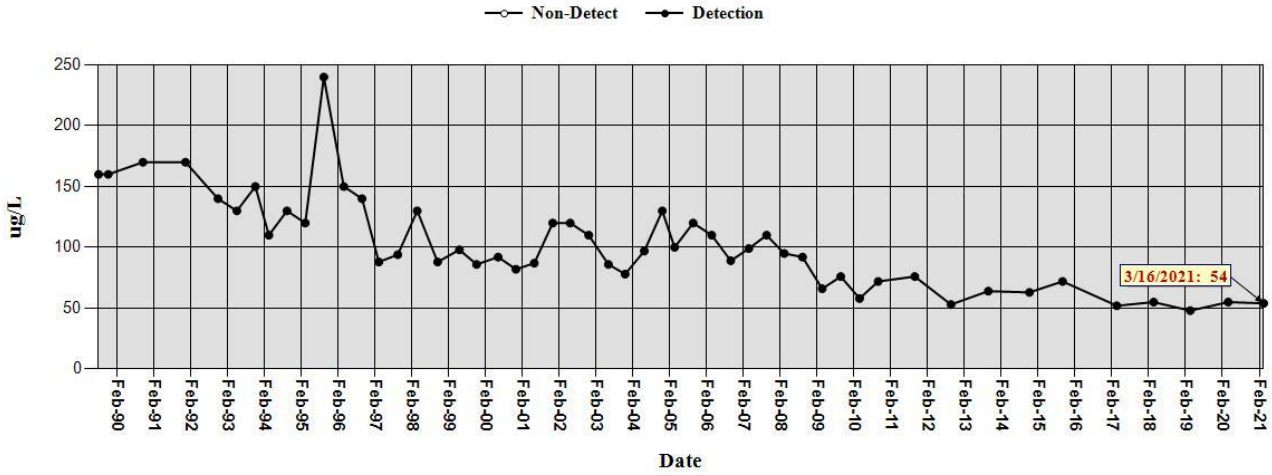
Other Well Group

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
MPE-1 Conv*	1999	Pumping Related Migration (Decreasing)	560	2005	150	2021	8.70	2010	3.30	2021	180	2010	75	2021	25	30	2009	7.30	44	2021	N/A		N/A	
MPE-10 Conv*	2004	Pumping Related Migration (Increasing)	150	2017	81	2021	3.50	2020	2.60	2021	65	2017	61	2021	8.50	40	2021	6.80	44	2021	N/A		N/A	
MPE-11 Conv*	2004	Pumping Related Migration (No Overall Trend)	65	2008	8.00	2021	1.60	2008	0.27 J	2021	41	2008	4.30	2021	1.60	40	2007	0.3	44	2021	N/A		N/A	
MPE-8 Conv*	2003	Pumping Related Migration (Increasing)	200	2020	150	2021	4.20	2020	3.40	2021	83	2020	71	2021	6.50	40	2021	5.20	44	2021	N/A		N/A	
MPE-9 Conv*	2004	Pumping Related	250	2015	54	2021	5.60	2018	3.20	2021	130	2018	87	2021	13	35	2019	9.50	44	2021	N/A		N/A	

Reporting Period: 4Q/2021

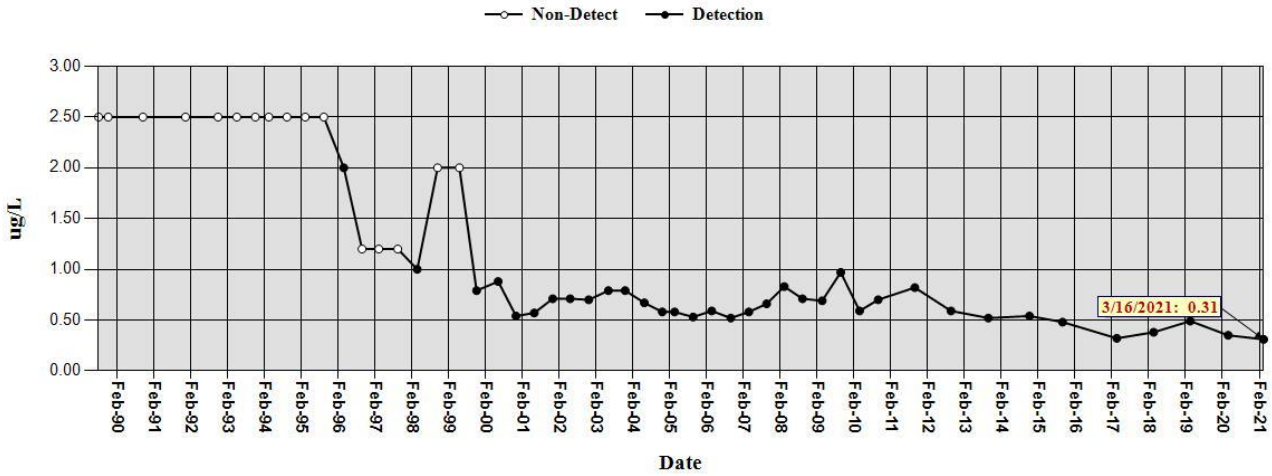
Well ID: 200-D-240
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



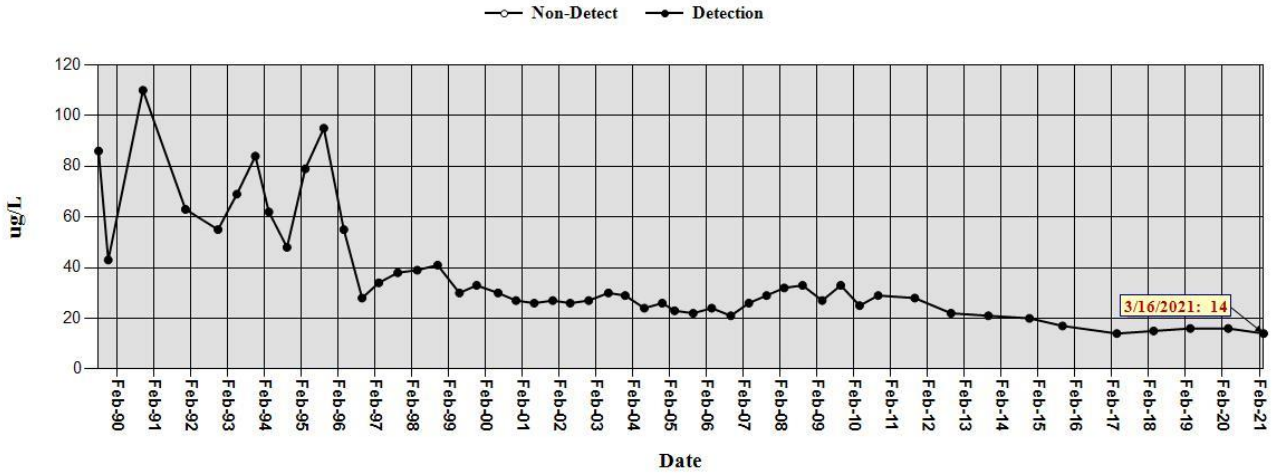
Well ID: 200-D-240
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: 200-D-240
CAS RN: 79-01-6 Trichloroethene

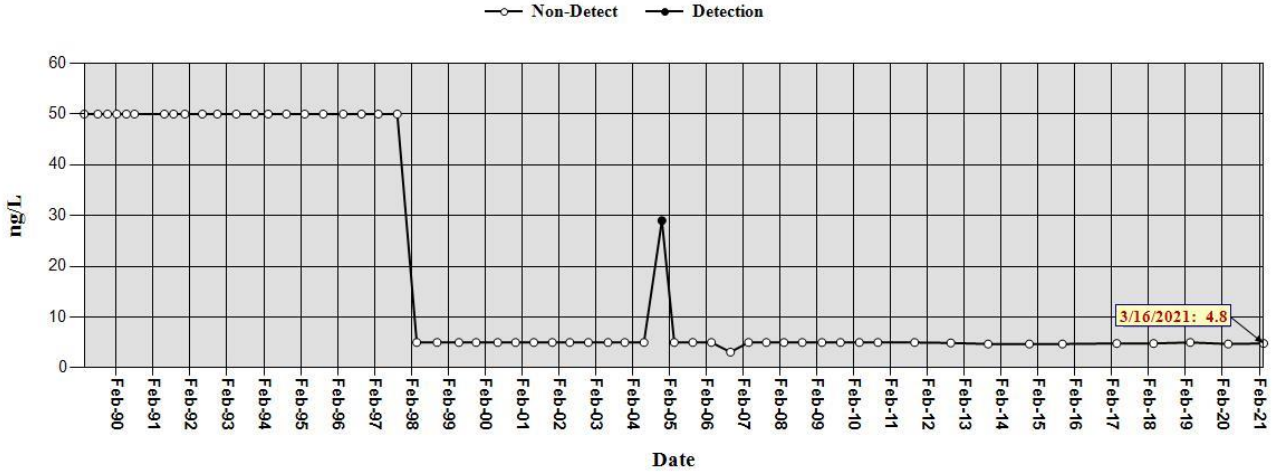
Analysis: 8260



Well ID: 200-D-240
CAS RN: 62-75-9 N-Nitrosodimethylamine

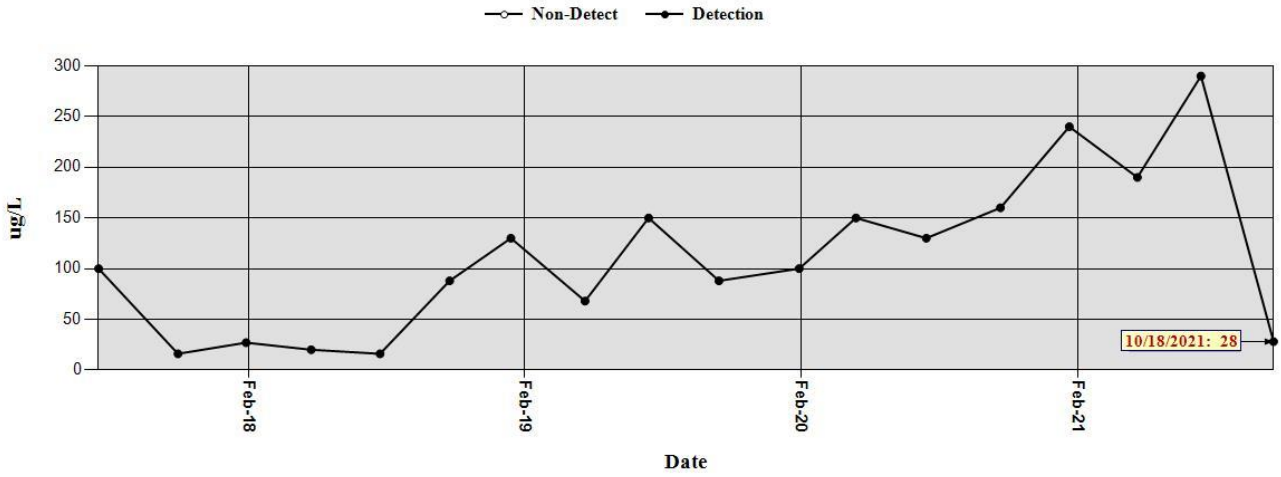
Analysis: 607

Results are Corrected for Extraction Efficiency



Well ID: 400-FV-131
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260

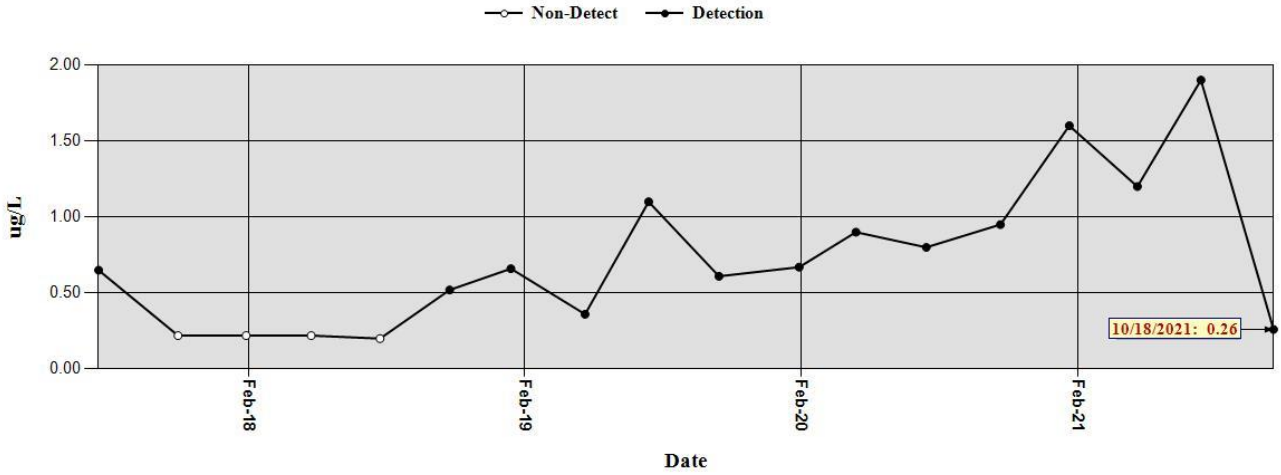


Well ID: 400-FV-131
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260

Well ID: 400-FV-131
CAS RN: 79-01-6 Trichloroethene

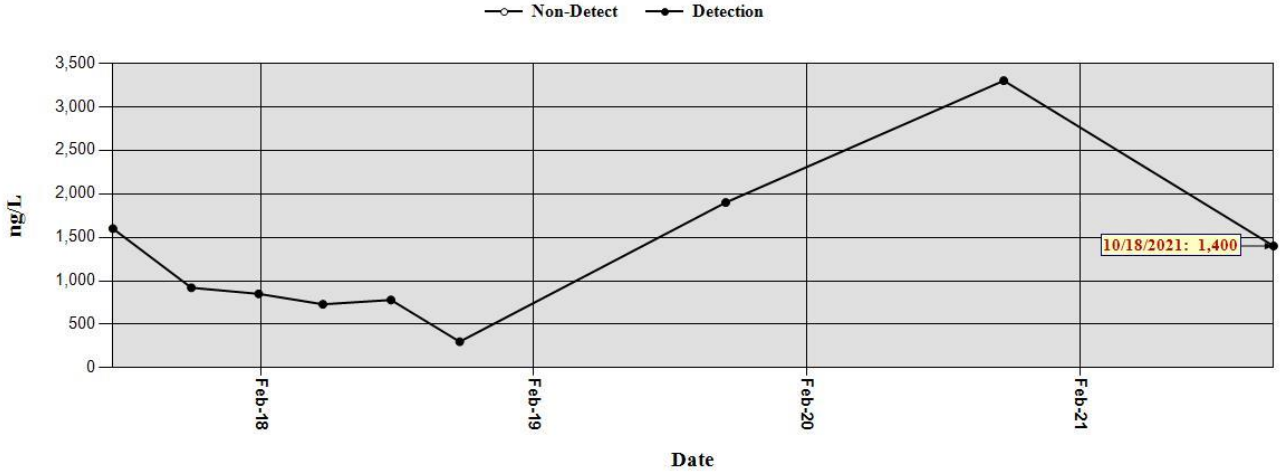
Analysis: 8260



Well ID: 400-FV-131
CAS RN: 62-75-9 N-Nitrosodimethylamine

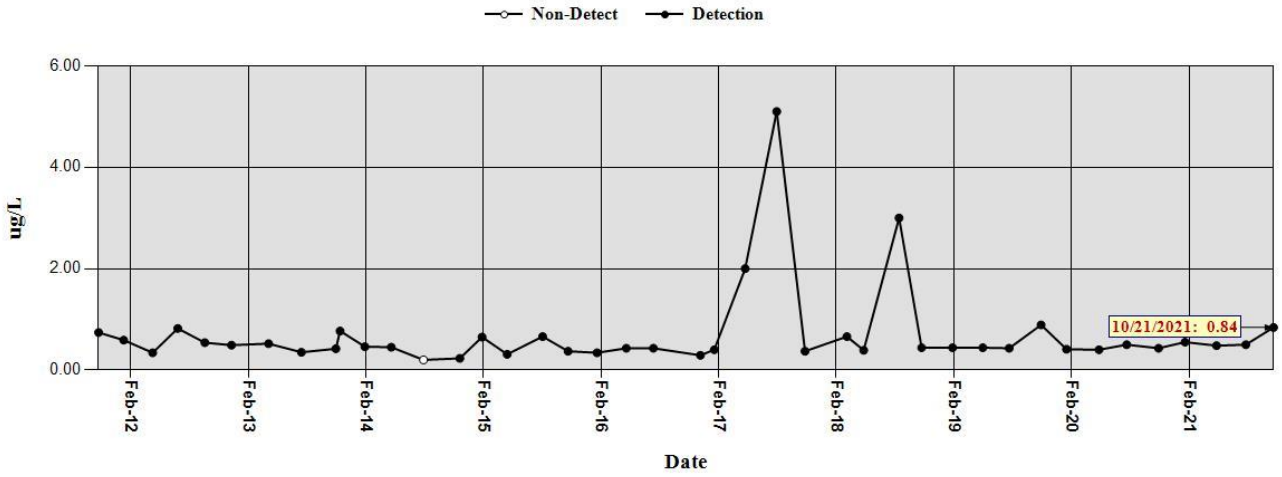
Analysis: 607

Results are Corrected for Extraction Efficiency



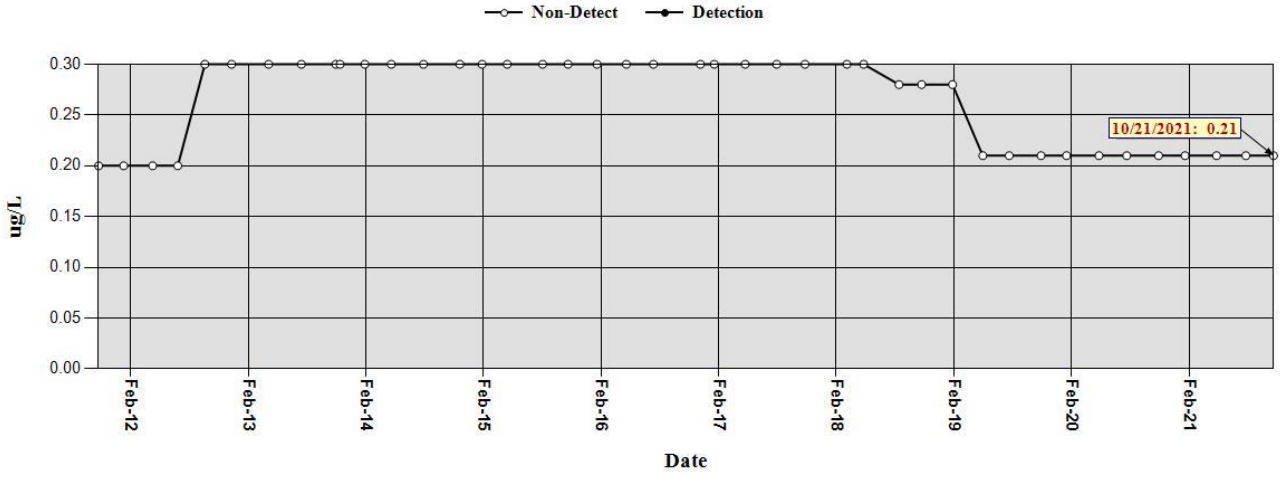
Well ID: 600-G-138
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



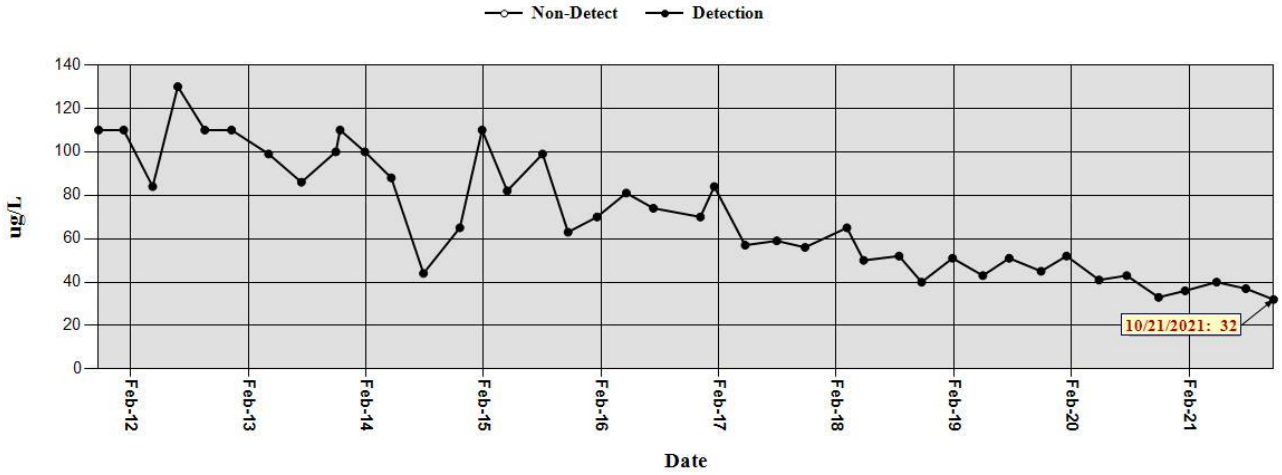
Well ID: 600-G-138
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



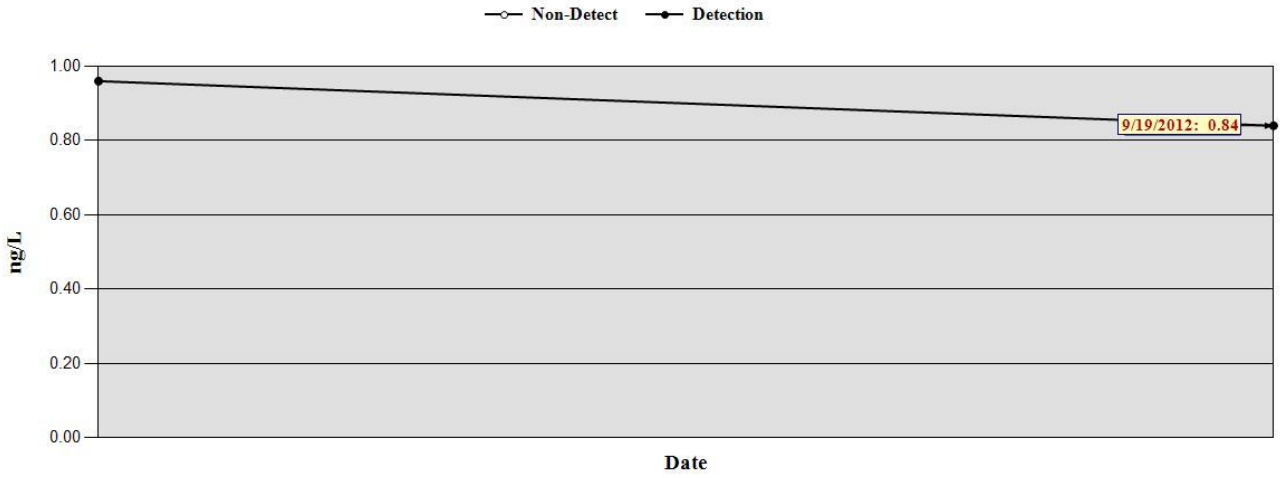
Well ID: 600-G-138
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



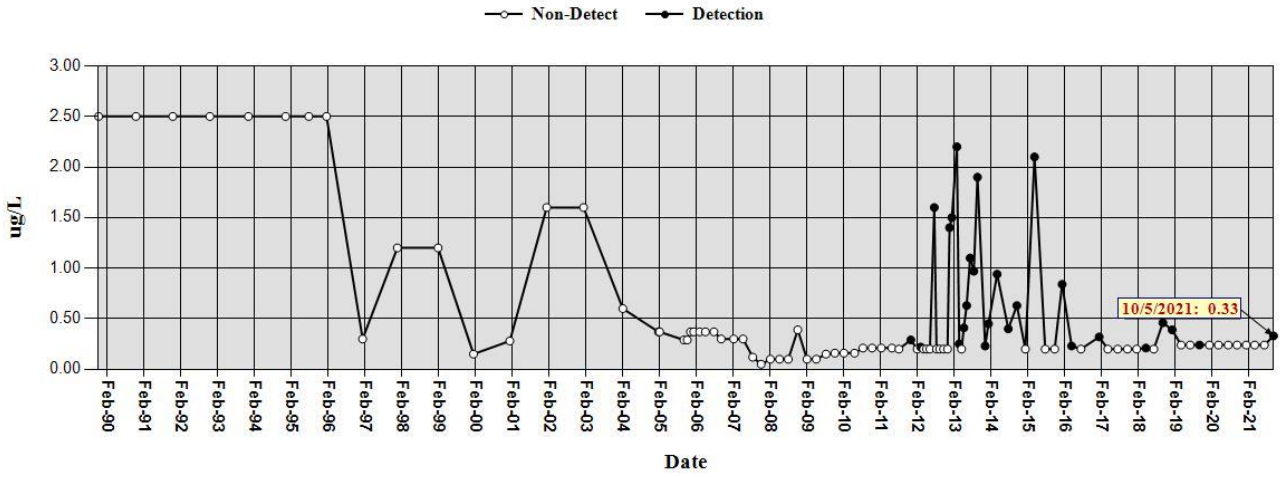
Well ID: 600-G-138
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: NDMA_LL



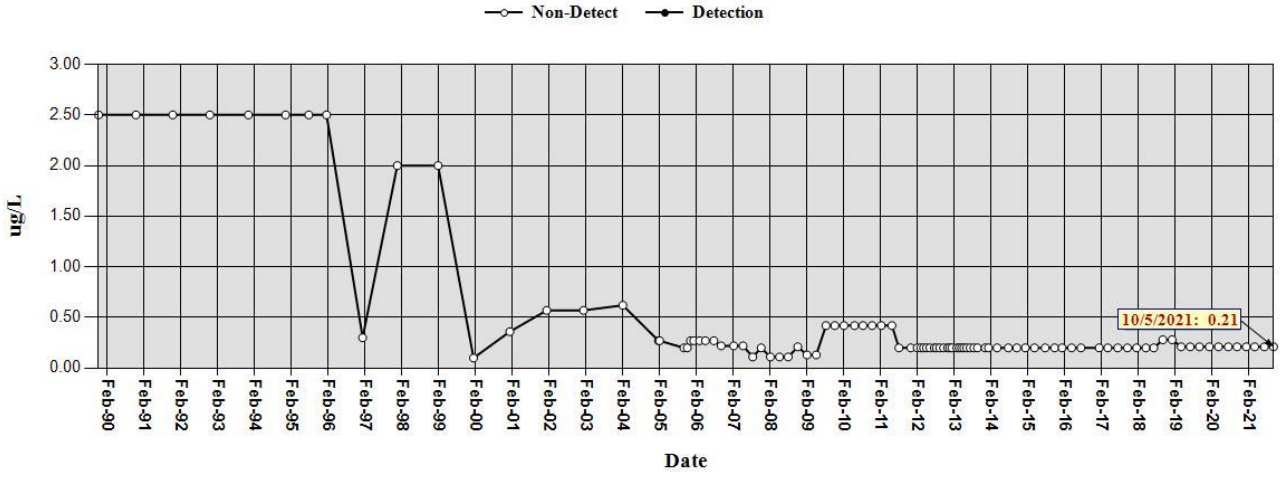
Well ID: BLM-10-517
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



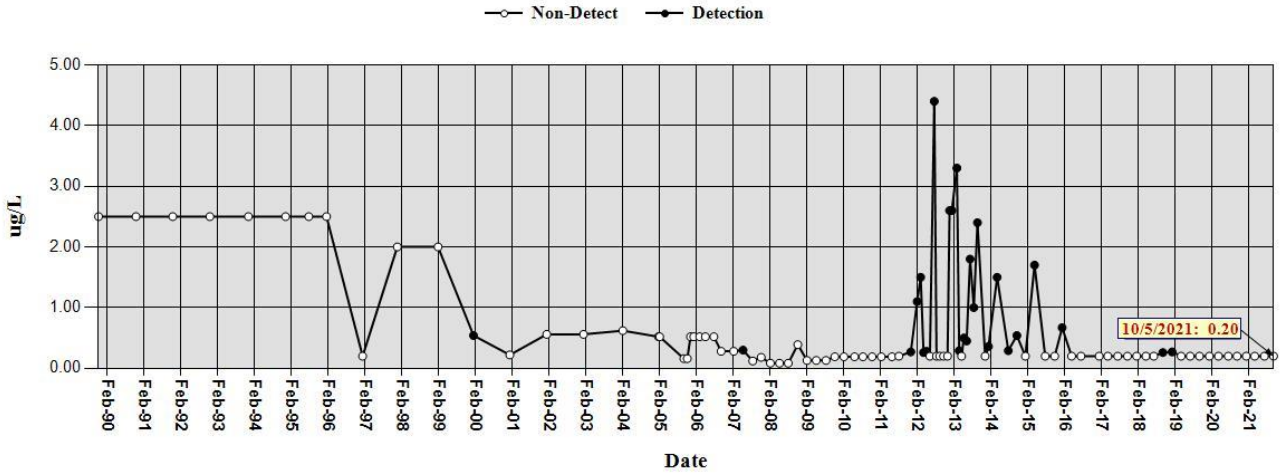
Well ID: BLM-10-517
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



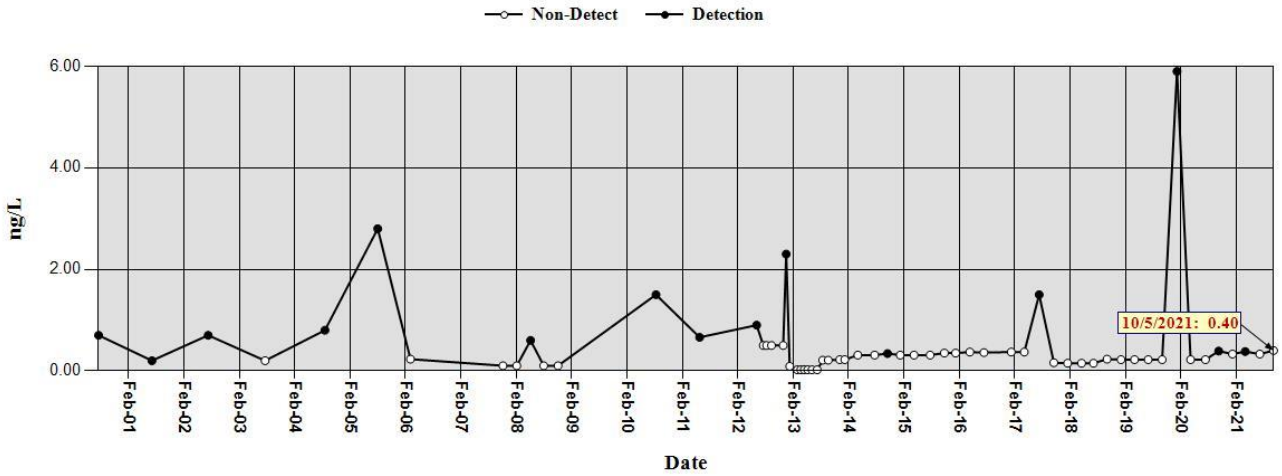
Well ID: BLM-10-517
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



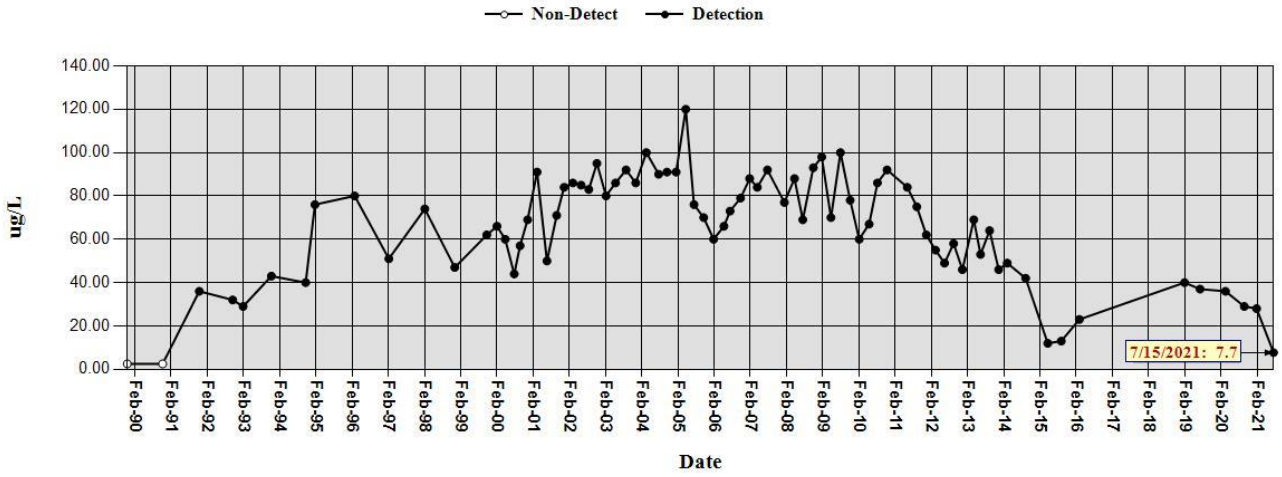
Well ID: BLM-10-517
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: NDMA_LL



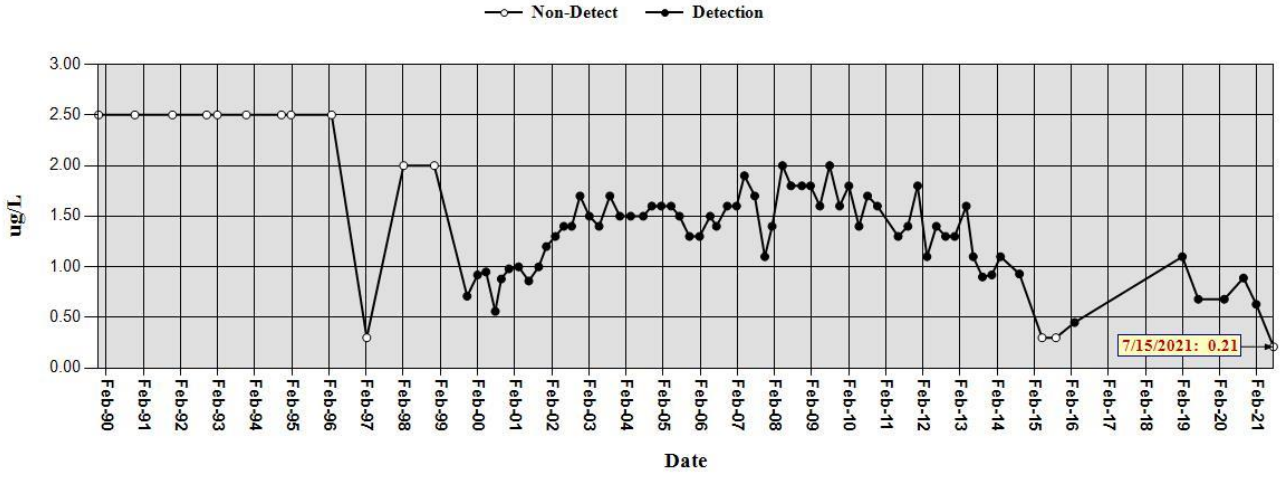
Well ID: BLM-18-430
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



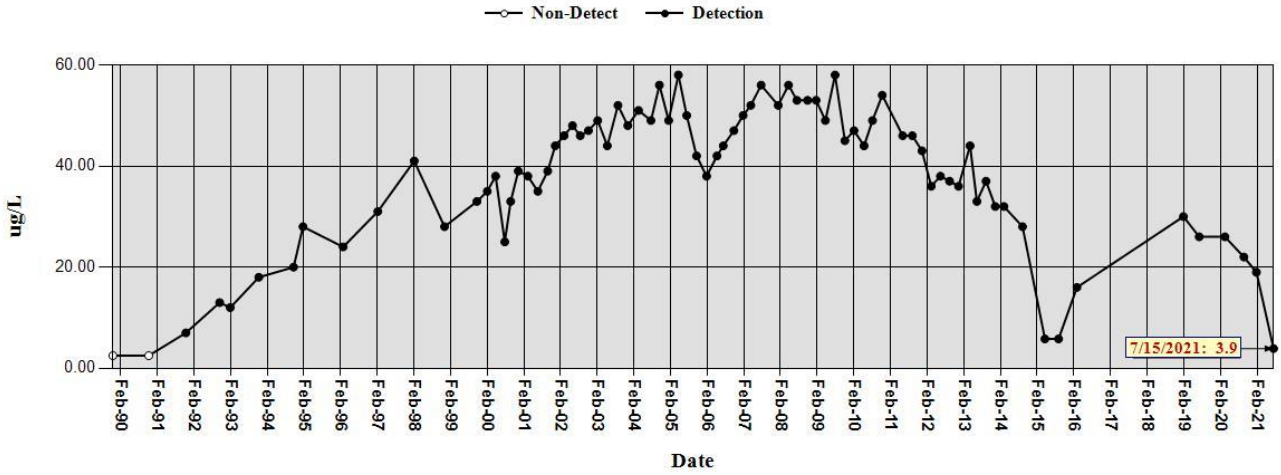
Well ID: BLM-18-430
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: BLM-18-430
CAS RN: 79-01-6 Trichloroethene

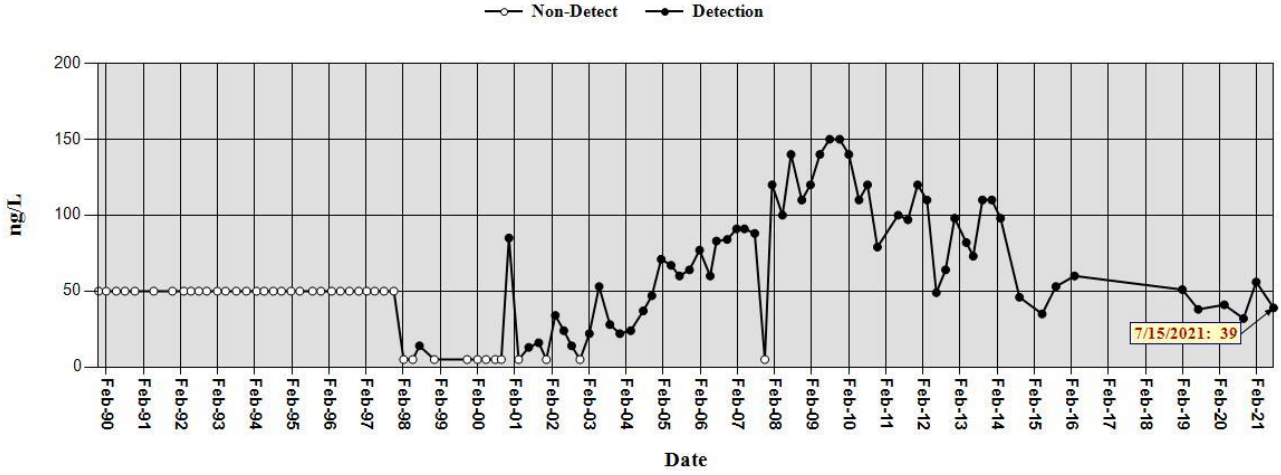
Analysis: 8260



Well ID: BLM-18-430
CAS RN: 62-75-9 N-Nitrosodimethylamine

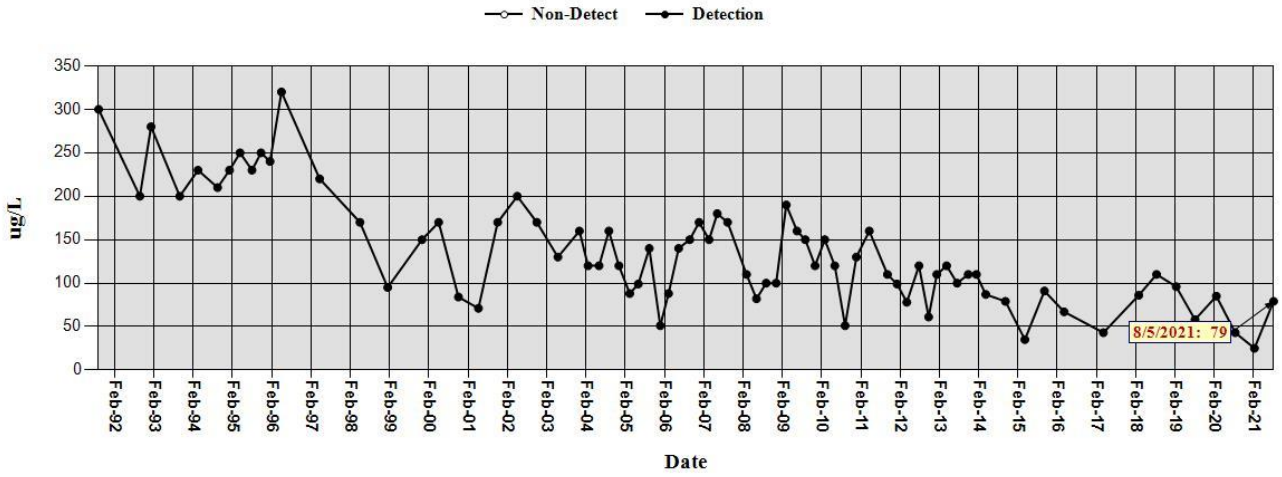
Analysis: 607

Results are Corrected for Extraction Efficiency



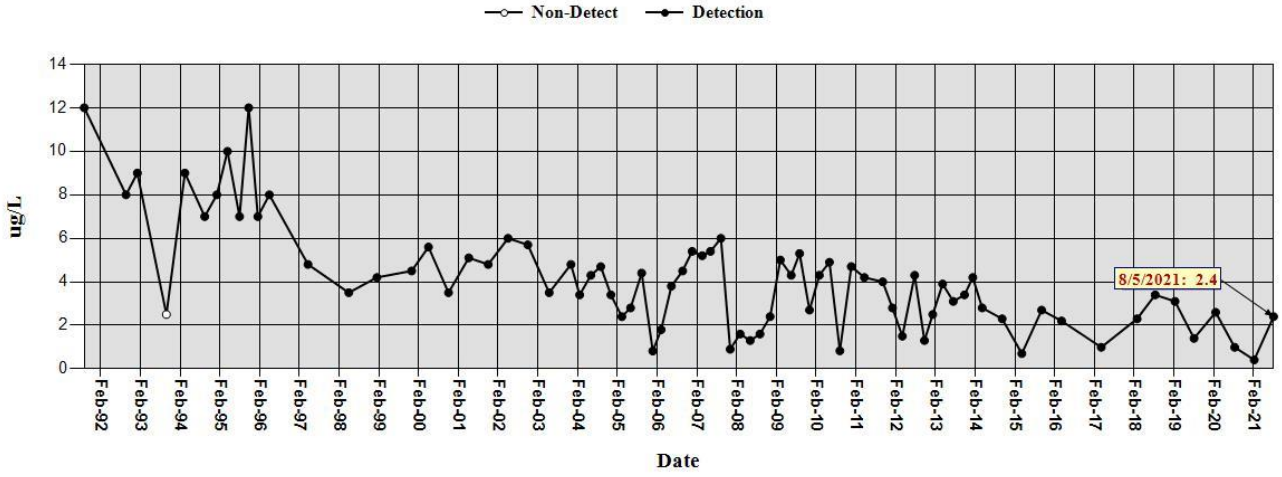
Well ID: BLM-21-400
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



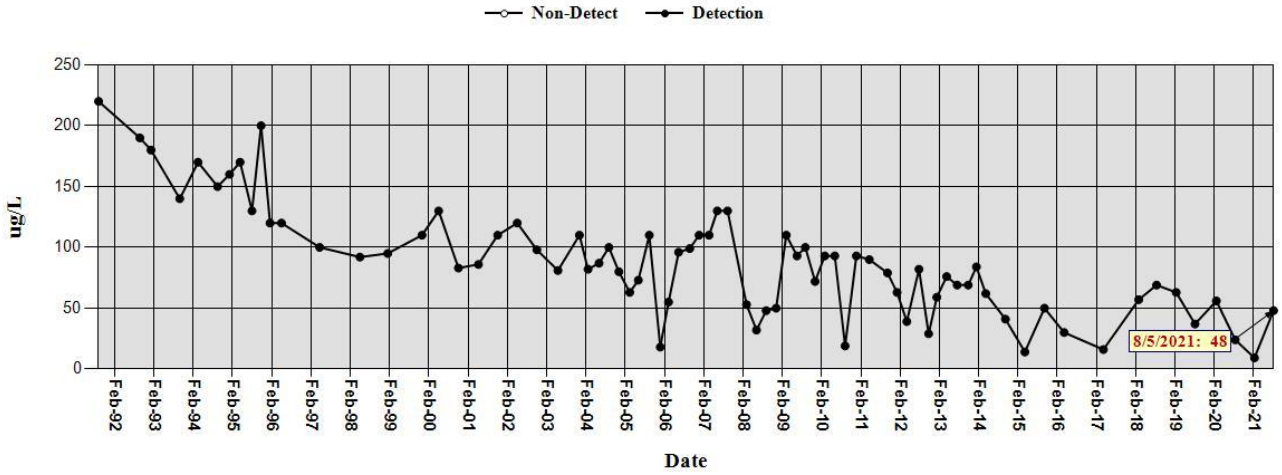
Well ID: BLM-21-400
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: BLM-21-400
CAS RN: 79-01-6 Trichloroethene

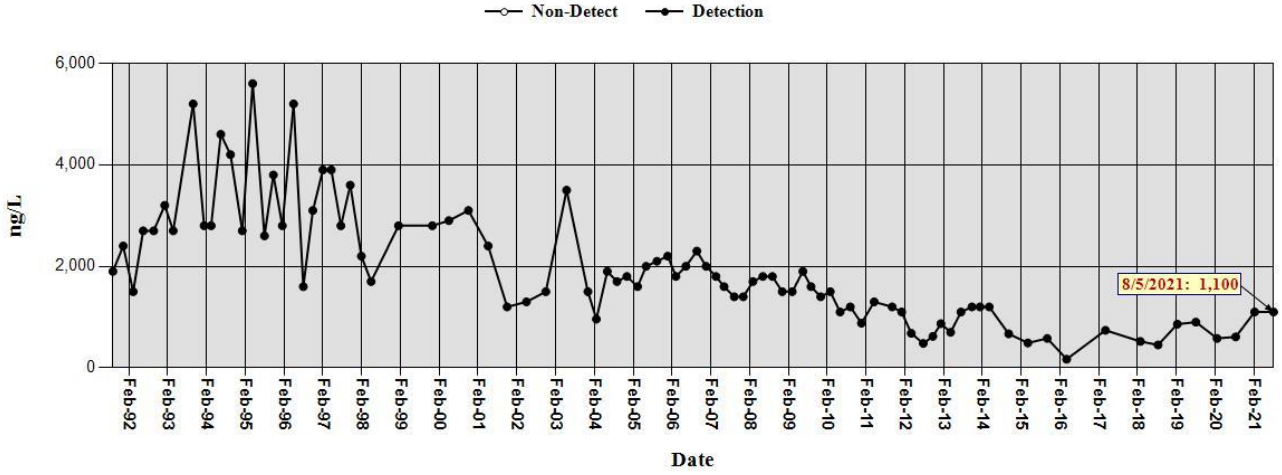
Analysis: 8260



Well ID: BLM-21-400
CAS RN: 62-75-9 N-Nitrosodimethylamine

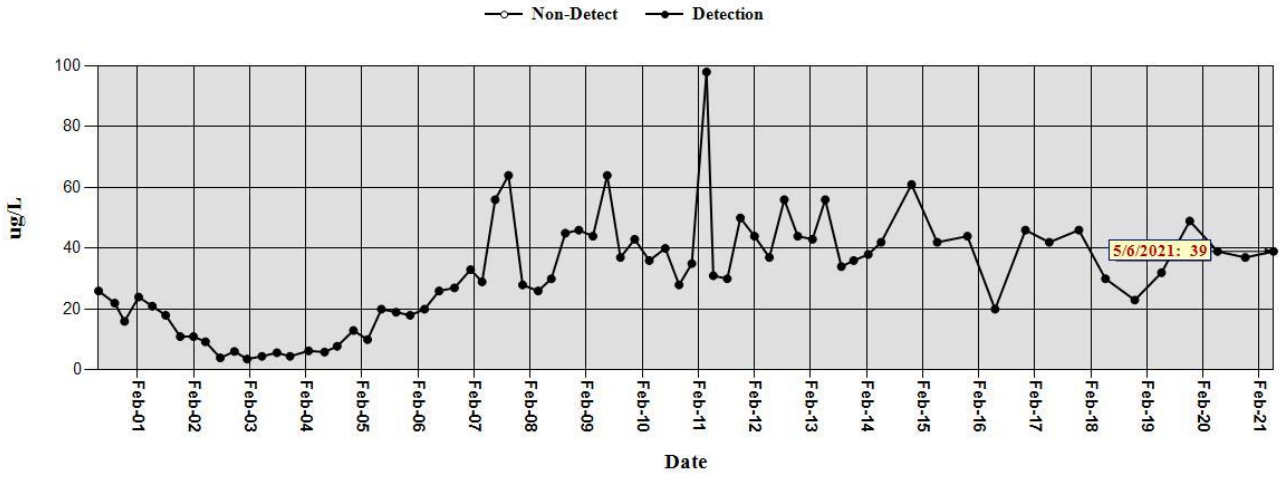
Analysis: 607

Results are Corrected for Extraction Efficiency



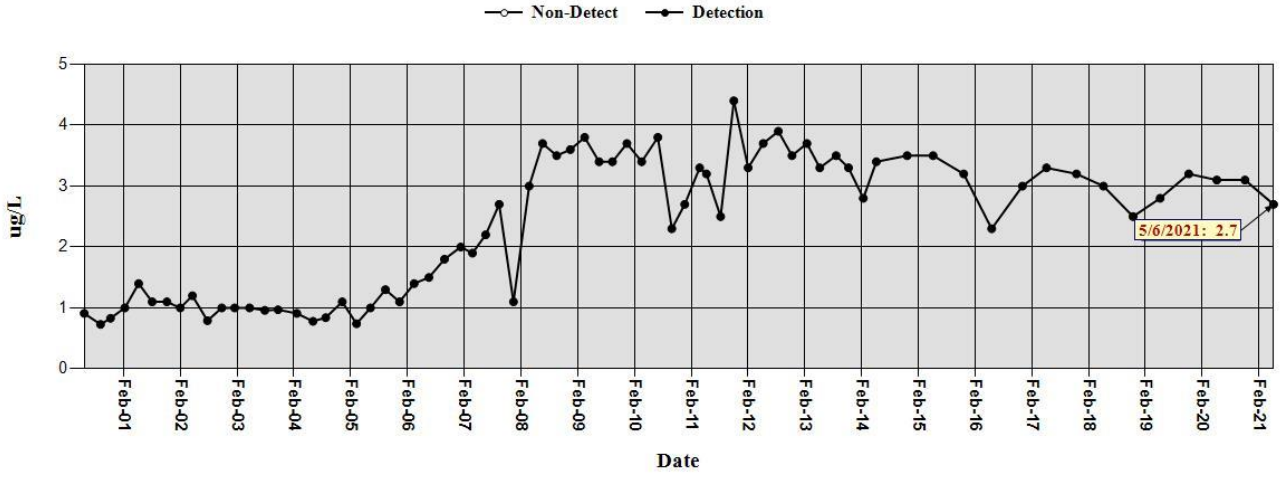
Well ID: BLM-36-350
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



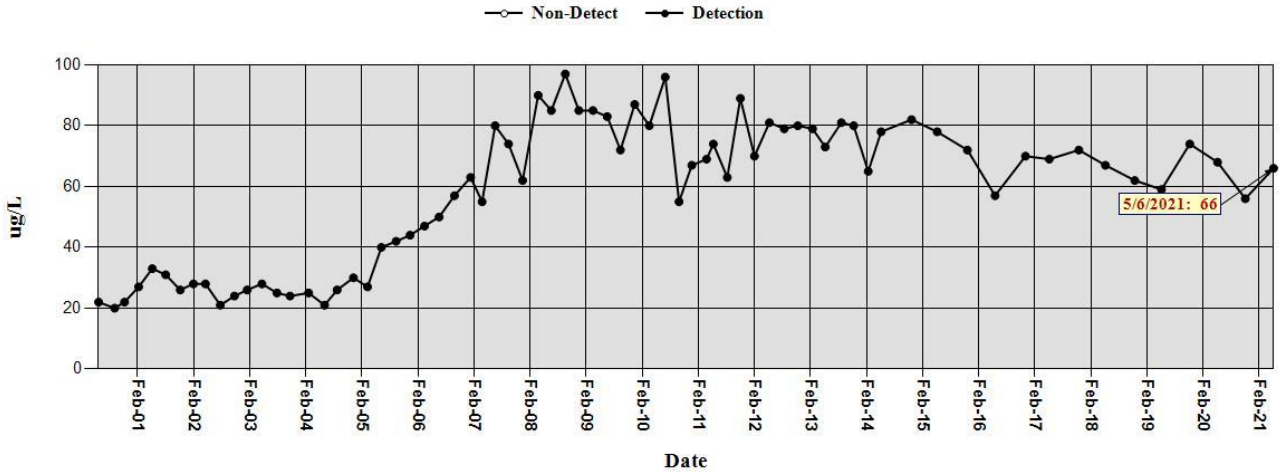
Well ID: BLM-36-350
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: BLM-36-350
CAS RN: 79-01-6 Trichloroethene

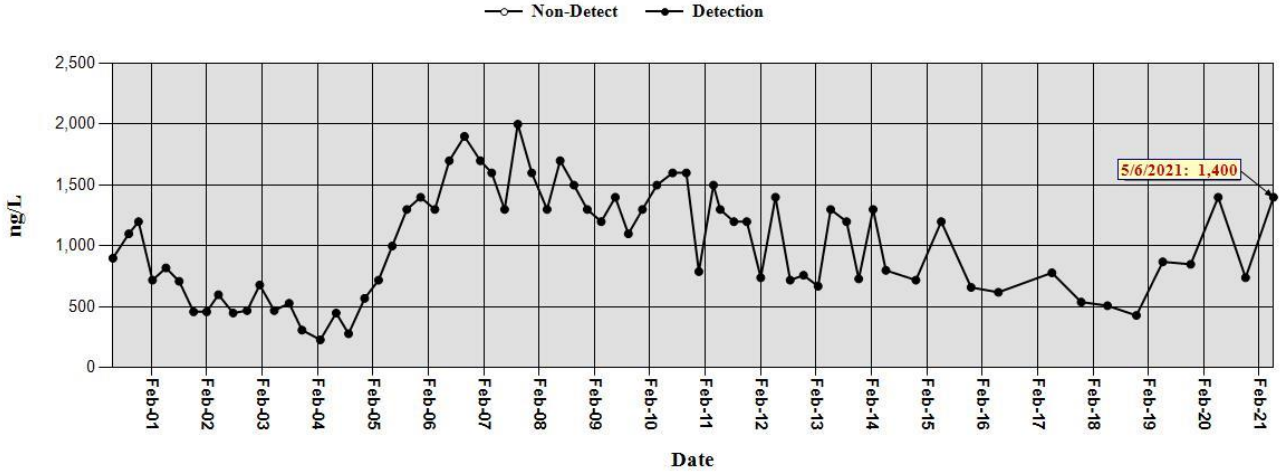
Analysis: 8260



Well ID: BLM-36-350
CAS RN: 62-75-9 N-Nitrosodimethylamine

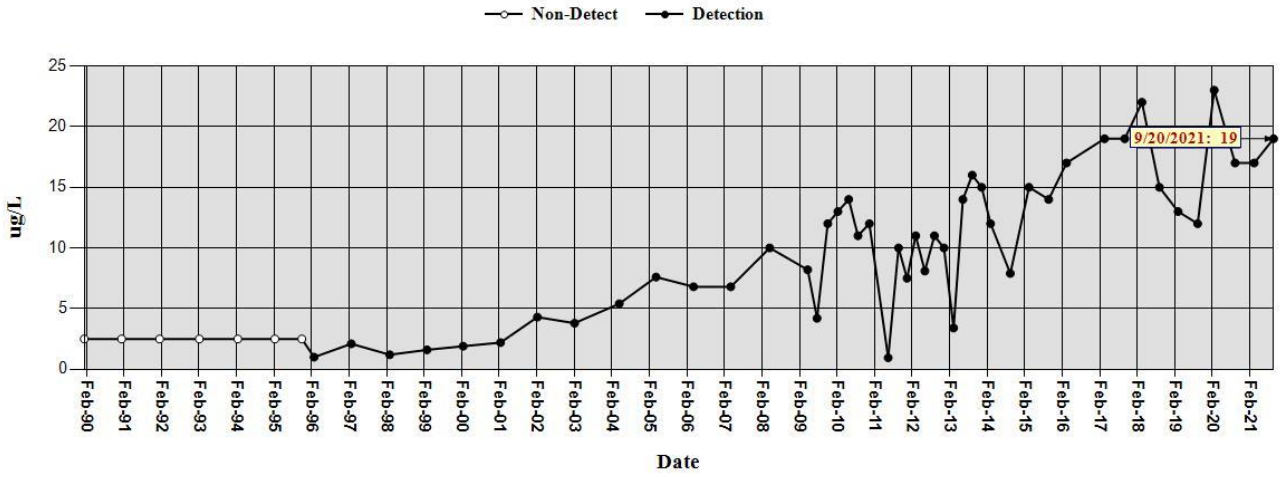
Analysis: 607

Results are Corrected for Extraction Efficiency



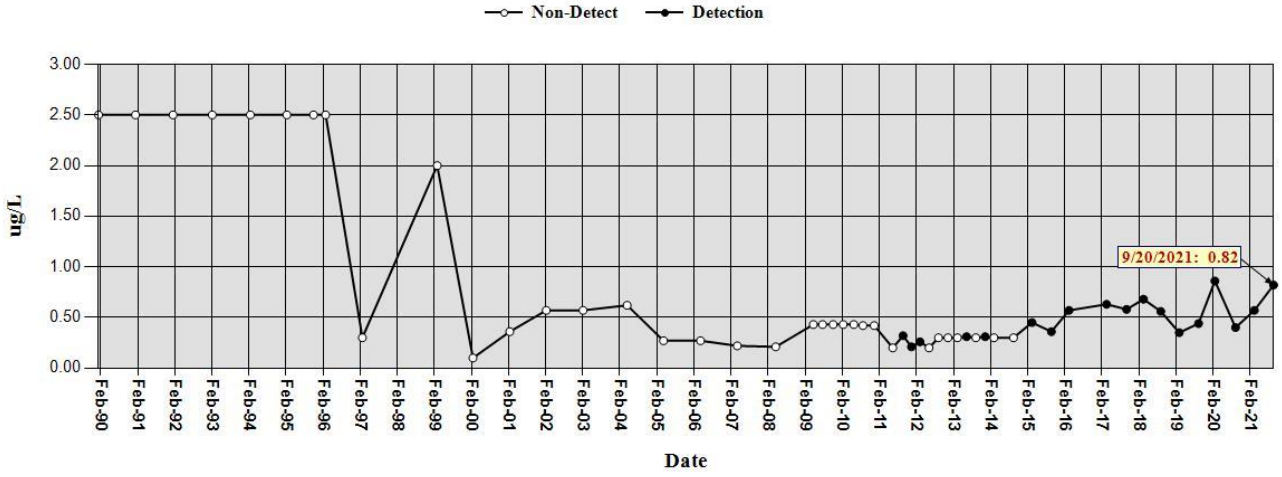
Well ID: BLM-5-527
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



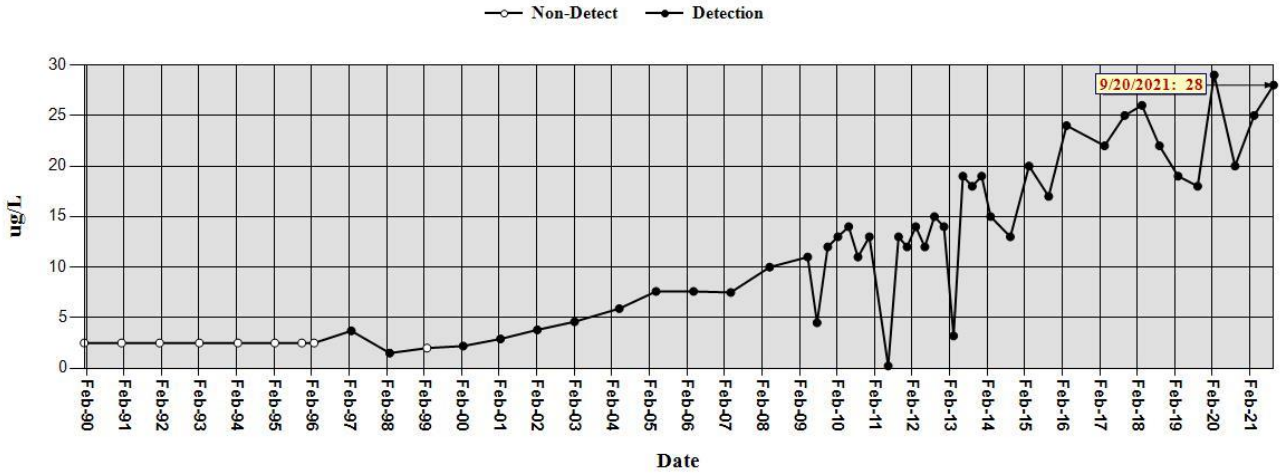
Well ID: BLM-5-527
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



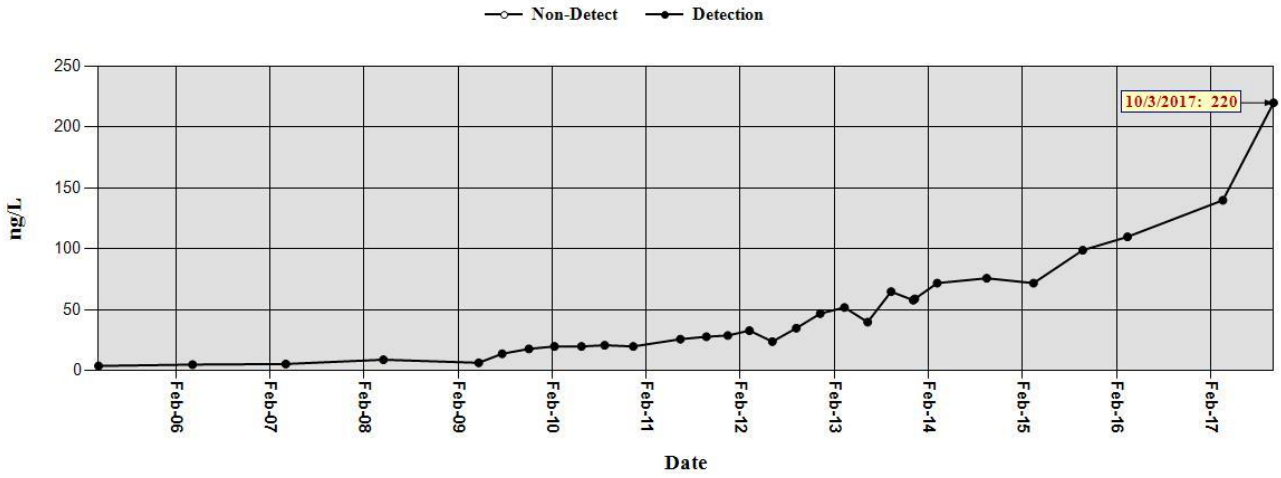
Well ID: BLM-5-527
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



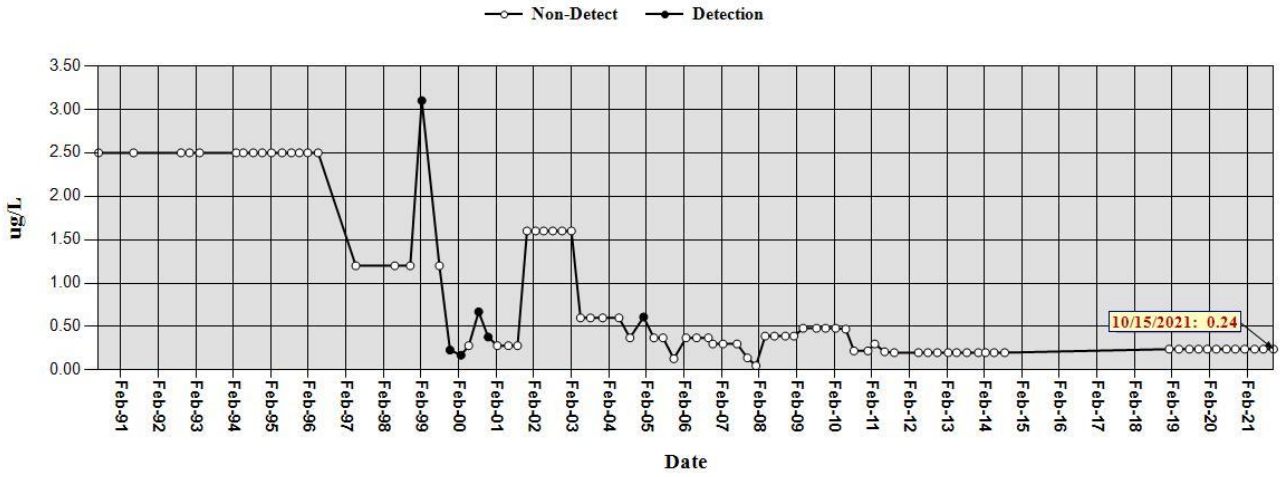
Well ID: BLM-5-527
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: NDMA_LL



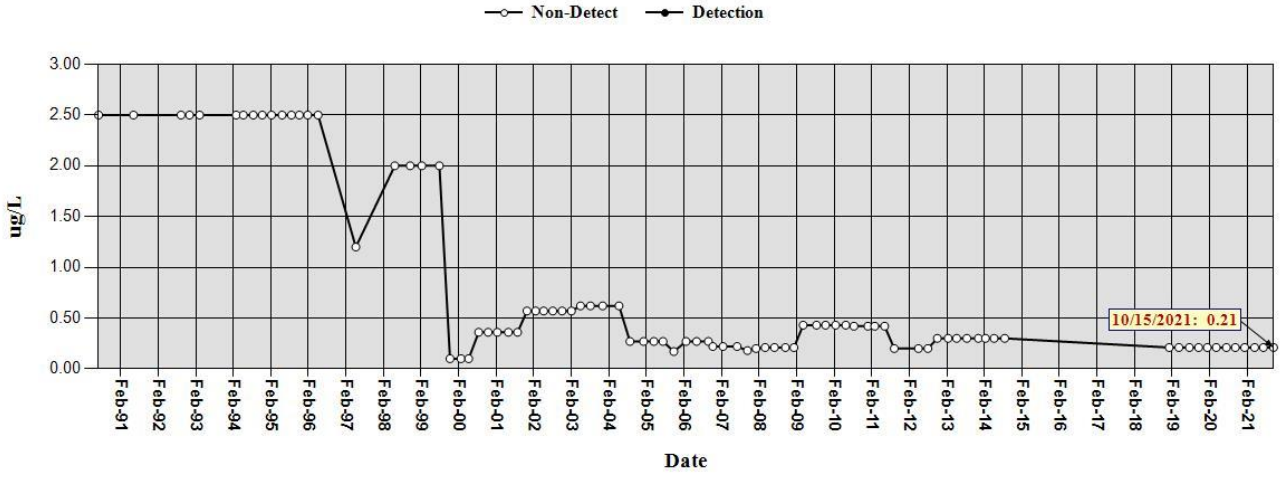
Well ID: BLM-6-488
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



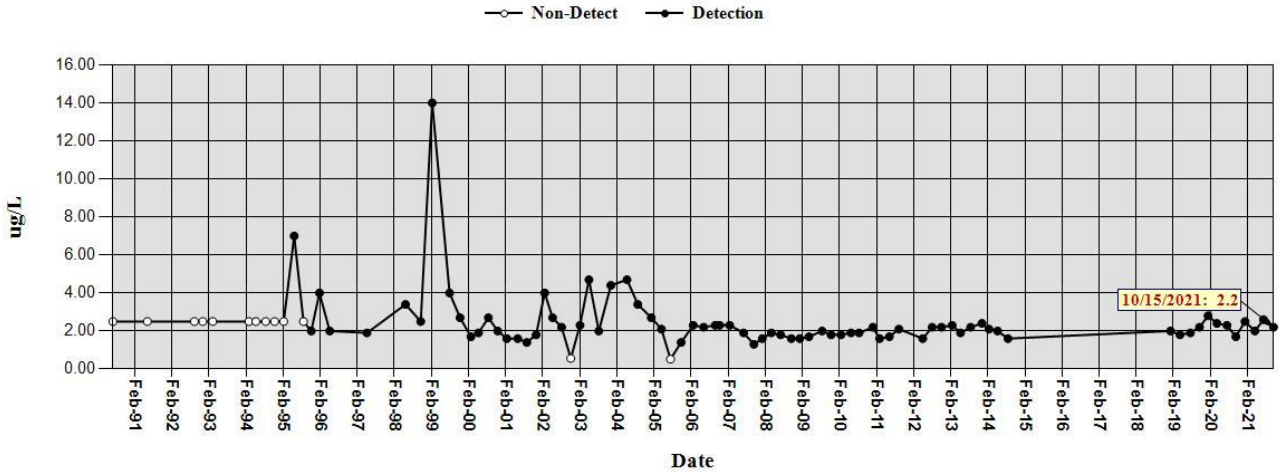
Well ID: BLM-6-488
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: BLM-6-488
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



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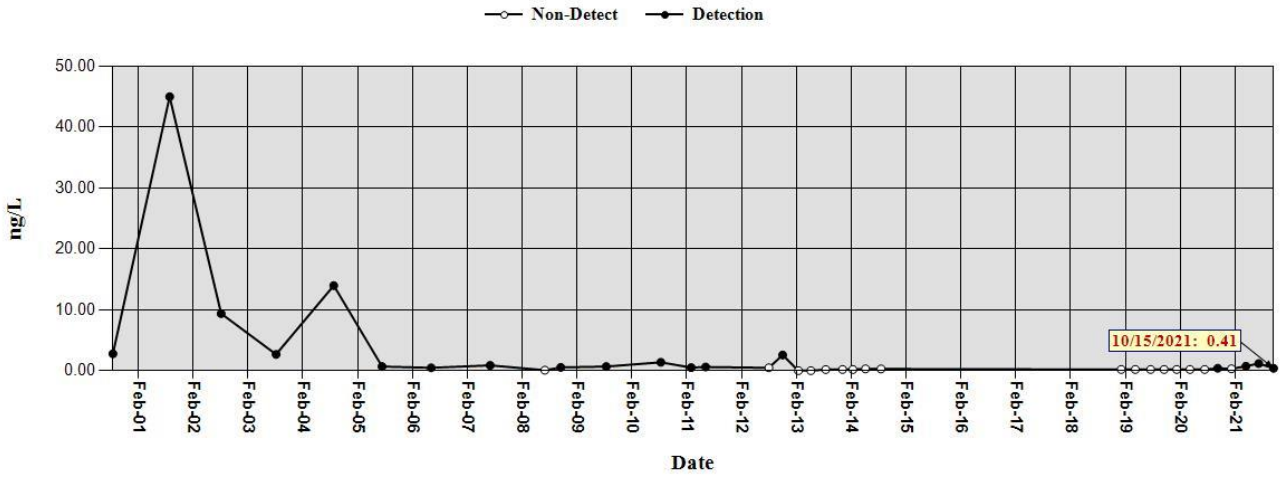
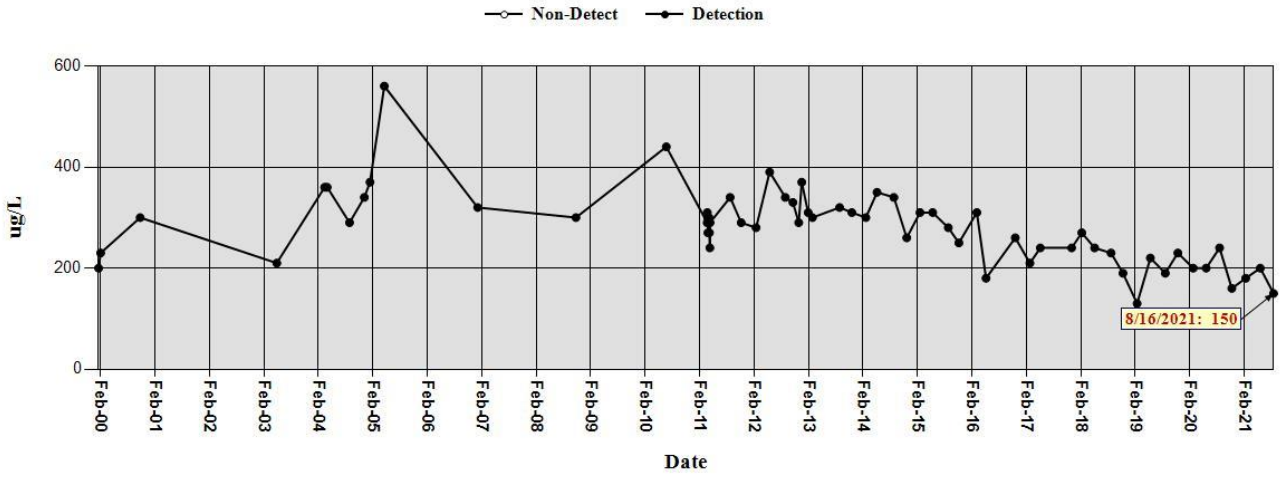
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: NDMA_LL



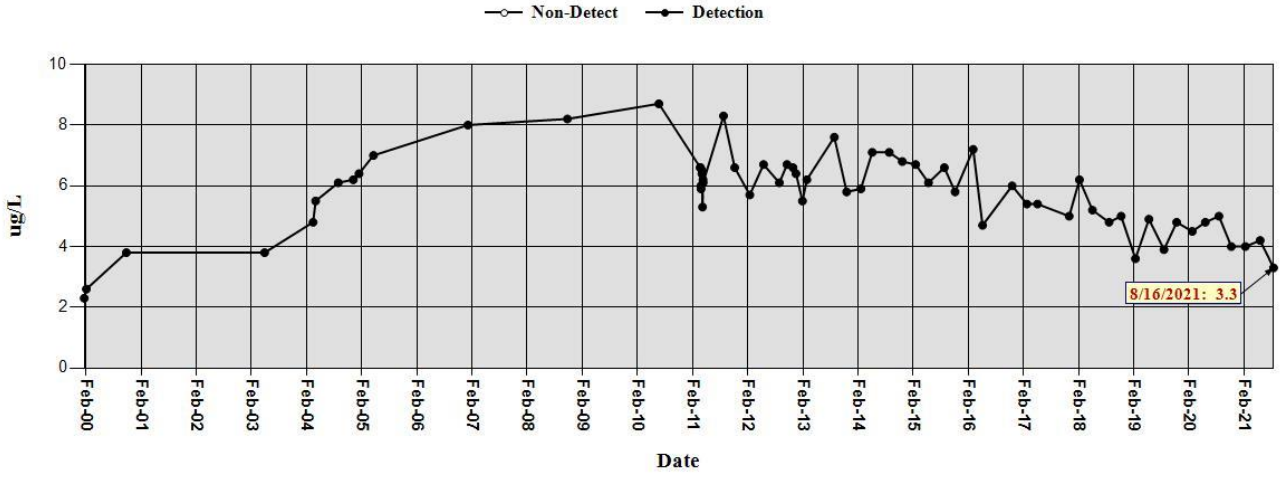
Well ID: MPE-1
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



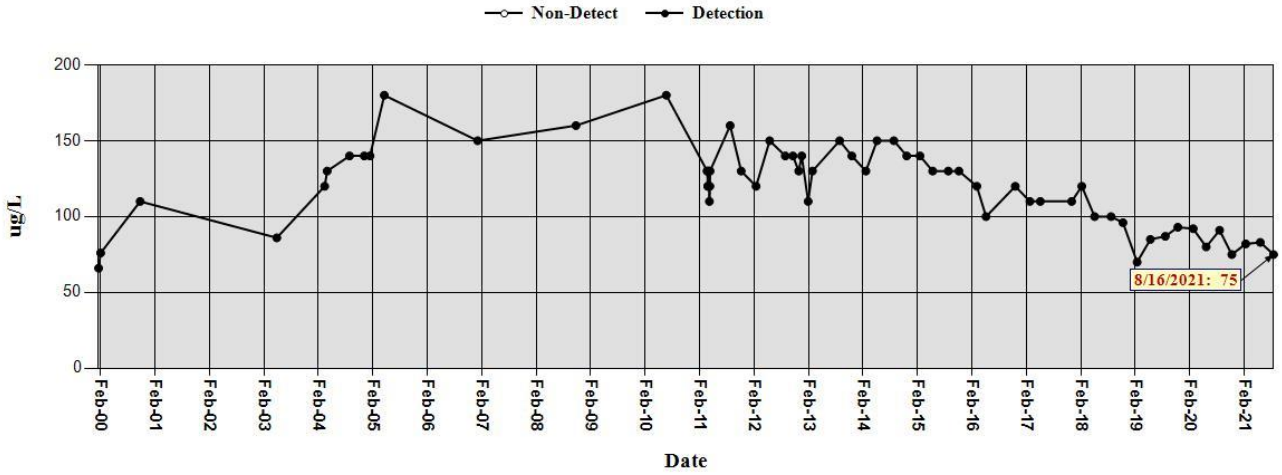
Well ID: MPE-1
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: MPE-1
CAS RN: 79-01-6 Trichloroethene

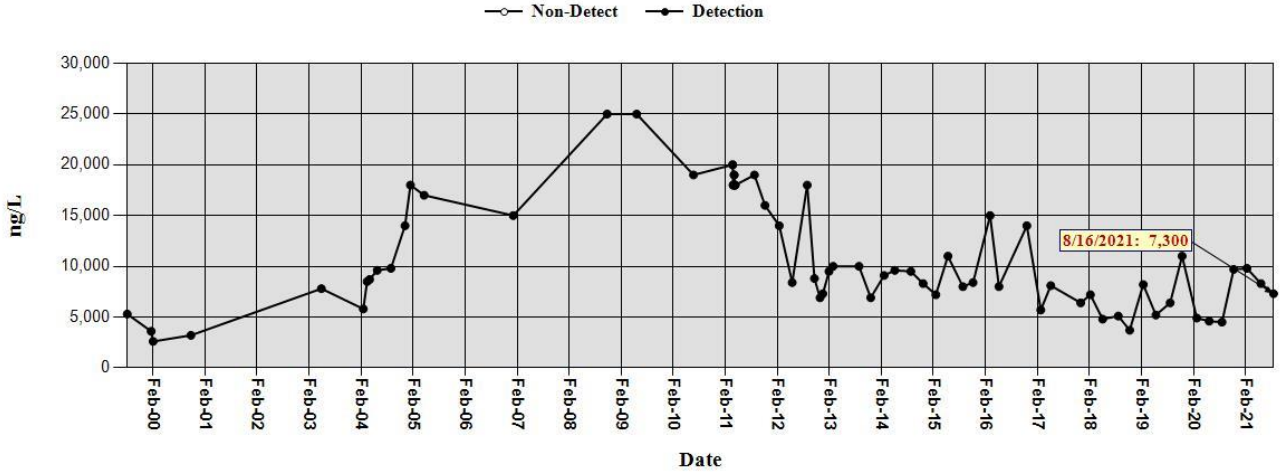
Analysis: 8260



Well ID: MPE-1
CAS RN: 62-75-9 N-Nitrosodimethylamine

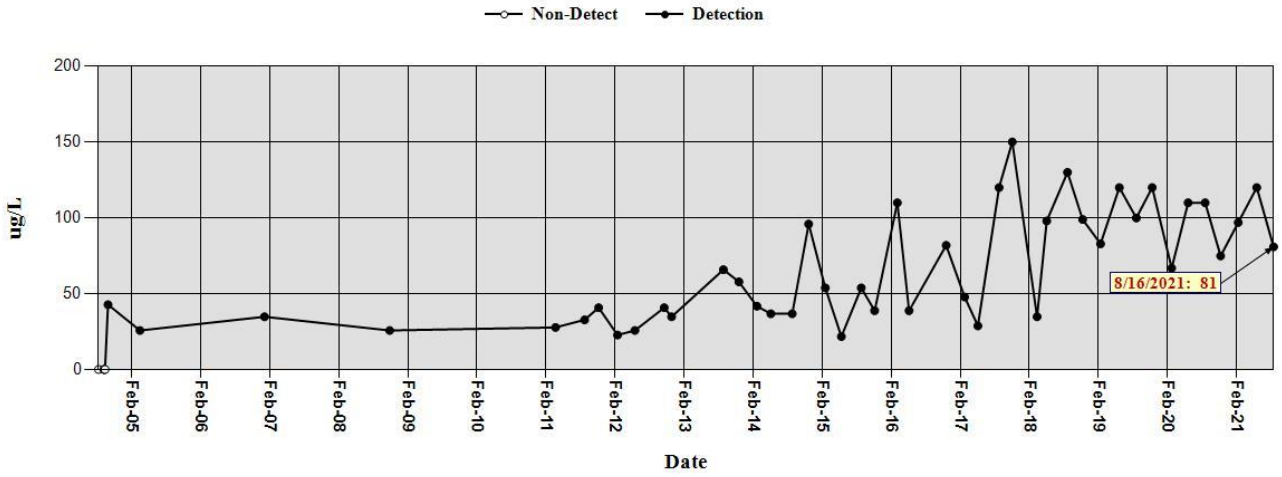
Analysis: 607

Results are Corrected for Extraction Efficiency



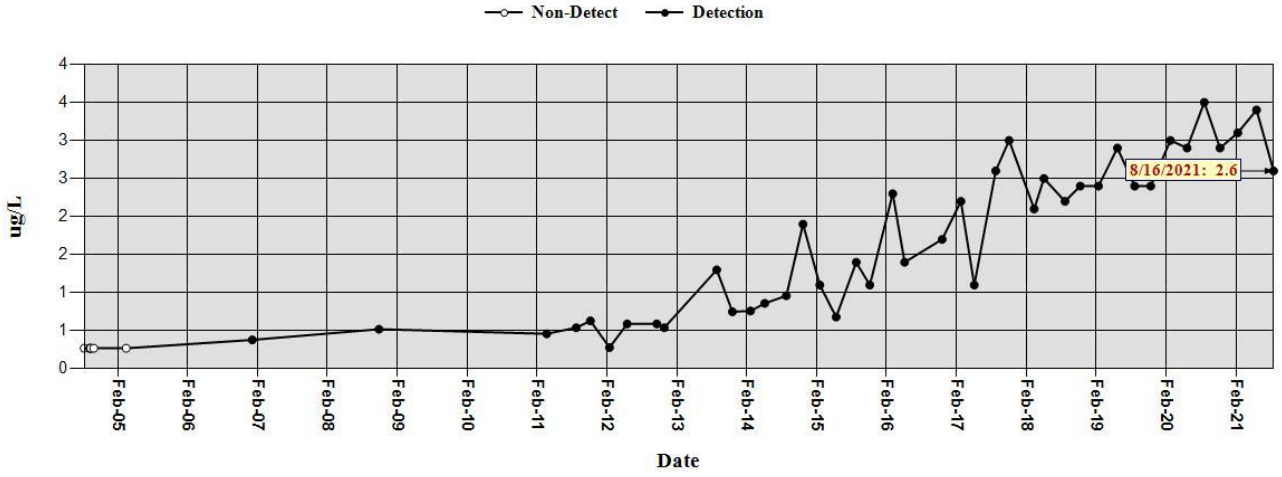
Well ID: MPE-10
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



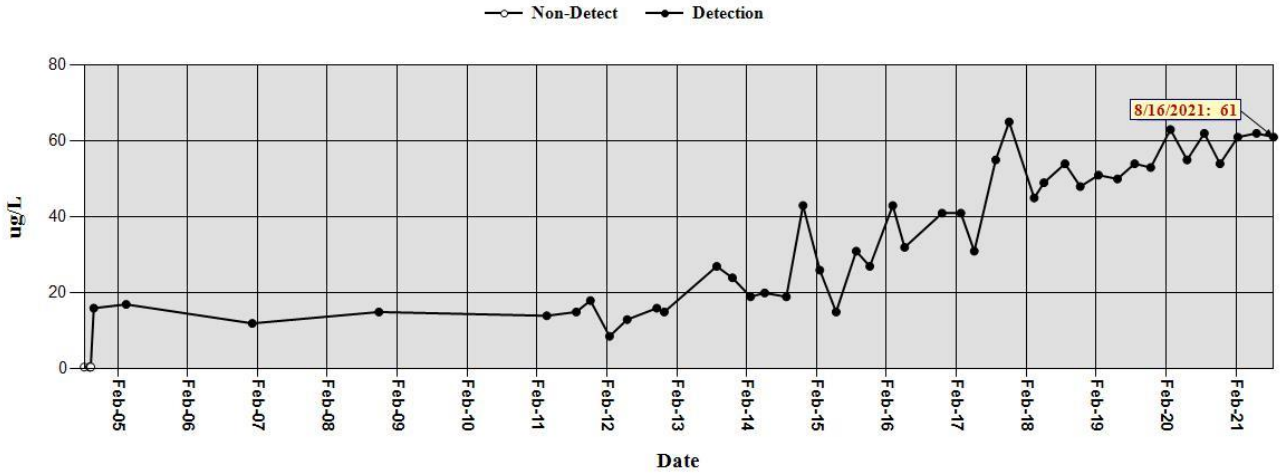
Well ID: MPE-10
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: MPE-10
CAS RN: 79-01-6 Trichloroethene

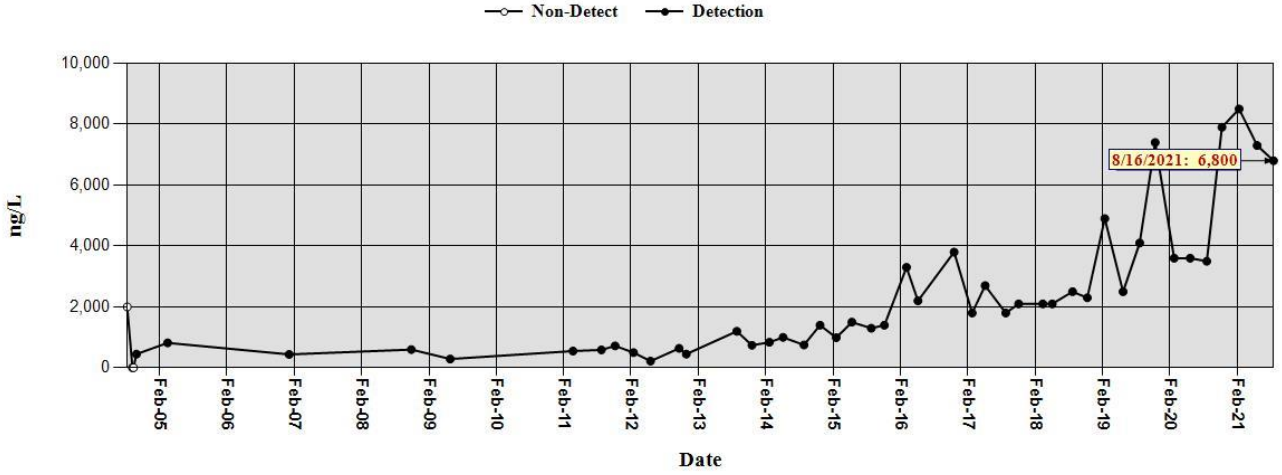
Analysis: 8260



Well ID: MPE-10
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



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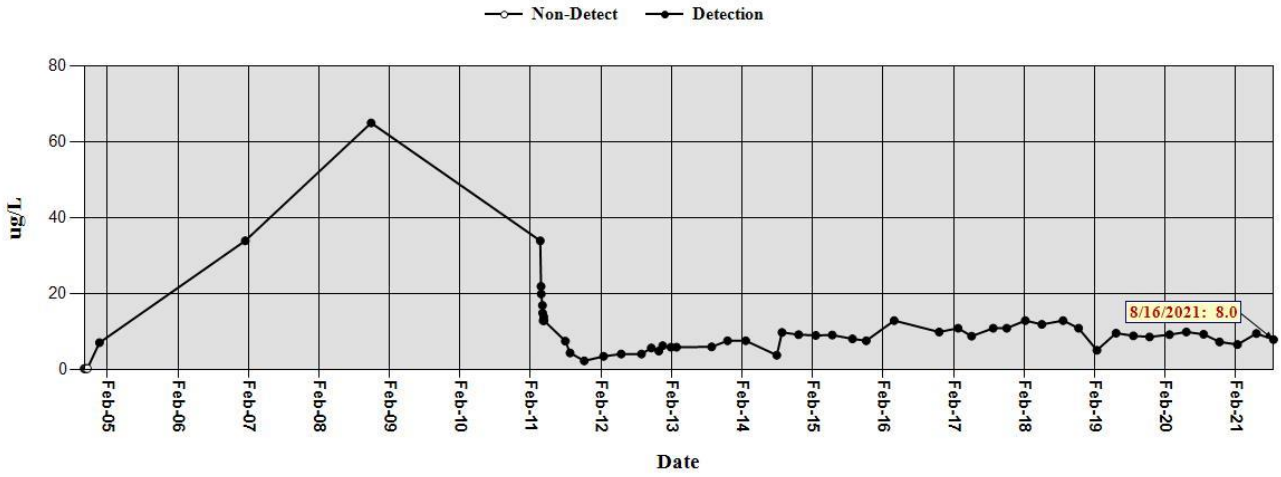
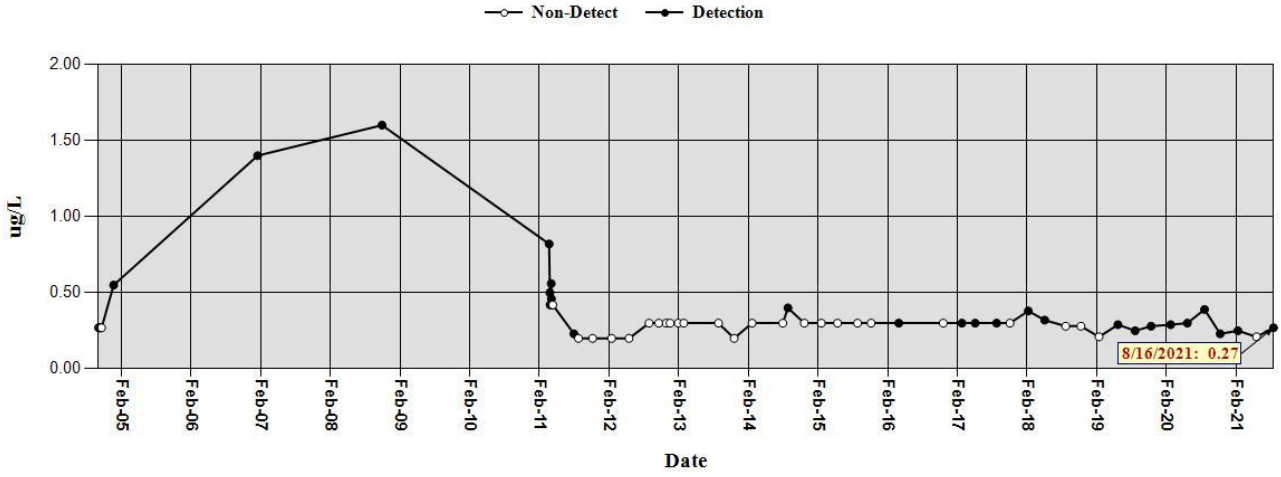
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: MPE-11
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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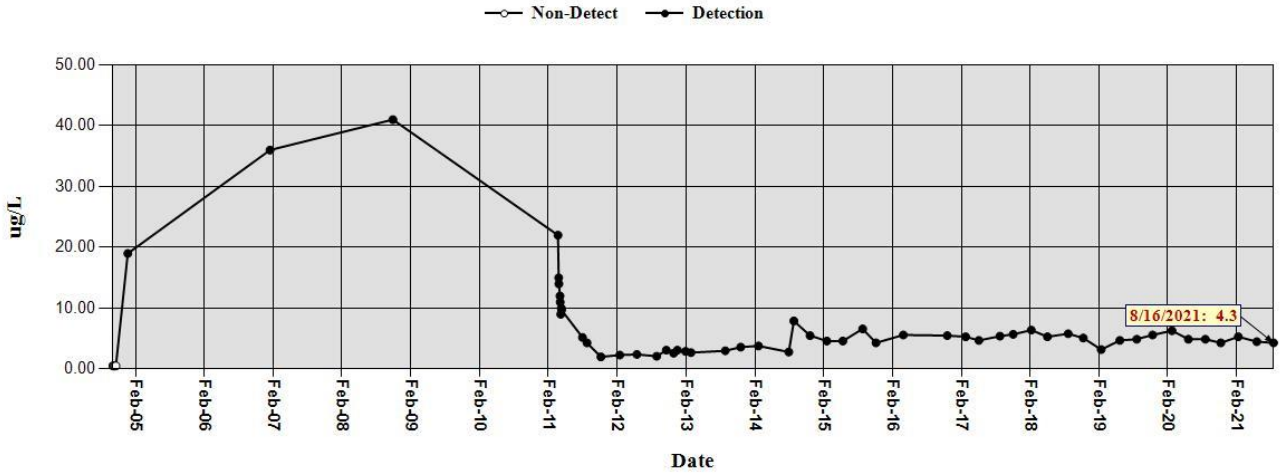
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



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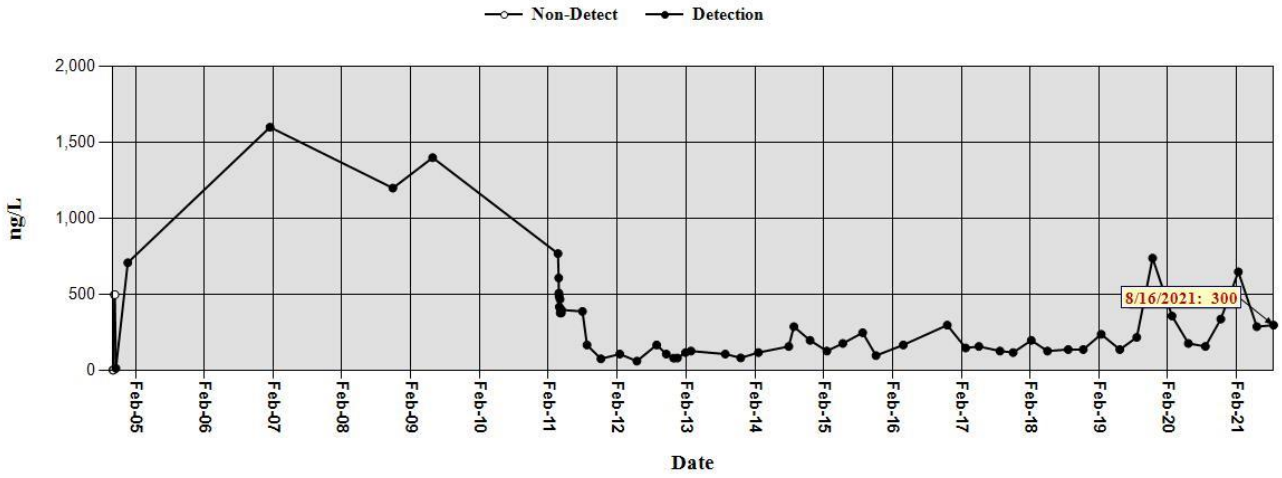
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



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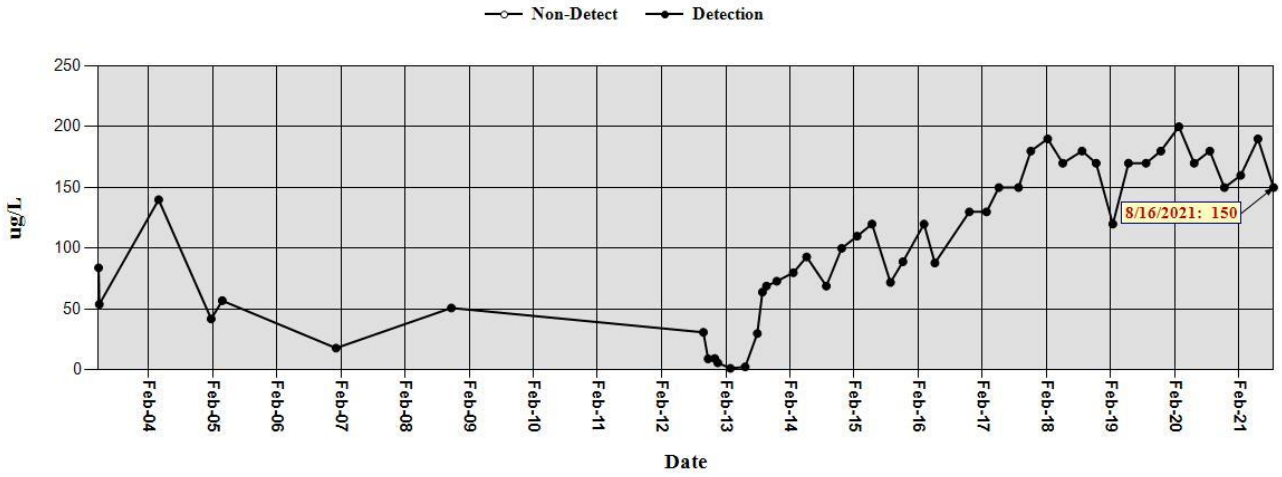
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



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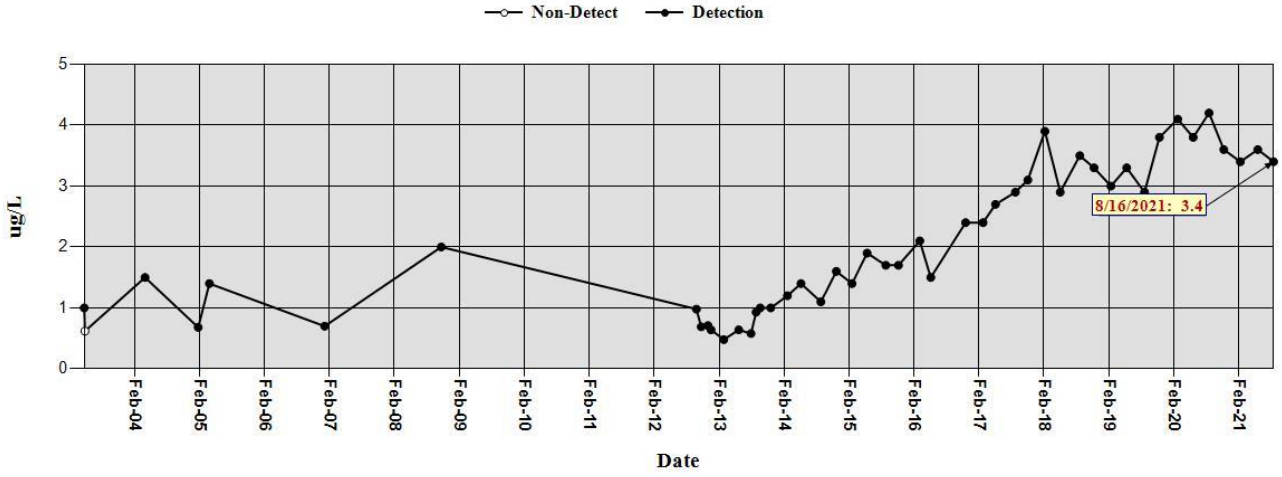
Analysis: 8260



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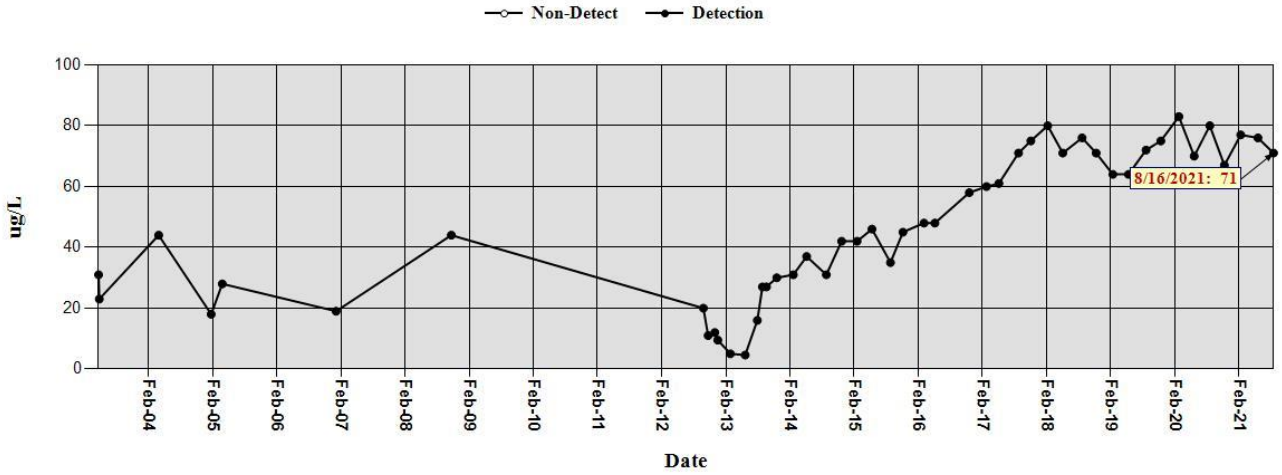
Analysis: 8260



Well ID: MPE-8
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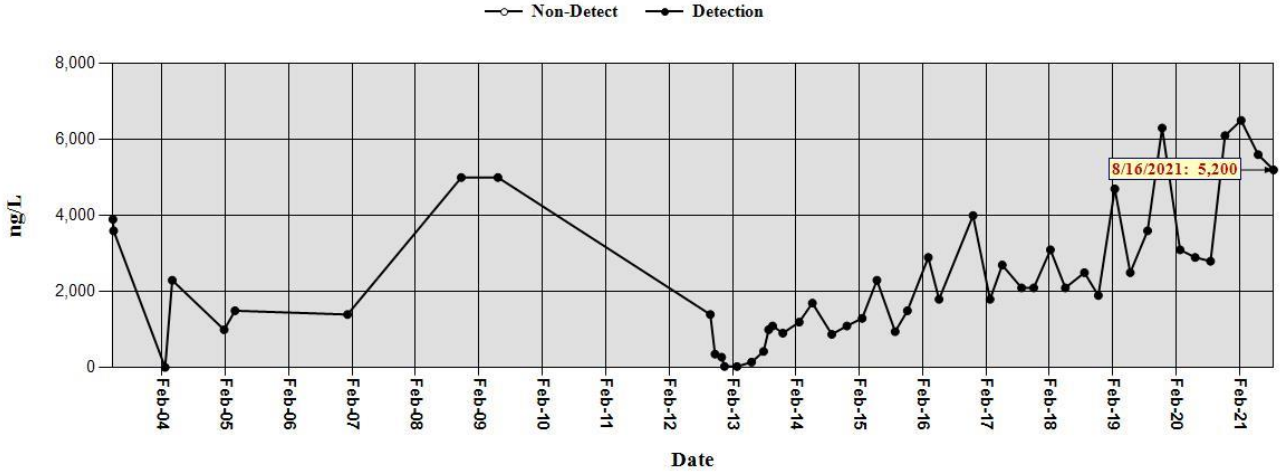
Analysis: 607

Results are Corrected for Extraction Efficiency



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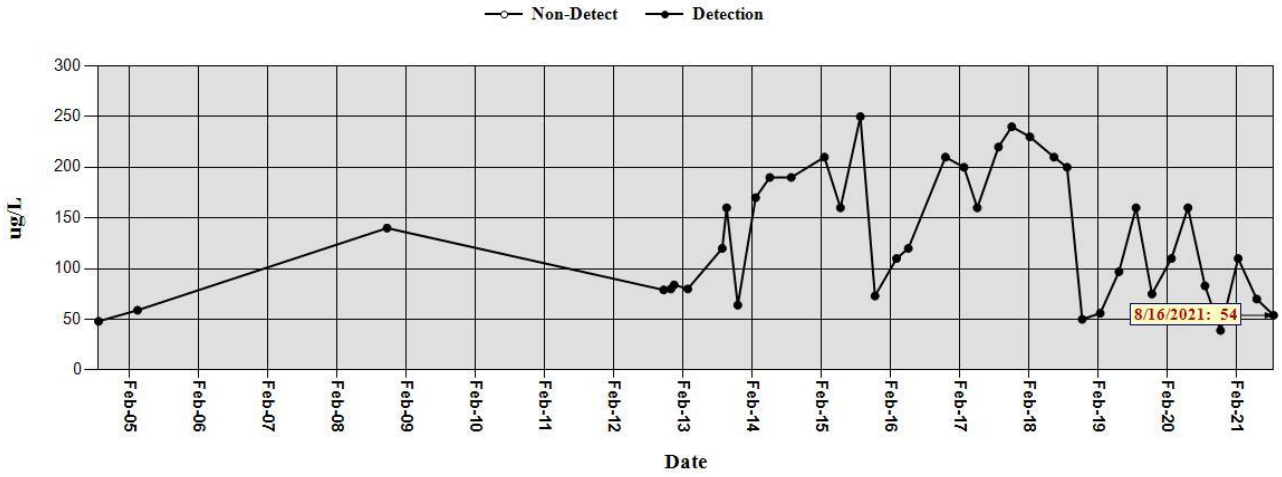

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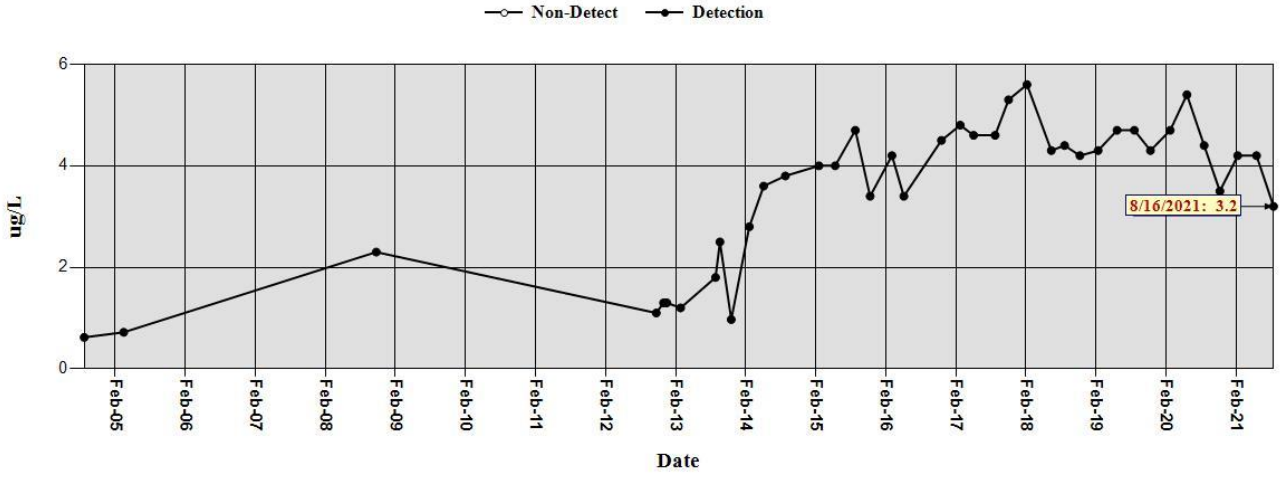

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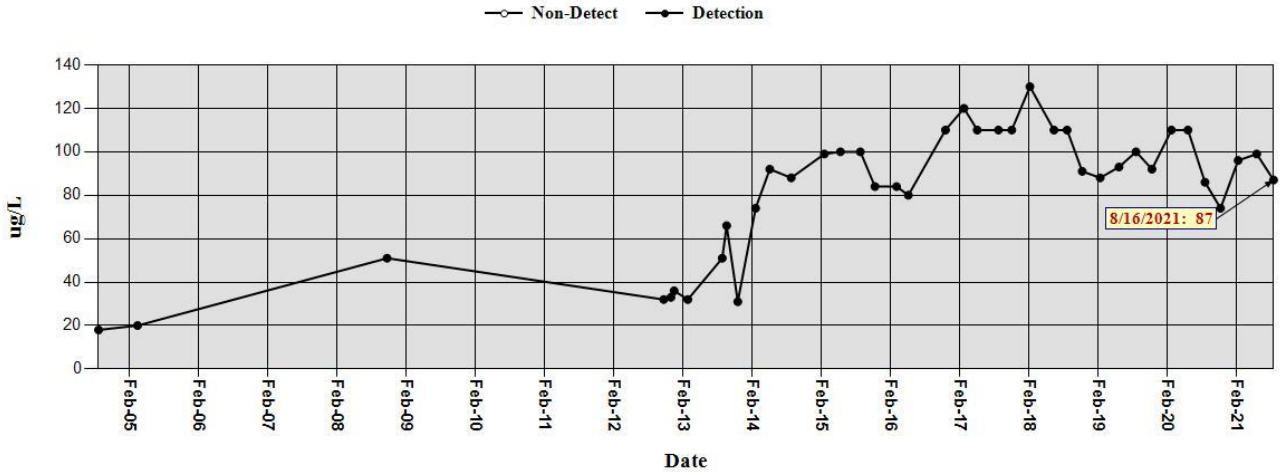
CAS RN: 79-01-6 Trichloroethene

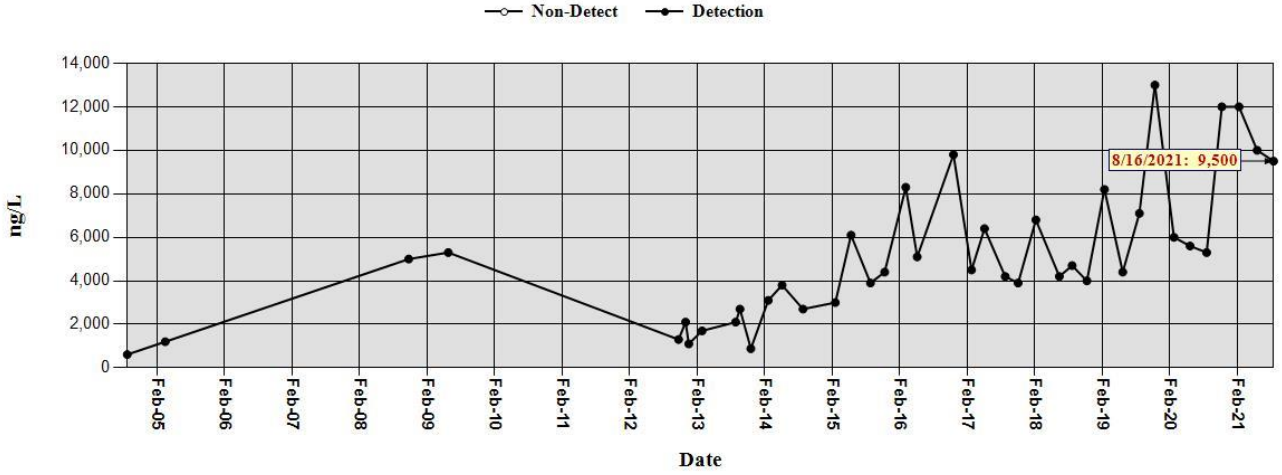
Analysis: 8260



Well ID: MPE-9
CAS RN: 62-75-9 N-Nitrosodimethylamine

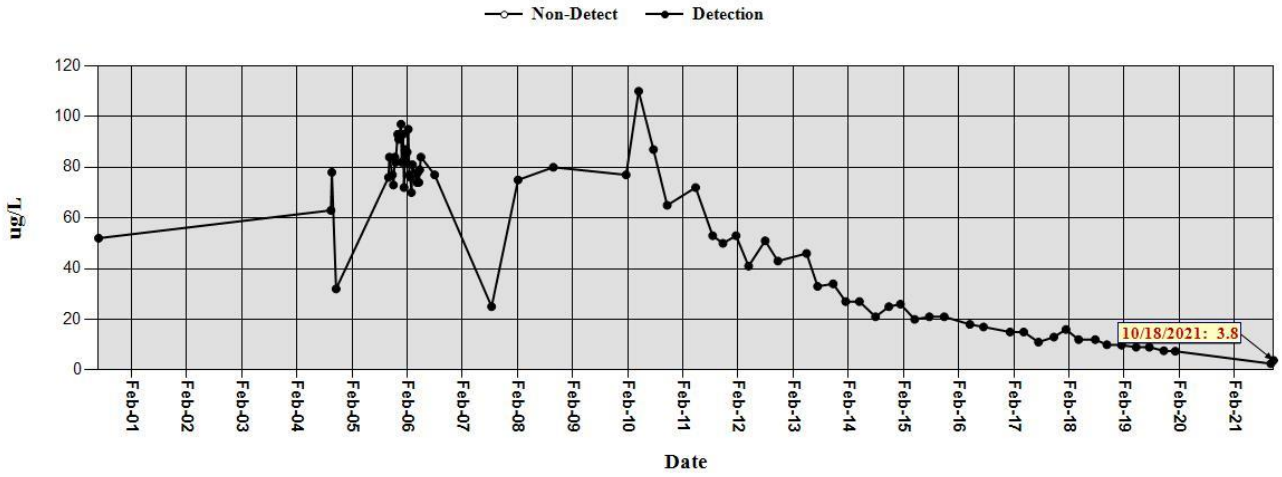
Analysis: 607

Results are Corrected for Extraction Efficiency



Well ID: PFE-1
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: PFE-1
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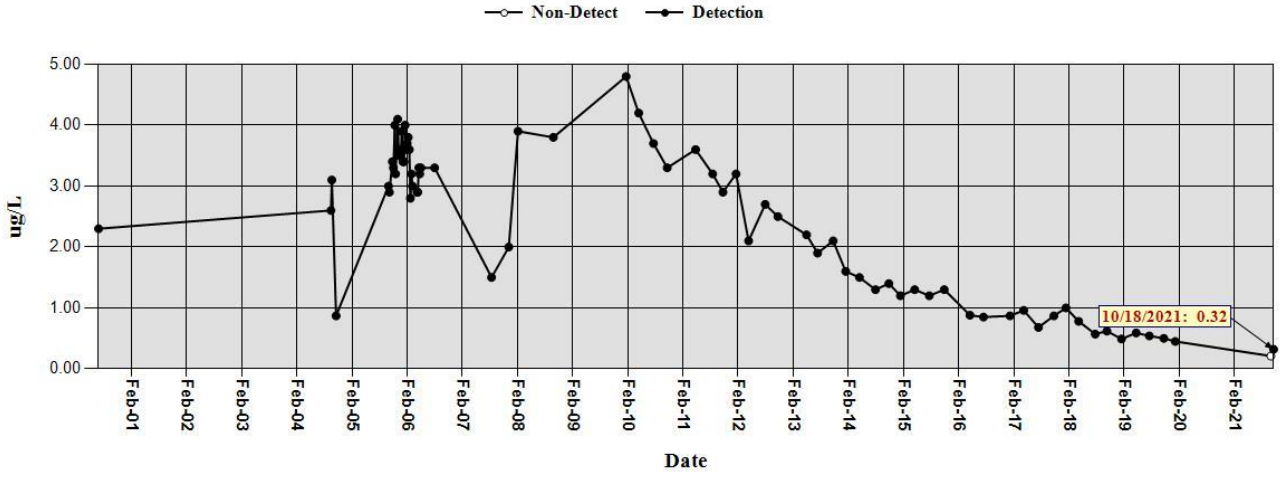
Analysis: 8260



Well ID: PFE-1
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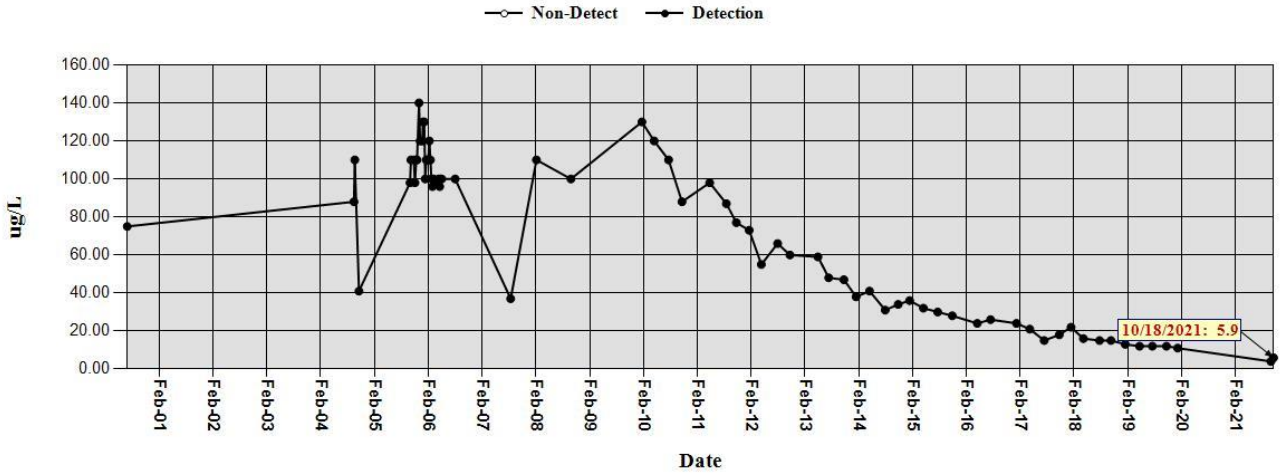
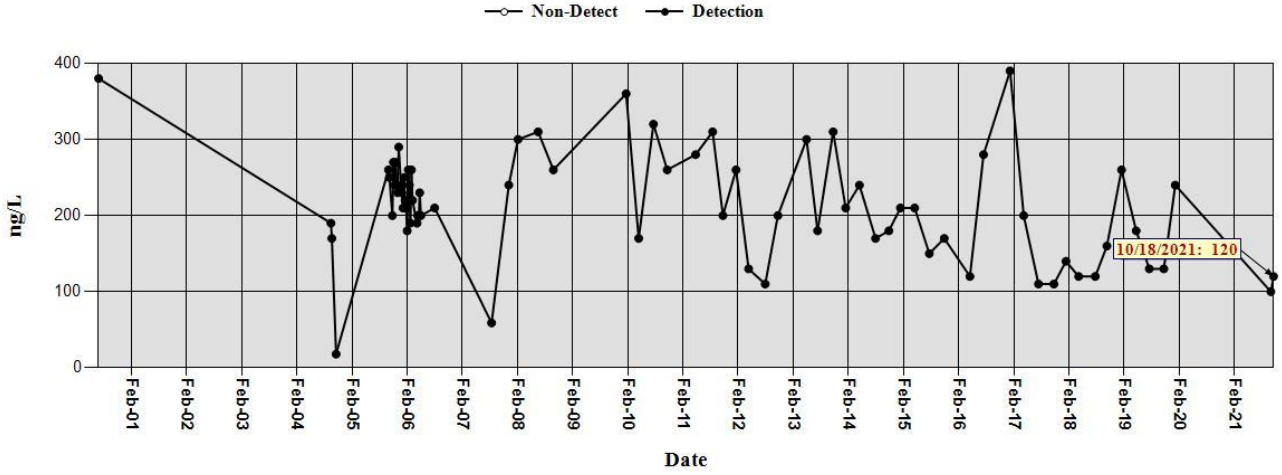
Analysis: 8260



Well ID: PFE-1
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



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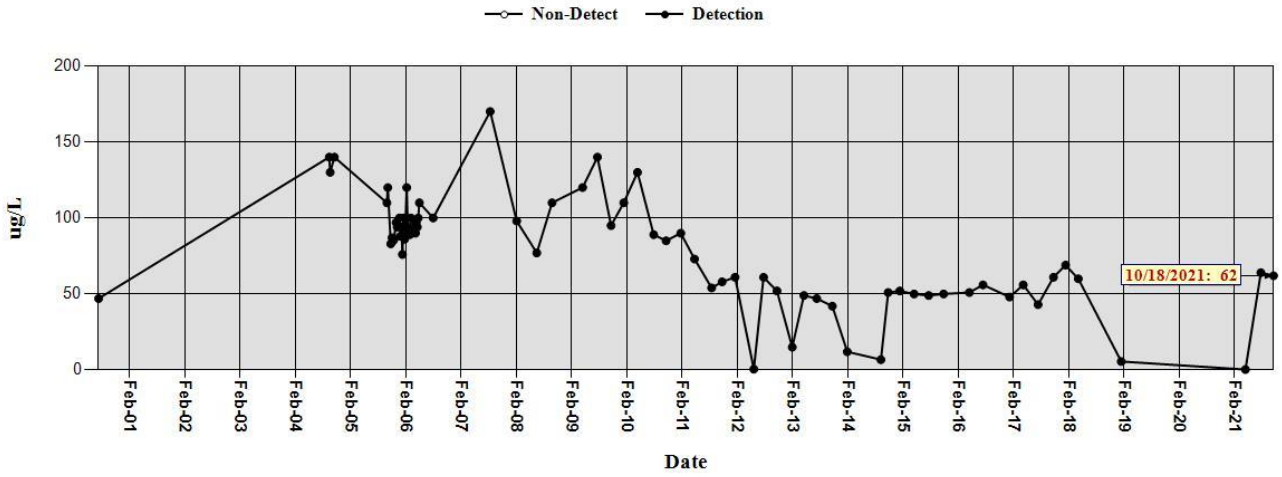
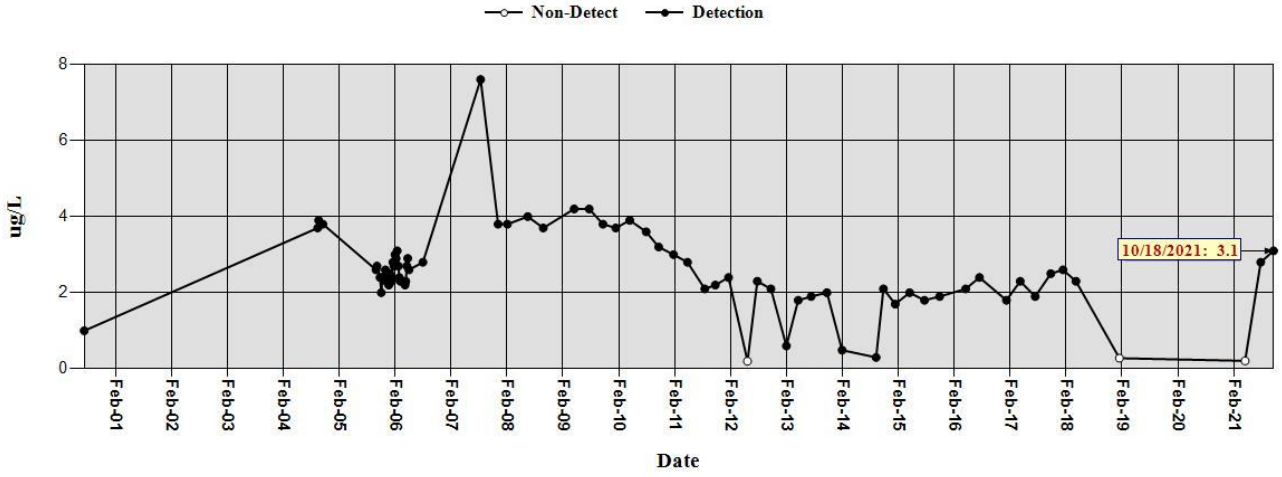
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



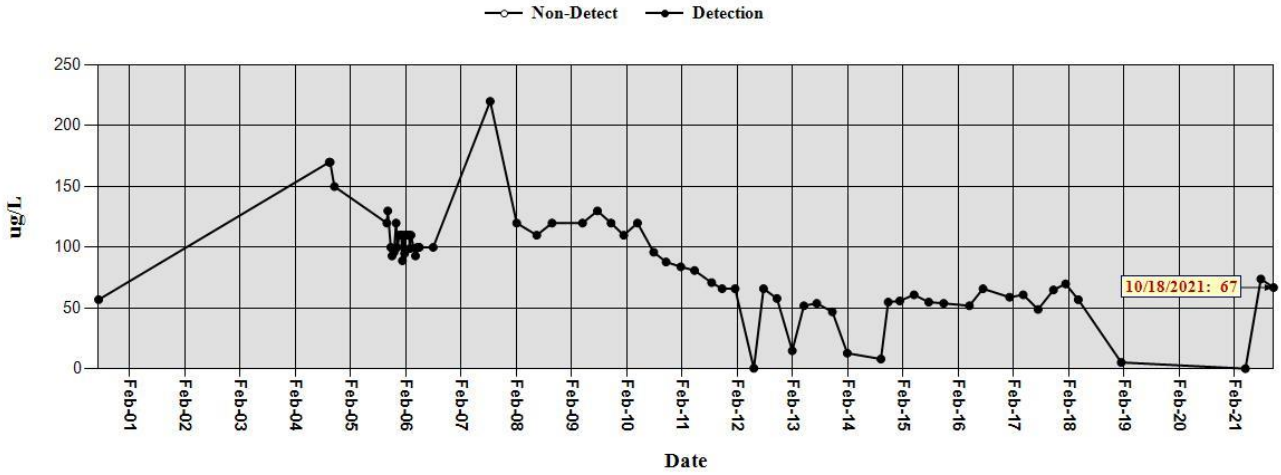
Well ID: PFE-2
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: PFE-2
CAS RN: 79-01-6 Trichloroethene

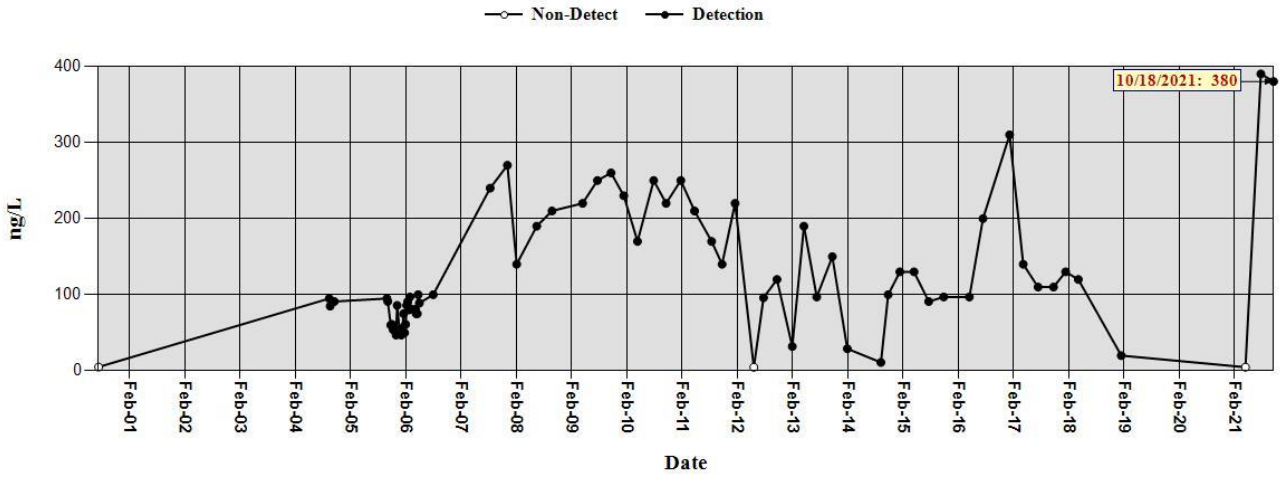
Analysis: 8260



Well ID: PFE-2
CAS RN: 62-75-9 N-Nitrosodimethylamine

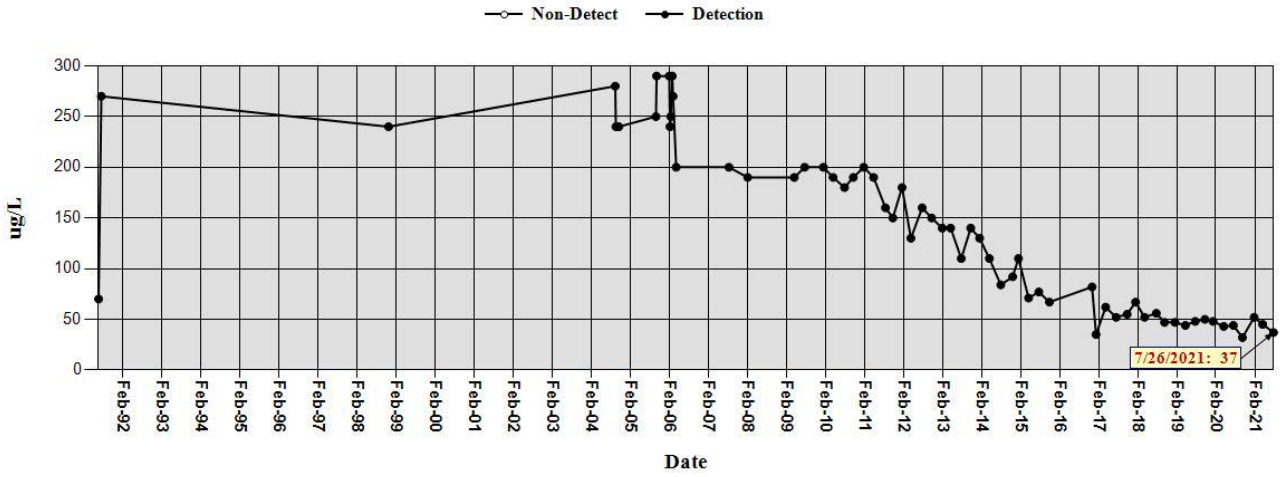
Analysis: 607

Results are Corrected for Extraction Efficiency



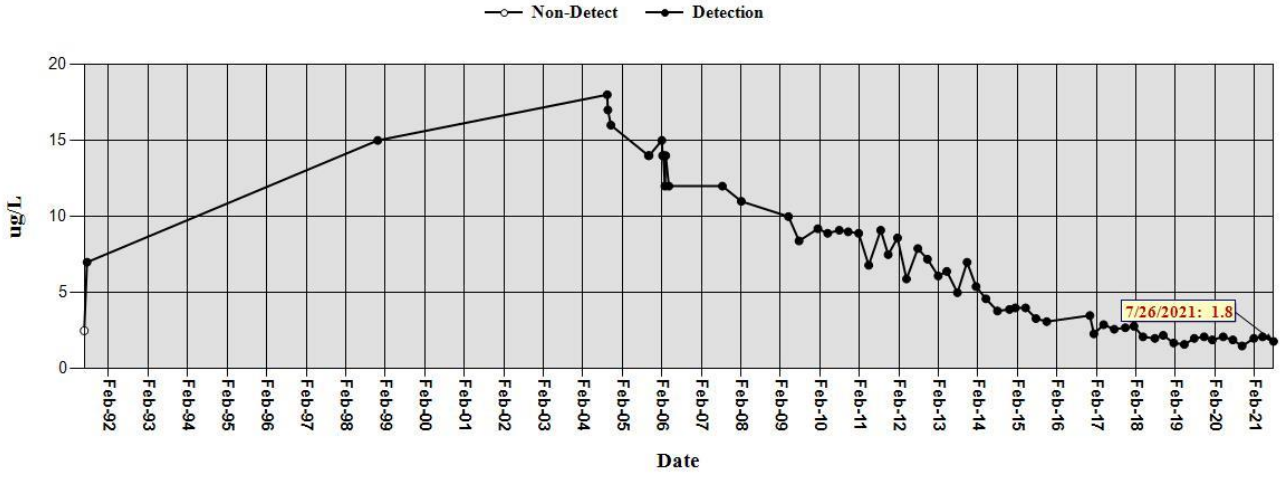
Well ID: PFE-3
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: PFE-3
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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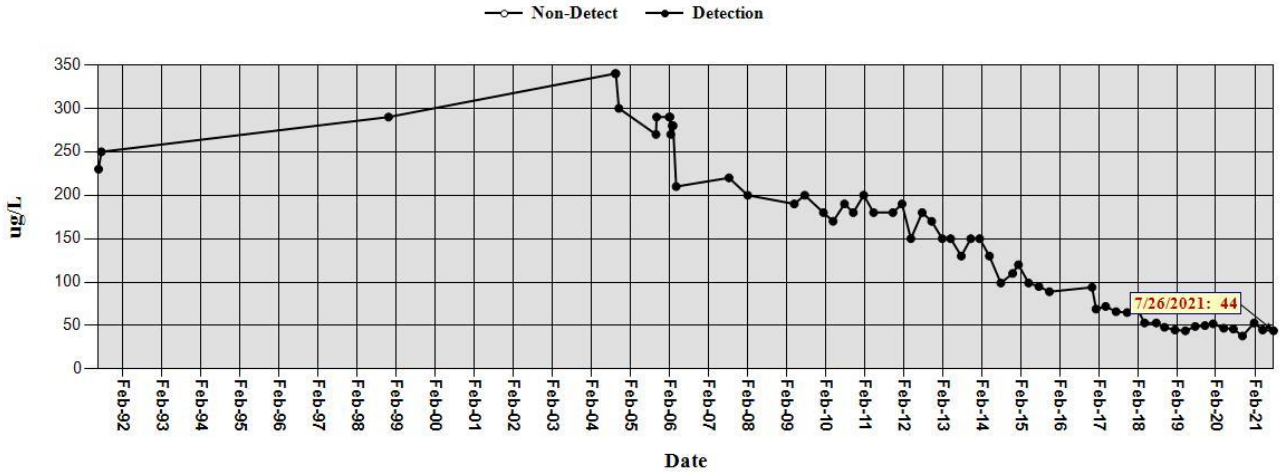
CAS RN: 79-01-6 Trichloroethene

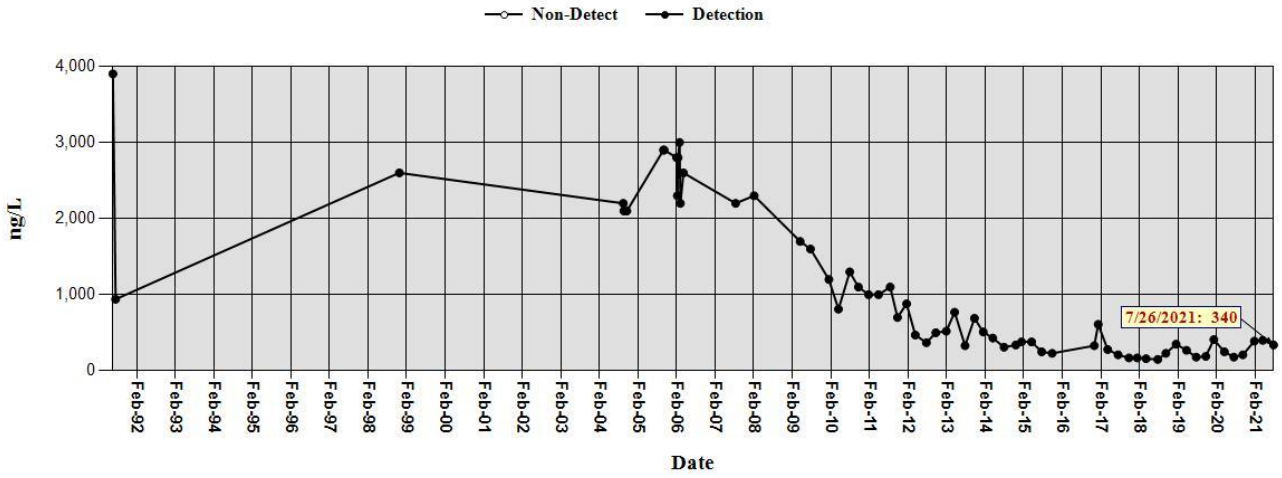
Analysis: 8260



Well ID: PFE-3
CAS RN: 62-75-9 N-Nitrosodimethylamine

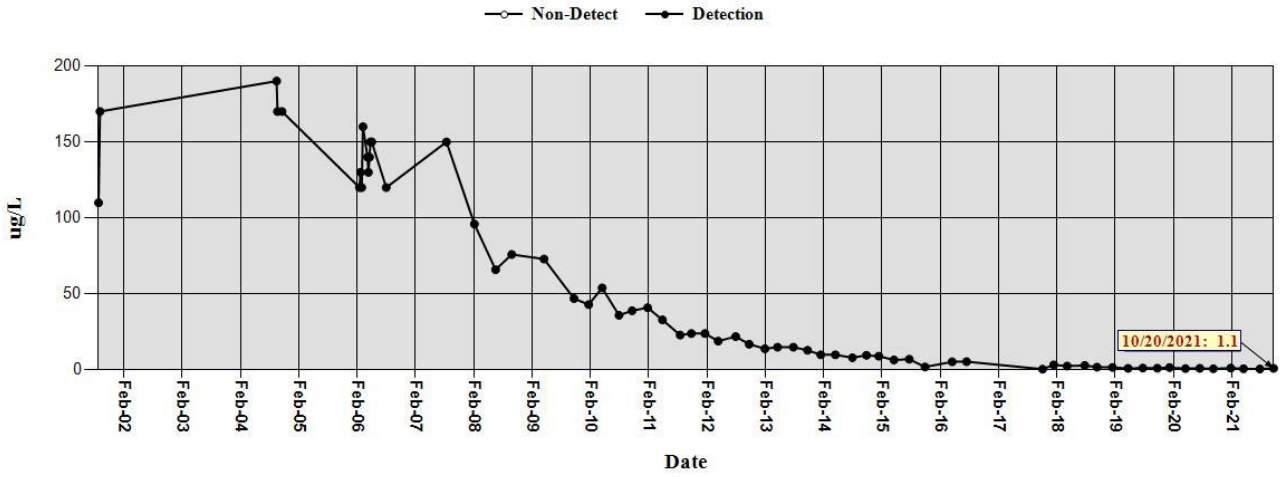
Analysis: 607

Results are Corrected for Extraction Efficiency



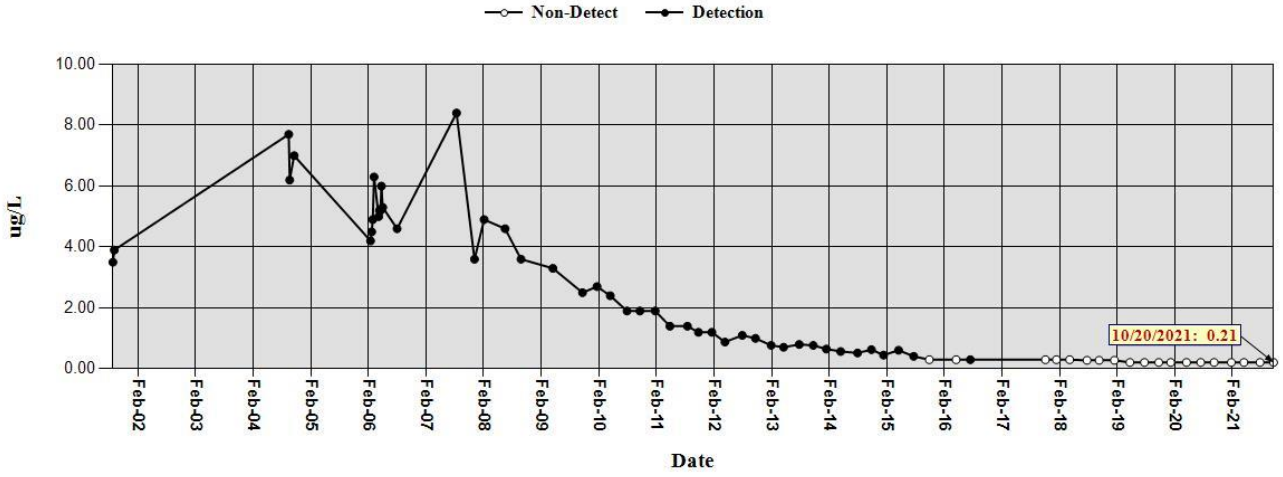
Well ID: PFE-4A
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: PFE-4A
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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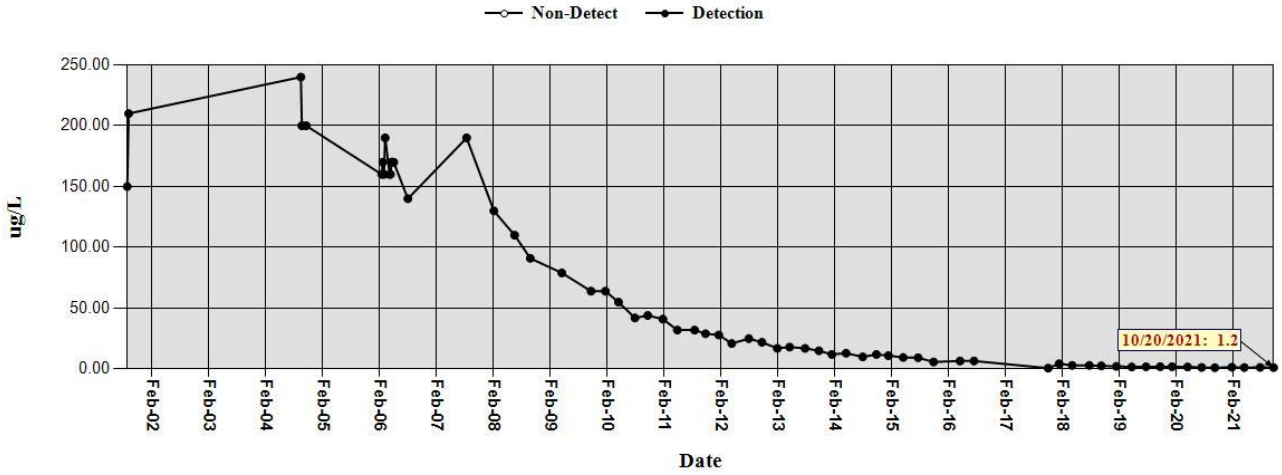
CAS RN: 79-01-6 Trichloroethene

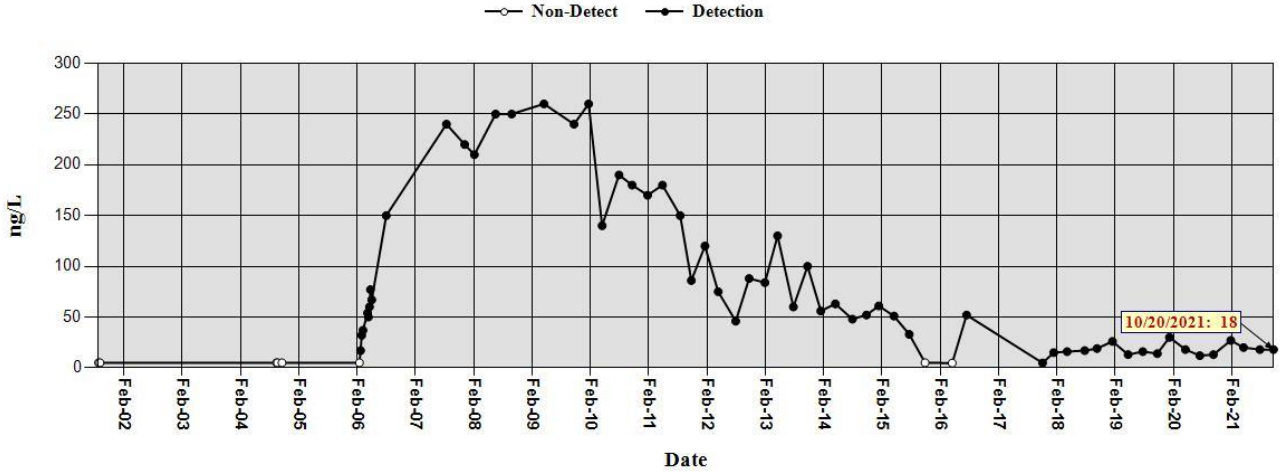
Analysis: 8260



Well ID: PFE-4A
CAS RN: 62-75-9 N-Nitrosodimethylamine

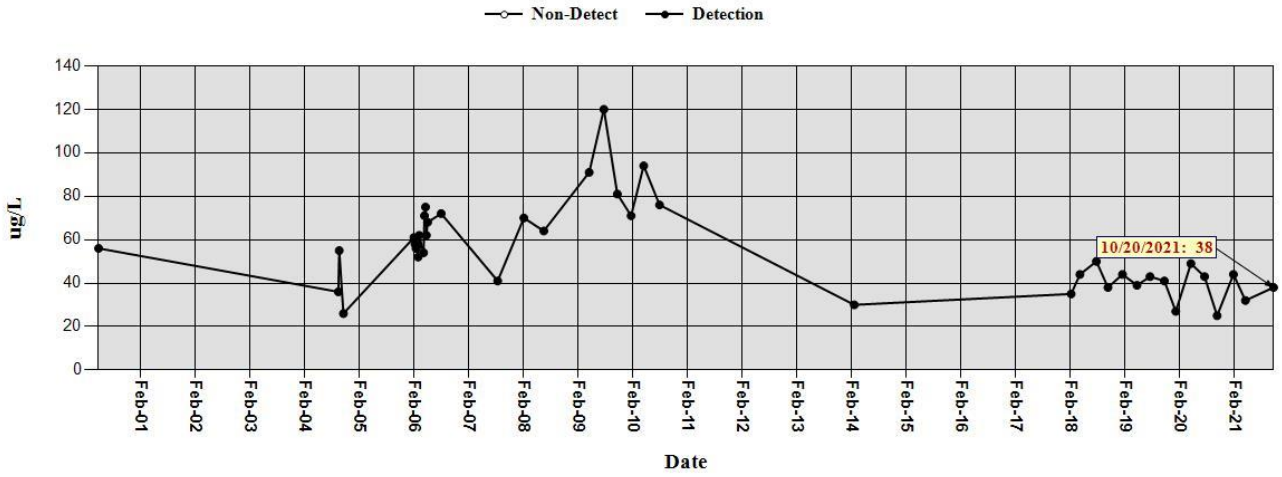
Analysis: 607

Results are Corrected for Extraction Efficiency



Well ID: PFE-5
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: PFE-5
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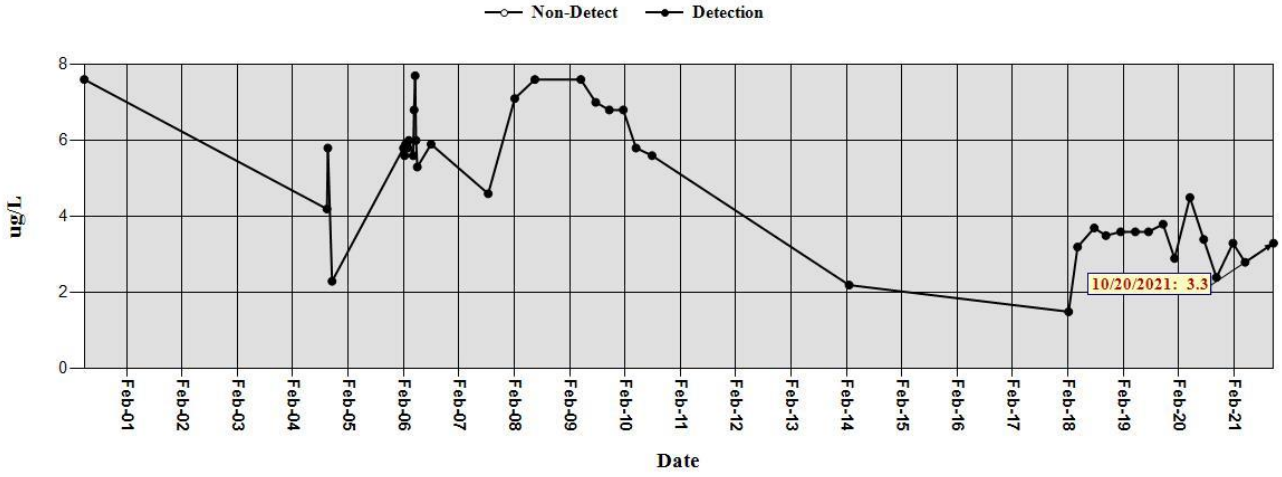
Analysis: 8260



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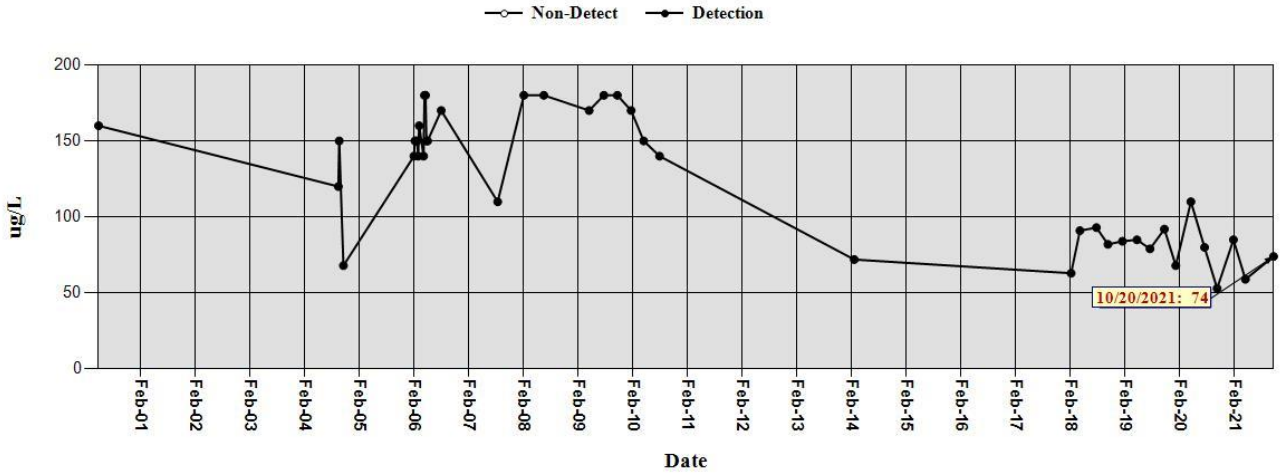
Analysis: 8260



Well ID: PFE-5
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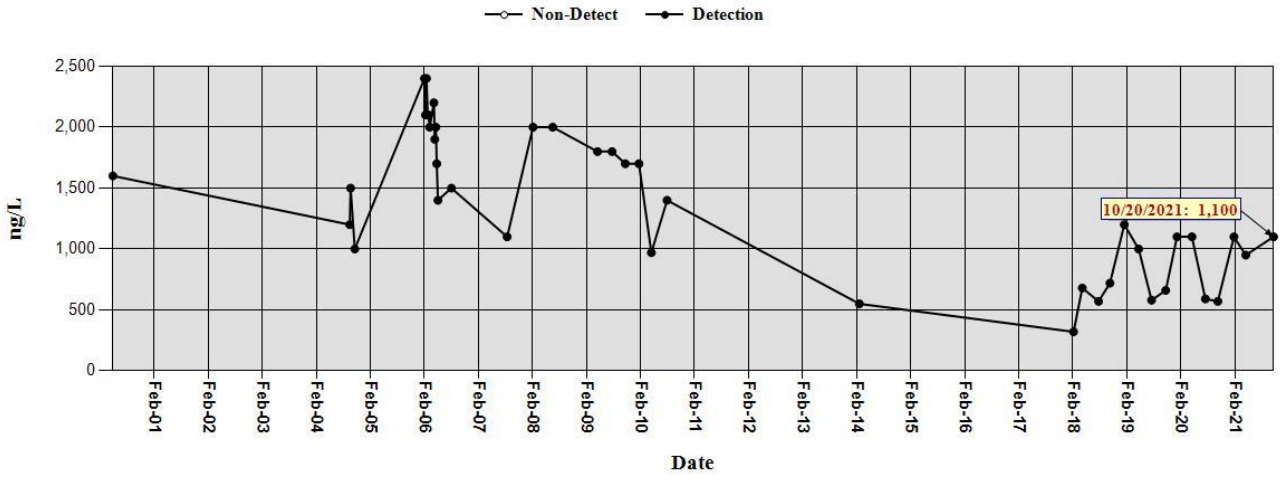
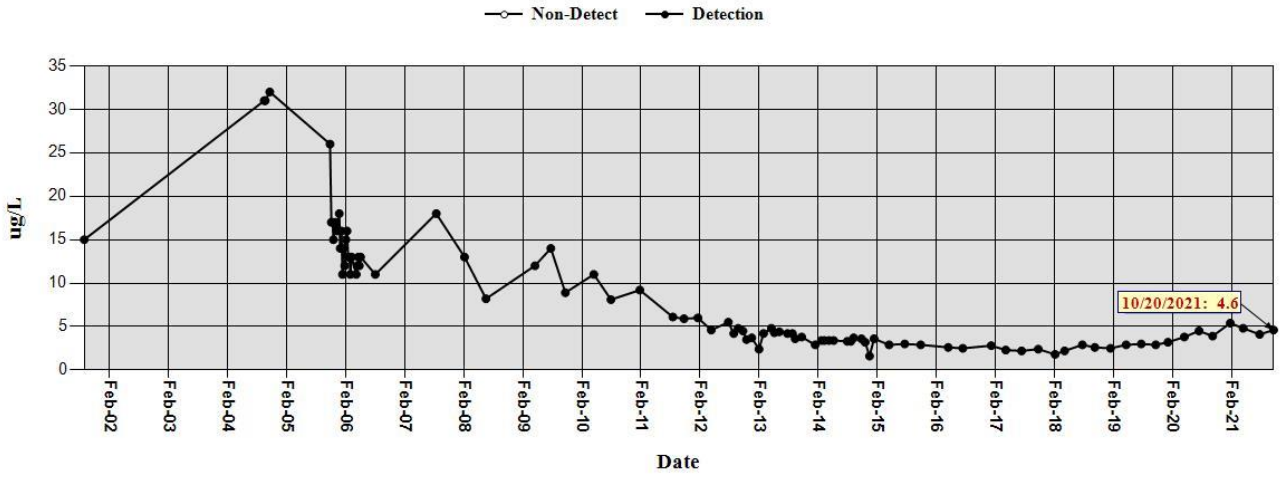
Analysis: 607

Results are Corrected for Extraction Efficiency



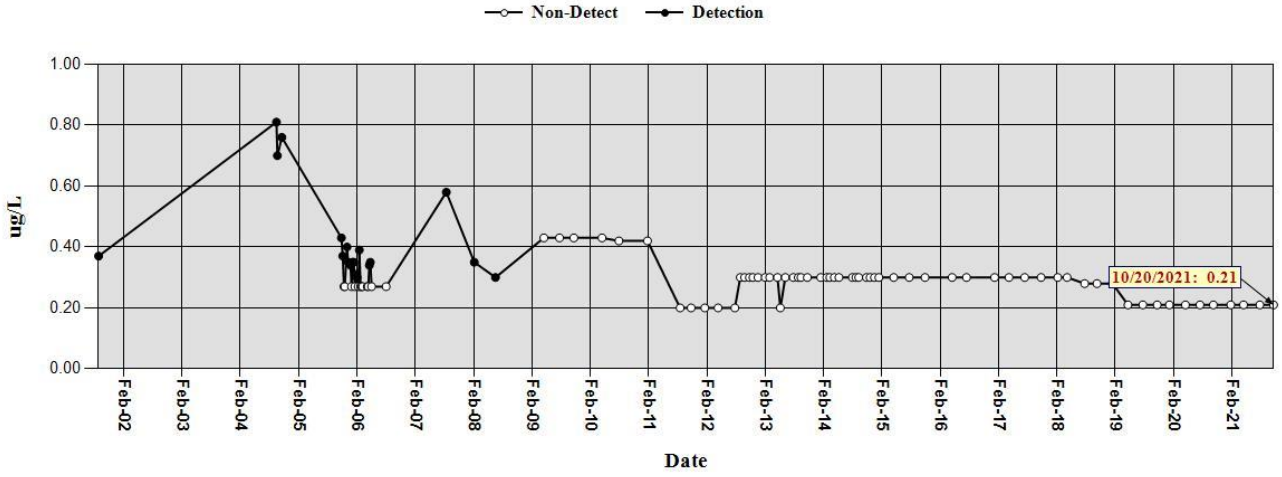
Well ID: PFE-7
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



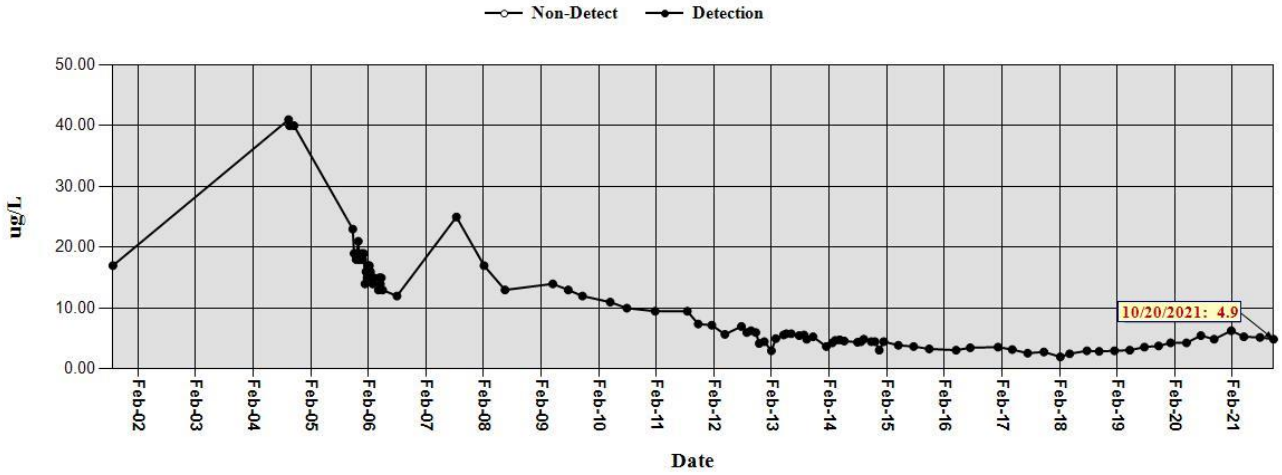
Well ID: PFE-7
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: PFE-7
CAS RN: 79-01-6 Trichloroethene

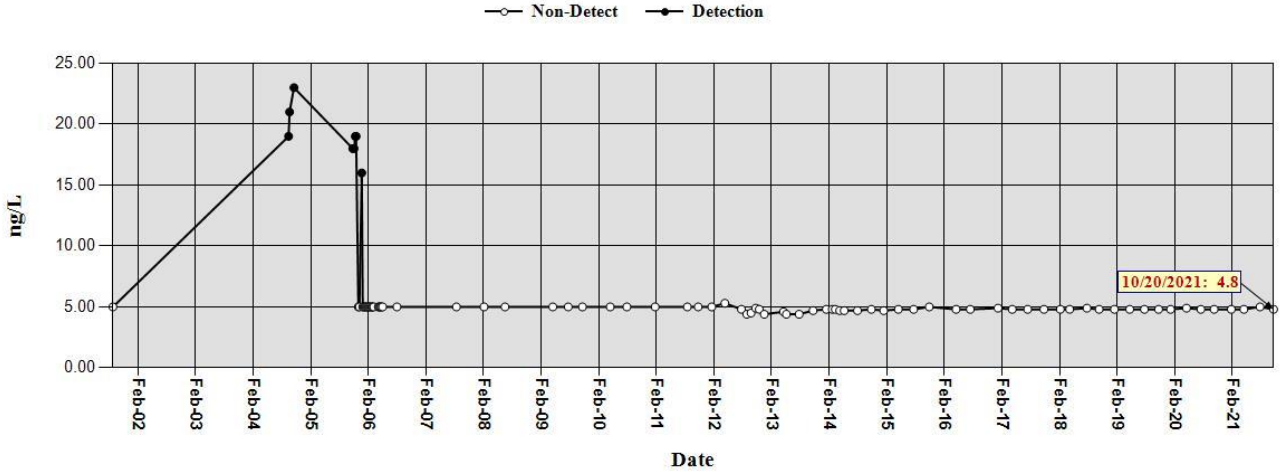
Analysis: 8260



Well ID: PFE-7
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



Appendix E: Summary of Maximum Concentrations, Current Concentrations and T-C Plot Interpretations for WSTF Monitoring Well Network

Well	1st Sample	Interpretation	Freon 11 Concentration (ug/L)				PCE Concentration (ug/L)				TCE Concentration (ug/L)				NDMA 607 Concentration (ug/L)						NDMA LL Concentration (ng/L)			
			Max	Year	Last	Year	Max	Year	Last	Year	Max	Year	Last	Year	Max	Ex Eff	Year	Last	Ex Eff	Year	Max	Year	Last	Year
		Migration (No Overall Trend)																						
PFE-1 Conv*	2000	Pumping Related Migration (Decreasing)	110	2010	3.80	2021	4.80	2010	0.32 J	2021	140	2005	5.90	2021	0.39	36	2017	0.12	53	2021	N/A		N/A	
PFE-2 Conv*	2000	Pumping Related Migration (Decreasing)	170	2007	62	2021	7.60	2007	3.10	2021	220	2007	67	2021	0.39	38	2021	0.38	53	2021	N/A		N/A	
PFE-3 Conv*	1991	Pumping Related Migration (Decreasing)	290	2006	37	2021	18	2004	1.80	2021	340	2004	44	2021	3.90	18	1991	0.34	38	2021	N/A		N/A	
PFE-4A Conv*	2001	Pumping Related Migration (Decreasing)	190	2004	1.10	2021	8.40	2007	0.21 DL	2021	240	2004	1.20	2021	0.26	36	2010	0.018 J	50	2021	N/A		N/A	
[2]PFE-5	2000	Pumping Related Migration (No Overall Trend)	120	2009	38	2021	7.70	2006	3.30	2021	180	2009	74	2021	2.40	33	2006	1.10	50	2021	N/A		N/A	
PFE-7 Conv*	2001	Pumping Related Migration (Decreasing)	32	2004	4.60	2021	0.81 J	2004	0.21 DL	2021	41	2004	4.90	2021	0.022	44	2004	0.004 DL	NP	2021	N/A		N/A	

Notes:

T-C plot interpretations are based on a review of all T-C plots for a given well. This table generalizes the historical maximum concentration and last concentrations for four of the primary VOCs in groundwater. Evaluation of the data in this table should be used in conjunction with T-C plots as the maximum and current values do not always accurately represent the overall T-C plot trend.
NDMA analytical results using two methods: 1) Method 607 (ug/L), extraction efficiency provided, the applicable detection limit is typically 0.004 to 0.005 ug/L; and 2) Low Level (ng/L), the applicable detection limit is 0.22 to 0.23 ng/L.
For wells with several maximum concentrations with the same value (typically the detection limit), the latest sampling event for which the detection limit applied was used for the sample year.
DL = Maximum detection limit and most recent year they were used are reported in the table. Detection limits can change over time, typically decreasing as analytical techniques improve.
EB = Detected in equipment blank.
FB = Detected in field blank.
J = Concentration values between the detection limit and practical quantitation limit.
NP = NDMA Method 607 extraction efficiency not provided where the analytical result is non-detect (eg, 0.004DL or 0.05RL).
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. Reporting limits can change over time, typically decreasing as analytical techniques improve.
TB = Detected in trip blank.
[1] Increase in NDMA concentration noted for well ST-3-486 since 2011. 2013 result = 3.3 ppb. An increased contaminant mass of Plume Front NDMA may be moving into this well.
[2] Well PFE-5 taken offline in 2011. Last sampled on 2/19/2014 using a Bennett pump.

Appendix F
Summary of Source Area Investigations

Summary of Groundwater Monitoring Projects and Source Area Investigations

A complete history of all projects and investigations prior to Calendar Year 2020 was last reported in the 3Q2021 Periodic Monitoring Report.

1.0 Groundwater Monitoring Projects

1.1 Monitoring Well Installation and Well Plugging and Abandonment

The two most recent wells plugged and abandoned (P&A) and replaced beginning in Calendar Year 2020 were P&A of well BLM-37 and replacement with BLM-42, and P&A of well PL-5 and replacement with well PL-12.

For both new wells, vendors contracted to provide the sampling systems for these wells experienced delays in obtaining the specialized material necessary to fabricate the inflatable packers for inclusion in the systems. NASA requested additional time to complete installation of the sampling systems, collect initial groundwater samples from both monitoring wells, and receive and evaluate analytical data for inclusion in the required well completion reports. NASA submitted the *Third Request for Extension of Time for BLM-42 and PL-12 Well Completion Reports* on February 6, 2020 (NASA, 2020c). NMED approved the extension on February 17, 2020 (NMED, 2020c), extending the due date for submittal of the report from February 28, 2020 to April 30, 2020.

In the first quarter of 2020, NASA installed dedicated low-flow groundwater sampling systems in new groundwater monitoring wells BLM-42 (the replacement for well BLM-37) and PL-12 (the replacement for well PL-5) and performed the required initial groundwater sampling. In the second quarter of 2020, NASA submitted the Well Completion Report for BLM-42 on May 4, 2020 (NASA, 2020f). NMED reviewed the Well Completion Report for BLM-42 (5/4/2020) and issued an approval with modifications on May 6, 2021 (NMED, 2021l). NASA submitted a response to the approval with modifications of the BLM-42 well completion report on May 18, 2021 (NASA, 2021i).

NASA also submitted the Well Completion Report for Well PL-12 on May 4, 2020 (NASA, 2020g). NMED reviewed the Well Completion Report for Well PL-12 (5/4/2020) and issued an approval on May 6, 2021 (NMED, 2021j). NASA determined that additional groundwater monitoring is required beneath the screened interval of current monitoring well BLM-10-517 and developed and submitted the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600C-001-GW* on August 31, 2021 (NASA, 2021q).

1.2 Westbay Well Reconfiguration

As of calendar Year 2020, NASA has reconfigured two Westbay wells (JP-3 and WW-2) to dual-zone dedicated low-flow bladder pumps and seven Westbay wells (BLM-32, JER-1, JER-2, ST-6, ST-7, WW-4, and WW-5) to multiport Water FLUTe sampling systems. NASA has replaced two Westbay wells (BLM-37 and PL-5) with wells BLM-42 and PL-12, respectively. Each has dual-zone dedicated low-flow bladder pumps.

1.2.1 BLM-28

NASA submitted the *Well Reconfiguration Report for Well BLM-28 and Notice of Intent to Plug and Abandon* on May 4, 2020 (NASA, 2020i). On November 19, 2020, NMED provided requirements for abandonment and replacement of the well (NMED, 2020k). The requirements were that after complete evaluation of all available data and information, NASA would then either submit a work

plan for a replacement monitoring well or formally notify NMED that BLM-28 will not be replaced no later than January 31, 2022.

Following NMED's direction from the November 19, 2020 response for reconfiguring BLM-28, NASA submitted a work plan for abandonment of well BLM-28 on April 29, 2021 (NASA, 2021h). NASA then determined that a replacement well is necessary and developed and submitted the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600B-001-GW* on August 31, 2021 (NASA, 2021p).

1.2.2 BLM-30

On November 5, 2020, NMED issued an approval with modifications (NMED, 2020i) of NASA's plan to P&A well BLM-30 and replace it with new well BLM-43 and required geophysical logging and a due date as November 30, 2021 for the BM-43 well completion report. NASA provided a response to the Approval with Modifications on February 3, 2021 (NASA, 2021a) and corresponded with the New Mexico Office of the State Engineer (NASA, 2021e; 2021f) on the plugging plan for well BLM-30 and application for a permit to drill well BLM-43. Owing to contractor backlog due to COVID, NASA requested a one-year extension to submit the completion report on September 28, 2021 (NASA, 2021t).

1.2.3 BW-4

NASA determined that the well BW-4 can be reconfigured for continued use and submitted a well reconfiguration work plan for well BW-4 on June 29, 2021 (NASA, 2021m).

1.2.4 Data Representativeness and Westbay Well Reconfiguration Plan

The FLUTe Data Representativeness investigation took the form of isolation and serial sampling of four zones of well WW-4 with the FLUTe liner removed. NASA completed the groundwater data representativeness evaluation performed at groundwater monitoring well WW-4 and submitted the *Groundwater Data Representativeness Phase 1: Water FLUTe Well Evaluation Abbreviated Investigation Report* to NMED on February 27, 2020 (NASA, 2020b). NMED reviewed the *Groundwater Data Representativeness Phase 1: Water FLUTe Well Evaluation Abbreviated Investigation Report* (2/27/2020) and on June 3, 2021 issued an Approval with Modifications (NMED, 2021m). This approval required a change to the investigation report indicating a need for an expanded investigation, and a subsequent work plan for the investigation. NASA submitted a response to the approval with modifications on August 17, 2021 (NASA, 2021u).

The Westbay Well Reconfiguration Plan required time extensions to allow NASA to evaluate data from FLUTe sampling systems currently in place at WSTF, in the form of data from Westbay wells converted to FLUTe, and from laboratory testing of the FLUTe sample components. Beginning in 2020, NMED approved an extension request to submit the well reconfiguration work plan no later than December 31, 2020 (NMED, 2020d). On November 30, 2020, NASA submitted a *Request for Fourth Extension of Time for Well Reconfiguration Work Plan* (NASA, 2020z). NMED approved the fourth extension request for submittal of the well reconfiguration work plan for wells PL-6, PL-7, PL-8, PL-10, ST-5, and WW-3 on January 25, 2021 (NMED, 2021a). NASA submitted the Westbay Well Reconfiguration Work Plan for Wells PL-7, PL-8, PL-10, ST-5, and WW-3 to NMED on April 29, 2021 (NASA, 2021h).

2.0 Source Area Investigations

2.1 200 Area

At the start of 2020, NMED approved a request for extension on January for NASA to respond to 12 comments and submit a revised investigation report by February 3, 2020 (NMED, 2020e). NASA

developed the required responses to the 12 comments in NMED's June 5, 2019 Disapproval 200 Area and 600 Area Vapor Intrusion Assessment Report (NMED, 2019b) and submitted the *NMED Disapproval Response for 200 Area and 600 Area Vapor Intrusion Assessment Report* on January 30, 2020 (NASA, 2020b).

2.2 300 Area

Work in the 300 Area is primarily related to investigation and closure of the adjacent 400 Area. Prior to 2020, NASA's 300 Area Supplemental Abbreviated Drilling Work Plan (5/30/19) was the first document submitted, concerning the 300 Area. NMED disapproved the *300 Area Supplemental Abbreviated Drilling Work Plan* (5/30/19) on March 19, 2021 (NMED, 2021f). NMED directed NASA to address four comments and submit a revised work plan no later than July 30, 2021. NASA submitted the *Response to Disapproval of 300 Area Supplemental Abbreviated Drilling Work Plan* on July 14, 2021 (NASA, 2021p).

2.3 400 Area

Prior to 2020, NASA's last submittal for the 400 Area was the 400 Area Closure Investigation Report (12/30/19; revised). NMED disapproved the *400 Area Closure Investigation Report* (12/30/19; revised) on March 19, 2021 (NMED, 2021g). NMED directed NASA to address 17 comments and submit a revised report no later than July 30, 2021. NASA submitted the *NASA WSTF 400 Area Closure Investigation Report – NMED Third Disapproval Response* on July 27, 2021 (NASA, 2021s). Prior to 2020, NASA last submitted a *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* (5/28/2019) and the related *300 Area Supplemental Abbreviated Drilling Work Plan* for two additional multiport soil vapor and groundwater monitoring wells in the 300 Area. NMED disapproved the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* (5/28/19) on March 15, 2021 (NMED, 2021e). NMED directed NASA to address three comments and submit a revised monitoring plan no later than July 30, 2021. NASA submitted the *Response to Disapproval of 400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* on July 14, 2021 (NASA, 2021e).

2.4 600 Area Perched Groundwater Extraction

2.4.1 Extraction

NASA initiated extraction of perched groundwater from monitoring well 600-G-138 on April 19, 2013.

NASA submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 7* on May 26, 2020 (NASA, 2020n). NMED approved the Interim Status Report for 600 Area Perched Groundwater Extraction Pilot Test Project Year 7 (5/26/20) on May 6, 2021 (NMED, 2021i).

NASA submitted the Interim Status Report for 600 Area Perched Groundwater Extraction Pilot Test Project Year 8 on April 29, 2021 (NASA, 2021g). Perched Groundwater Investigation.

At the start of 2020, a 600 Area Perched Groundwater investigation and report remained to be completed per an Abbreviated Investigation Work Plan for 600 Area Perched Groundwater (12/22/2016). This work plan was subsequently changed by NASA request and NMED approval to remove the electrical resistivity component of the 600 Area Perched Groundwater geophysical survey.

In 2019, a seismic reflection and reflection survey was completed in accordance with the AIWP and work scope modification to remove the resistivity. Prior to 2020, NASA last submitted a synopsis of findings of the 600 Area Closure geophysical seismic refraction tomography and reflection surveys with revised soil

boring locations to NMED (12/19/2019). The soil borings have always intended to be drilled based on the survey results.

Because of an indeterminate review period for the *600 Area Closure Geophysical Survey Status Report* and the start of drilling dependent on approval of the boring locations recommended therein, NASA had submitted a *Request for Extension of Time for Submittal of the 600 Area Perched Groundwater Investigation Report* on March 24, 2020 (NASA, 2020c). NMED approved the extension on July 1, 2020 to 150 days after NMED provides comments (NMED, 2020l).

On December 22, 2020, NMED issued its *Approval with Modifications 600 Area Closure Geophysical Survey Status Report* (NMED, 2020x) and set a due date for the 600 Area perched groundwater IR of December 31, 2021. On May 18, 2021, NASA submitted a letter to NMED in partial response to NMED's December 22, 2020 Approval with Modifications. This letter (NASA, 2021j) addressed NMED's Comment 2 (Further Investigation) and proposed a different approach for collection of geophysical data up- and down-gradient of the closure. The accuracy of the 600 Area geophysical survey would be assessed by comparing the actual bedrock depths from six NMED-approved perched groundwater investigation boreholes to the predicted depths from the geophysical survey before expanding the geophysical survey. NMED concurred with the approach via letter on July 6, 2021 (NMED, 2021n).

2.5 SWMUs 2, 8, and 34 and Area of Concern (AOC) 51 (Wastewater Lagoons)

2.5.1 Interim Status Reports and Investigation Reports

2.5.1.1 100 Area Lagoons

Beginning in 2020, NASA's *WSTF 100 Area Wastewater Lagoons Closure (SWMU 2) Interim Status Report* (5/29/2019) was the report of record for the SWMU. However, NMED responded to NASA's *100 Area Wastewater Lagoons Closure (SWMU 2) Interim Status Report* on May 14, 2020 (NMED, 2020i) and informed NASA that comments would be incorporated into the SWMU 2 Investigation Report. NASA submitted the *NASA White Sands Test Facility (WSTF) 100 Area Wastewater Lagoons Closure (SWMU 2) Investigation Report on* August 3, 2020 (NASA, 2020l).

2.5.1.2 200 Area Lagoons

Beginning in 2020, NASA's *WSTF 200 Area Wastewater Lagoons Closure (SWMU 8) Investigation Report* to NMED 11/25/2019) is the report of record for the SWMU.

2.5.1.3 600 Area Lagoons

Beginning in 2020, NASA's *WSTF 600 Area Wastewater Lagoons Closure (SWMU 34) Investigation Report* to NMED (11/26/2019) is the report of record for the SWMU.

2.5.1.4 STGT Lagoons

In February 2020, NASA and a subcontracted drilling company completed installation of the five remaining soil borings at the STGT Wastewater Lagoons. NASA collected and managed samples of subsurface soil and shipped them to the off-site laboratories for analysis. This activity completed soil sampling described in the NMED-approved work plan. NASA conducted soil vapor sampling at the STGT Wastewater Lagoons in March 2020. This completed all investigation fieldwork described in the

NMED-approved work plan. NASA submitted the White Sands Test Facility WSTF STGT Wastewater Lagoons Closure (AOC 51) Investigation Report on October 13, 2020 (NASA, 2020o).

2.6 SWMU 10 (200 Area Hazardous Waste Transmission Lines)

Prior to 2020, NASA's *Response to Disapproval of the NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report* (7/30/2019) was the last report of record. On November 16, 2020, NMED disapproved the *Response to Disapproval of the NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report* (July 30, 2019) (NMED, 2020j) and directed NASA to address 16 comments including resampling along the HWTL by August 30, 2021. On May 19, 2021, NASA requested that the IR due date be extended from August 30, 2021 to November 30, 2021 (NASA, 2021i). NMED approved this extension on July 6, 2021 (NMED, 2021n). NASA completed the collection of replacement soil samples for the analysis of volatile organic compounds along the HWTL on August 31, 2021. NASA installed 12 soil vapor implants at the sampling locations nearest the 200 Area occupied buildings and collected soil vapor samples using 1-liter SUMMA canisters on September 23, 2021. Due to ongoing drilling and laboratory contractor backlog due to COVID, on September 14, 2021, NASA then requested a second extension to submit the revised IR by January 31, 2022 (NASA, 2021r).

2.7 SWMU 16 (600 Area Bureau of Land Management [BLM] Off-Site Soil Pile)

The only investigation fieldwork at the 600 Area BLM Off-Site Soil Pile took place in November and December 2015. NMED then disapproved three submittals of the 600 Area IR prior to 2020. Most recently, NMED issued an approval with modifications for the response to fourth disapproval of NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report (12/18/19) on May 6, 2021 (NMED, 2021k). The Approval with Modifications required submittal of an Accelerated Corrective Measures work plan no later than September 30, 2021. NASA issued a *Response to Approval with Modifications of NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* on July 20, 2021 (NASA, 2021o). NASA submitted the *Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* on September 28, 2021 (NASA, 2021s).

2.8 SWMUs 18–20 (700 Area High Energy Blast Facility, 800 Area Below Grade Storage Tank, and 800 Area Oxidizer Burner)

NMED reviewed the *Response to Disapproval of Revised SWMU 19 (800 Area Below Grade Storage Tank) Investigation Report* (NASA, 2019c), and issued the *Approval with Modifications Revised 800 Area Below Grade Storage Tank (SWMU 19) Investigation Report* on August 27, 2020 (NMED, 2020p).

2.9 SWMUs 21–27 (Septic Tanks)

NMED disapproved NASA's July 23, 2019, *Response to Disapproval of NASA WSTF Septic Tanks (SWMUs 21-27) Investigation Report* (the revised IR) on January 29, 2021 and directed NASA to address six comments no later than May 30, 2021 (NMED 2021b). NASA addressed six comments from NMED's January 29, 2021 disapproval of NASA's *Response to Disapproval of NASA WSTF Septic Tanks (SWMUs 21-27) Investigation Report* (7/23/19; the revised IR) and submitted a revised IR on May 18, 2021 (NASA, 2021k).

2.10 SWMUs 29-31 (Small Arms Firing Ranges)

Leading up to 2020, NASA completed additional fieldwork required to respond to NMED's February 21, 2019, *Second Disapproval of Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report.* NMED (NMED, 2019a) approved a NASA request (10/28/2019) to extend the due date for submittal of

the disapproval response and revised remedy completion report from December 31, 2019 to February 28, 2020. NASA determined that additional time was required to complete the planned human and ecological health risk assessment for the three SWMUs and submitted the *Second Request for Extension of Time for NASA WSTF Small Arms Firing Ranges (SWMUs 29-31) Response to Second Disapproval Remedy Completion Report* on January 29, 2020 (NASA, 2020a). NMED approved the request on March 21, 2020 (NMED, 2020d), extending the due date for submittal of the report from February 28, 2020 to April 24, 2020. NASA prepared the response to NMED's February 21, 2019 *Second Disapproval of Small Arms Firing Ranges (SWMUs 29–31) Remedy Completion Report* (March 30, 2018) and submitted the *Response to Second Disapproval Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report and Risk Assessment Report* on August 3, 2020 (NASA, 2020l).

2.11 SWMU 33 (300 Area Test Stand 302 Cooling Water Pond)

Anticipating closure of Test Stand 302A apart from a full closure, NASA submitted the *300 Area Test Stand 302 Cooling Water Pond (SWMU 33) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* (NASA, 2020m) on August 17, 2020.

2.12 SWMU 47 (500 Area Fuel Storage Area)

NMED disapproved the *Response to Disapproval of 500 Area (SWMU 47) Investigation Work Plan* (November 21, 2019; a revised IWP) on March 29, 2021 and directed NASA to address five comments and submit a revised IWP no later than July 31, 2021 (NMED, 2021h). NASA addressed five comments from NMED's March 19, 2021 disapproval of NASA's *Response to Disapproval of 500 Area (SWMU 47) Investigation Work Plan* (11/21/19; the revised IWP) and submitted a response to this second disapproval and revised the IWP on June 29, 2021 (NASA, 2021n).

2.13 SWMU 49 (700 Area Landfill)

At the start of 2020, a 700 Area Landfill investigation and report remained to be completed per an Abbreviated Investigation Work Plan for the 700 Landfill (3/28/2019). The investigation includes Phase 1A and Phase 1B soil vapor sampling and surface geophysics. In late November 2019 through December 2019, NASA deployed 159 passive soil vapor samplers and completed the Phase 1A for the soil vapor survey. NASA and the subcontracted geophysics firm performed the EMI and magnetic gradient field surveys between February 24 and 28, 2020.

In the second quarter of 2020, and due to the COVID-19 pandemic, NASA submitted a *Request for Extension of Time for Submittal of the SWMU 49 (700 Area Landfill) Phase I Investigation Report* on May 4, 2020 (NASA, 2020f). NASA also completed procurement of ground penetrating radar and passive seismic surveys as described in the NMED-approved landfill investigation work plan. NMED issued an *Approval Request for Extension of Time for Submittal of the SWMU 49 (700 Area Landfill) Phase I Investigation Report* on July 1, 2020 (NMED, 2020f). The approved extension for the Phase I field investigation report was to March 31, 2021. Due to the ongoing pandemic, NASA submitted a *Second Request for Extension of Time for Submittal of the SWMU 49 (700 Area Landfill) Phase I Investigation Report* on February 3, 2021 (NASA, 2021b). NMED issued an *Approval Request for Extension of Time for Submittal of the SWMU 49 (700 Area Landfill) Phase I Investigation Report* on March 15, 2021 (NMED, 2021d). The approved extension for the Phase I field investigation report was April 29, 2022.

2.14 SWMU 50 (First TDRSS Diesel Release)

NMED issued a disapproval of the First TDRSS (Tracking and Data Relay Satellite System) Diesel Release (SWMU 50) Investigation Report (3/14/2019) on July 8, 2020 (NMED, 2020n). NASA submitted a November 9, 2020 *Response to Disapproval of First Tracking Data Relay Satellite System (TDRSS) Diesel Release (SWMU 50) Investigation Report and Risk Screen Evaluation Report* (NASA, 2020k).

2.15 SWMU 52 (Second TDRSS UST)

On August 11, 2020, NASA discovered a diesel fuel leak in the area of the SWMU 52 Underground Storage Tank (UST), which is located north of WSTF at the White Sands Complex. NASA initiated a preliminary investigation and confirmed that the leak originated from a puncture in the return fuel line between emergency generator and the UST. NASA informed the NMED HWB of the release via email on August 13, 2020 and in writing in the August 17, 2020 *NASA White Sands Test Facility Hazardous Waste Operating Permit SWMU 52 Incident Notification* (NASA, 2020n). NASA submitted the *Second TDRSS Underground Storage Tank (SWMU 52) Release Assessment Report* to NMED HWB on February 18, 2021 (NASA, 2021c).

Parallel activities are performed with notifications and approvals provided to the NMED Petroleum Storage Tank Bureau (PSTB). During August and September 2020, White Sands Complex personnel coordinated corrective action for this release through the NMED PSTB. On September 21, 2020, NASA submitted the *NASA White Sands Test Facility Hazardous Waste Operating Permit SWMU 52 Incident Update* (NASA, 2020o). The update summarized corrective action performed to date, including the removal of 32 yd^3 of diesel-contaminated soil from the area of the leak. NASA then submitted the *Second TDRSS UST Minimum Site Assessment Work Plan* (NASA, 2020x) to the PSTB on November 18, 2020. The work plan described an investigation to determine the extent and magnitude of soil contamination caused by the diesel release. On February 4, 2021 (NMED, 2021c), the NMED PSTB approved NASA's *Second TDRSS UST Minimum Site Assessment Work Plan* of November 18, 2020 (NASA, 2020q). NASA submitted the *Second TDRS UST Minimum Site Assessment Report* to NMED Petroleum Storage Tank Bureau (PSTB) on June 25, 2021 (NASA, 2021m). The HWB was copied. The work conducted for the investigation and report had been under a PSTB-approved Minimum Site Investigation Work Plan (NMED, 2021b).

In December 2020, NASA completed shipping the remaining petroleum contaminated soil previously removed from the release location soil to the Valencia Regional Landfill and Recycling Facility for bioremediation and disposal. In total, approximately 214 yd^3 of contaminated soil was removed from the release area. NASA drilled five boreholes for characterization of the release from March 22 through March 26, 2021 in accordance with the work plan.

2.16 Newly Identified SWMU

NASA has identified the location of a former 500 Area oxidizer as a potential new SWMU. NMED acknowledged receipt of NASA's fifteen-day notification (10/16/2019) on November 13, 2019 (NMED, 2019aa) and directed NASA to provide a Release Assessment Report no later than May 29, 2020. NASA researched historical information on the newly identified SWMU and submitted the *500 Area Newly Identified SMWU Release Assessment Report* on June 22, 2020 (NASA, 2020k).

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