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

October 27, 2022

Reply to Attn of: RE-22-138

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 – Third Quarter 2022

Enclosed is the NASA WSTF Periodic Monitoring Report (PMR) for the third quarter of 2022. This report provides detailed information about routine groundwater, Plume Front Treatment System (PFTS), and Mid-plume Interception and Treatment System (MPITS) monitoring performed between May 1, 2022 and July 31, 2022. 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 third calendar quarter of 2022.

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-77) 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 (August 2021 to July 2022) as Enclosure 4, and a CD-ROM containing analytical lab reports for the reporting period as Enclosure 5.

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.

MICHAEL ZIGMOND
Digitally signed by MICHAEL ZIGMOND
Date: 2022.10.27 12:00:12 -06'00'

For: Timothy J. Davis
Chief, Environmental Office

5 Enclosures

cc:
Mr. Gabriel Acevedo
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Ms. Melanie Sandoval
Ground Water Quality Bureau
New Mexico Environment Department
1190 South Saint Francis Drive
Santa Fe, NM 87505

National Aeronautics and Space Administration

NASA WSTF Periodic Monitoring Report for Third Quarter 2022

NM8800019434

NASA WSTF Periodic Monitoring Report for Third Quarter 2022

Reporting Period: May 1, 2022 through July 31, 2022

Report Deadline: October 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.

MICHAEL ZIGMOND — Digitally signed by MICHAEL ZIGMOND Date: 2022.10.27 12:01:03 -06'00'

See Electronic Signature

For: Timothy J. Davis
Chief, NASA Environmental Office

Date

National Aeronautics and Space Administration

Johnson Space Center
White Sands Test Facility
12600 NASA Road
Las Cruces, NM 88012
www.nasa.gov/centers/wstf

www.nasa.gov

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 May 1, 2022 and July 31, 2022. The data were processed through the WSTF data management system during the third calendar quarter of 2022.

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, 2021b). 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.

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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
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
HWTL	Hazardous Waste Transmission Lines
IDW	Investigation-Derived Waste
IWP	Investigation Work Plan
JER	Jornada Experimental Range
kg	Kilogram
L	Liter
MDL	Method detection limit
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
PCE	Tetrachloroethene
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
SWMU	Solid Waste Management Unit
T-C	Time-concentration
TCE	Trichloroethene
TDRS	Tracking and Data Relay Satellite
TDRSS	Tracking and Data Relay Satellite System
UV	Ultraviolet
VOC	Volatile Organic Compound

WBFZ	Western Boundary Fault Zone
WSTF	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, p68), the Groundwater Monitoring Plan (GMP; NASA, 2021a), and the Remediation System Monitoring Plan (RSMP; NASA, 2021d).

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 third quarter of 2022. Between May 1, 2022 and July 31, 2022, groundwater samples were collected at 123 groundwater monitoring wells or zones (115 sample events), five PFTS sampling locations (nine 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 82 of 92 days during the reporting period at an average flow rate of 525 gallons per minute (gpm) while running. Approximately 186 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 92 of 92 days during the reporting period, treating approximately 3 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 also provided for the calendar quarter.

NASA routinely collects groundwater and treatment system samples for the analysis of volatile organic compounds (VOCs), N-nitrosodimethylamine (NDMA), and several inorganic compounds. The GMP (NASA, 2021a) identifies the specific samples that are to be collected at each groundwater monitoring well. The RSMP (NASA, 2021d) 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.

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 groundwater monitoring wells (Appendix D.1), the PFTS (Appendix D.2), and the 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 and approved with modification by the NMED on January 25, 2021 (NMED, 2021a). That document outlines the process for developing cleanup levels as specified in Attachment 15 of the Permit (NMED, 2009, p24).

3.1 Discharge Standards for PFTS and MPITS Effluent

The Ground Water Discharge Permit Renewal and Modification, DP-1255 (NMED, 2017a) 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, 2022f). Table 3.1 includes the updated DP-1255 discharge standards for the four constituents.

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). Detection monitoring was performed at well BLM-3-182 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 third quarter of 2022. Table 4.1 provides a list of the monitoring 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 19 to August 9, 2022 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 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 6.3.1 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.

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.

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 third calendar quarter of 2022 and detections are included in Appendix A.2.

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

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; page 85). 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. 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, which includes data processed in the third quarter of 2022, 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.

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 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 that occurred 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.

[2] Microsoft Access is a registered trademark of the Microsoft Corporation.

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 approximately 99.9% of July, 96% of August, and 98% of September 2022. Notable events during the reporting period included the following:

- The submersible motor in extraction well PFE-2 failed on July 19, 2022, and the well remained offline for the reporting period. Repairs to PFE-2, in addition to wells PFE-3 and PFE-1, which failed in December 2021 and January 2022, respectively, require a drilling subcontractor to complete and are anticipated to occur during the first quarter of 2023.
- NASA completed additional site-specific groundwater flow modeling scenarios to further refine flow rates needed to maintain hydraulic capture of the Plume Front and maximize contaminant mass removal. The groundwater flow modeling results, along with the findings from PIPE-FLO®[3] engineering analyses, are being used to select and size replacement pumps and motors for PFE-1, PFE-2, and PFE-3 in accordance with the refined flow rates.
- NASA took the PFTS offline from August 5 to August 8, 2022 for a scheduled outage in the off-site electrical power supply.
- NASA took Air Stripper 1 offline on August 11, 2022 due to the reduction of total system flow rate following the motor failure in well PFE-2. Operation of Air Stripper 1 and Air Stripper 2 will be rotated every two months while total system flow rate remains less than 650 gpm.

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 for NDMA were achieved during the reporting period.

[3] PIPE-FLO is a registered trademark of Engineered Software, Inc.
[4] Rayox is a registered trademark of Calgon Carbon Corporation.

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 report period are summarized below.

Well PFI-1 started producing excessive gravel during backflushing in March 2019 and was taken offline in December 2019. In April, August, and September 2021 NASA attempted to remove the downhole equipment from PFI-1 using a pump hoist truck so that the well casing and screen could be inspected with a downhole video camera and potentially repaired. All efforts to remove the equipment from 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 concluded that well PFI-1 is permanently out of service and initiated a groundwater modeling study that was designed in part to determine if the redistribution of treated groundwater to the remaining injection wells would continue to create hydraulic conditions needed to prevent further downgradient migration of the Plume Front. Findings of the modeling study, along with water-level observations following the redistribution of treated groundwater to and from PFI-1 to the remaining injection wells has thus far indicated that a replacement for PFI-1 is not needed.

The submersible motor in PFI-4 that is used for backwashing the well failed in April 2022. PFI-4 continued to be used during the reporting period for the injection of treated groundwater while awaiting replacement of the pump and motor. Water level data for the well are being monitored for indications of potential loss of specific capacity as a precaution. Repairs to PFI-4 are anticipated to be conducted late in the first quarter of 2023.

Wells PFE-1 and PFE-3 went out of service on January 1, 2022 and December 6, 2021, respectively, due to submersible motor failures believed to have been caused by overheating. Well PFE-2 went out of service on July 19, 2022 due to a submersible motor failure. Work to repair PFE-1, PFE-2. and PFE-3 is anticipated to be conducted in the first quarter of 2023. NASA has completed groundwater flow modeling studies to evaluate various extraction well flow rate scenarios with respect to maintaining Plume Front capture zones, as well as to evaluate the potential use of intermittent (pulse) pumping to increase contaminant mass removal. The findings of these evaluations are being used to select smaller replacement pumps and motors, which may be less susceptible to overheating, for installation in PFE-1, PFE-2 and PFE-3. The results of pipe flow and pressure distribution analyses of the extraction well network are also being used to determine motor sizing requirements under dynamic head conditions.

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-5 were stable and approximately unchanged from the previous reporting period. The operational flow rate for PFE-7 was stable but otherwise greater than the previous reporting period. As noted above, wells PFE-1 and PFE-3 were offline throughout the reporting period and well PFE-2 went out of service on July 19, 2022.

Injection wells PFI-2, PFI-3, and PFI-4 operated below their design flow rates during the reporting period due to the reduction in total system flow resulting from extraction wells PFE-1, PFE-2, and PFE-3 going offline. 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 the well were unsuccessful, resulting in the determination that the well cannot be placed back into service.

The operational average flow rates for extraction wells PFE-4A and PFE-5 were below their respective design flow rates during the reporting period, whereas PFE-7 operated above its design flow rate. Because wells PFE-1 and PFE-3 were not operational during the entire reporting period, and PFE-2 went out of service in July 2022, the overall production of the PFTS was reduced during this period.

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 2-second 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 have been using 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 6.3.3), 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 six 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 third calendar quarter of 2022. 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 August 1, 2021 and July 31, 2022. During this 12-month period, the PFTS removed approximately 21 kilograms (kg) of TCE, 18 kg of trichlorofluoromethane (Freon®[5] 11), 671 grams (g) of PCE, and 140 g of NDMA.

The contaminant mass removal was calculated as follows:

Mass Removal =
Total Volume Treated x (Influent Concentration – 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 has been 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 6.3.1), and groundwater indicator parameters (water quality field measurements).

The data presented in this section were collected from six 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.

[5] Freon is a registered trademark of The Chemours Company CF, LLC.

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 97% of July, 98% of August, and 98% of September 2022. Notable events during the reporting period included the following:

- Disruptions in the off-site electrical power supply caused system shutdowns on July 5, July 31, and September 31, 2022.
- NASA took the MPITS offline from August 5 to August 8, 2022 for a scheduled outage in the off-site electrical power supply.
- NASA conducted a study to identify lightning protection and electrical grounding needs for the MPITS.

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. 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% 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

Wells MPE-1, MPE-8, MPE-9, MPE-10, and MPE-11 operated at various flow rates during the reporting period. 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. No extraction well performance anomalies with respect to pumping rates and water-level drawdowns were observed 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 run at a minimum of 25 gpm to discharge 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 August 1, 2021 and July 31, 2022. Approximately 2.2 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 August 1, 2021 to July 31, 2022. 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 Discussion and Conclusions

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.

6.1 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.

6.1.1 Monitoring Well Performance or Sampling Equipment Issues

NASA was unable to sample one well during the reporting period (May 1, 2022 – July 31, 2022) because of mechanical or well performance issues only. This section does not address wells that were not sampled due to resource limitations.

- In June 2022, NASA could not sample well ST-3-735 because the sampling system was not operational. NASA acquired a replacement sampling system, installed it in the well in August 2022, and performed sampling in September 2022.

The current new occurrences of sampling issues, backlog of prior unresolved issues, and issues resolved this quarter are shown on Table 6.1.

6.1.2 Monitoring Well Installation and Well Plugging and Abandonment

There was no physical well installation or plugging and abandonment activity this quarter. Other third quarter 2022 activity included:

- NMED continued review of the *Work Plan for Drilling and Installation of Monitoring Well 600C-002-GW and Abandonment of PL-6*, submitted on February 1, 2022.
- NASA continued project planning for the installation of replacement well BLM-43 (*Drilling Work Plan for Abandonment of Well BLM-30 and Drilling of New Groundwater Monitoring Well BLM-43* [NASA, 2019c]), replacement well 600B-001-GW (*Work Plan for Drilling and Installation of Monitoring Well 600B-001-GW* [NASA, 2021i]), and new well 600C-001-GW (*Work Plan for Drilling and Installation of Monitoring Well 600C-001-GW at the NASA White Sands Test Facility (WSTF)* [NASA, 2021j]).

6.1.3 Westbay Well Reconfiguration

There was no physical well reconfiguration activity the third quarter of 2022. Historical information and full submittal history for well reconfiguration projects are provided in Appendix F.

- 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).

6.1.4 Groundwater Monitoring Data Representativeness

Activities in the third quarter 2022 included the following:

- On August 8, 2022, NMED approved the *Abbreviated Investigation Work Plan for Groundwater Data Representativeness, Phase 2: FLUTe Well Evaluation*, submitted to NMED on November 2, 2021 (NASA, 2021m). NASA performed investigation fieldwork, submitted the samples to the off-site analytical laboratory, and received and reviewed the analytical data.

6.2 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.

6.2.1 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.

6.2.2 Plume Front Treatment System

Groundwater samples were collected from the PFTS influent and effluent as required by the RSMP (NASA, 2021d) and DP-1255 (NMED, 2017a). 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 data that exceeded cleanup levels during the current analytical reporting period. The PFTS effluent met all DP-1255 discharge limits and Permit cleanup levels.

6.2.3 Mid-plume Interception and Treatment System

Groundwater samples were collected from the MPITS influent and effluent as required by the RSMP (NASA, 2021d) and DP-1255 (NMED, 2017a). Chemical analytical data from these sampling events were presented in Section 5.2.5 and Appendix A.6. Appendix D.3 includes any MPITS effluent data that exceeded cleanup levels during the current analytical reporting period. There were no DP-1255 discharge limit or cleanup level exceedances from the MPITS during the reporting period.

6.3 Contaminant Plume Evaluation

The plume evaluation for the third quarter of 2022 includes potentiometric surface maps and a variety of chemical analytical data.

6.3.1 Groundwater Elevations and Iso-concentration Maps

A manually contoured potentiometric surface map (Figure 6.1) 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 6.2). 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 6.2, 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.

Figure 6.3 and Figure 6.4 present manually contoured isoconcentration maps of the Plume Front for NDMA and TCE using data processed during this reporting period. 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.

6.3.2 Combined Plume Isoconcentration Maps and Potentiometric Surface Map

Figure 6.5 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.

6.3.3 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 over the year is provided in the fourth quarter annual comprehensive monitoring report submitted in January each year.

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 sufficient data are 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 concentrations in groundwater, results are presented for both EPA Method 607 and low-level laboratory analysis (where performed). T-C trend evaluation places greater emphasis on the most recent analytical results recorded 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-1980 through the 1990s. Where individual wells have been out of service for several years, the datapoint has been removed from the suite of wells evaluated. This is because T-C plots constantly evolve over time, and the historical plots associated with wells no longer in service are not representative of current conditions.

The identification of a trend for COC concentrations within a specific well is based on the evaluation of analytical data collected over at least several quarters (typically a minimum of three to four sampling events). Concentrations are evaluated in conjunction with other potentially influencing factors (including hydrogeology, aquifer recharge conditions, well development activities, and any 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 subsequently reverts back to previous conditions.

A summary site-wide well map and supplemental analytical table depicting the most recent interpreted T-C trend for each individual well is included in Appendix E. The majority of wells in the WSTF monitoring network reflect a decline in COC concentrations over time, or fluctuating levels that have remained relatively constant. Only one monitoring well within the network (BLM-5-527 of the MPCA Well Group) is characterized by increasing concentrations for this quarter. 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 (Background) Well Group: The four wells specifically 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 four wells are classified as not detected (ND).

100/600 Area Well Group: Monitoring wells in this group are located within the 100 Area and the 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, which may have been sourced by the former 600 Area Closure HWMU and/or the 200 Area. Where located within the footprint of the groundwater plume, wells typically reflect a decreasing COC concentration trend for Freon 11, TCE, and PCE. This trend characterizes 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 in the vicinity of the 600 Area Closure. NDMA is derived primarily from the 300 and 400 Areas in the north and is not identified within the 100 and 600 Areas.

200 Area Well Group: The 200 Area historically represents the primary source of TCE and Freon 11 groundwater contamination. Maximum concentrations for these contaminants in monitoring wells were reported in the late 1980s through mid-1990s. Over the last 30 years, the majority of 200 Area T-C plots reflect a significant decreasing trend in contaminant concentrations for these COCs. As an example, TCE in well 200-D-240 (T-C plot provided) has decreased from 110 µg/L in 1990 to 15 µg/L in 2022. The declines reflect natural plume migration and degradation under the influence of a steep horizontal hydraulic gradient of 0.05 ft/ft within a porous fractured limestone bedrock aquifer in conjunction with the implementation of effective waste management practices that eliminated waste discharges. Wells that do not display a distinct trend are frequently associated with lower concentration, screened intervals characterized by lower hydraulic conductivity, and reduced groundwater flow.

300/400 Area Well Group: The T-C plots for monitoring wells show COC concentration trends that have been either fluctuating (most notably the group of wells installed recently in January 2017 within poorly fractured andesite bedrock in the vicinity of the 400 Area Closure HWMU) or have declined since initial well installation. Declining trends primarily correlate to wells characterized by higher concentrations, 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 the primary 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. 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 declining contaminant concentrations are usually attributed to screened intervals across the interface of alluvium on top of bedrock.

Northern Boundary Well Group: The monitoring wells in this group are most frequently characterized by relatively low contaminant concentrations that do not display any sustained T-C trends or are ND. A well trend classified as "fluctuating low-level NDMA" without other contaminant detections (otherwise considered to be ND) is reported this quarter from well JER-1 (1.18 ng/L). This well is 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 (2.20 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-36-350, BLM-18-430, and BLM-5-527 are included in Appendix E.

Well BLM-21-400 is located approximately 500 ft south of the nearest MPE well (MPE-11) and immediately downgradient of the interpreted first primary confluence of the TCE and NDMA contaminants from their respective source areas (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 reflect a natural decreasing trend for Freon 11 (320 to 75 µg/L), TCE (220 to 52 µg/L), PCE (12 to 2.5 µg/L), and NDMA (5.6 to 0.85 µg/L) since well installation in 1991.

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 interpreted to display a "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.

Monitoring well BLM-38 has historically been characterized as ND and is located on the north side of the Mid-plume constriction. A low-level NDMA detection is reported this quarter from the latest sample collected (1.20 ng/L). This detection will be monitored with respect to any developing T-C trend.

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 non-operational 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, particularly between early 2012 and early 2016. The latest groundwater sampling indicated that the Freon 11 (detection limit 0.24 µg/L) and TCE (detection limit 0.20 µg/L) are both ND. Low-level NDMA was also below the detection limit of 0.4 ng/L. Well ST-7 is located west of PFTS extraction well PFE-2 and south of extraction well PFE-7. Low-level TCE (1.90 µg/L) may have migrated northward to ST-7 as a result of continued pumping of well PFE-7. The fluctuating concentrations 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, no wells were reported to have fluctuating low-level NDMA detections only.

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 without other detectable COCs have been identified in three of the sentinel wells (PL-11 [1.5 ng/L], WW-4 [4.68 ng/L], and WW-5 [6.09 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, MPE-9, MPE-10, and MPE-11 have displayed a generally fluctuating concentration trend since 2013 under the influence of pumping-related plume migration. Wells MPE-1 (decreasing concentration trend) is 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 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 a relatively high concentration of NDMA.

6.4 Summary of Source Area Investigations

The following subsections summarize the status of each solid waste management unit (SWMU) or hazardous waste management unit (HWMU) at WSTF and provide specific information on work performed during the third calendar quarter of 2022: July 1, 2022 – September 30, 2022. Relevant historical information including investigation status, and full submittal history for each potential source area is provided in Appendix F.

6.4.1 200 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 third quarter of 2022, activities related to this SWMU included:

- On September 20, 2022, NMED disapproved NASA's January 30, 2020 *NMED Disapproval Response for 200 Area and 600 Area Vapor Intrusion Assessment Report* (NASA, 2020a). NMED directed NASA to address three multipart comments and submit a revised report no later than April 28, 2023 (NMED, 2022k).

6.4.2 300 Area

There were no document submittals for the 300 Area in the third quarter of 2022. See next section and Appendix F, Section 2.2.

6.4.3 400 Area

There were no document submittals for the 400 Area in the third quarter of 2022. Recent and ongoing activity includes:

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

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

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

6.4.4 600 Area Perched Groundwater Extraction and Investigations

NASA is currently conducting a perched groundwater extraction pilot test in the 600 Area and completed an investigation into the presence of additional perched groundwater beneath and adjacent to the 600 Area Closure. During the third quarter of 2022, activities related to this SWMU included:

- NASA extracted approximately 493 gallons 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* (NMED, 2013). Groundwater elevation measurements indicate there is approximately 2.98 ft of perched groundwater within this well. This perched groundwater thickness has been relatively consistent since the inception of extraction activities in 2013. Extracted groundwater was containerized for treatment at the MPITS and discharged in accordance with DP-1255.

- NMED is reviewing NASA's April 26, 2022 *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 9* (NASA, 2022b).
- NMED is reviewing NASA's June 29, 2022 *600 Area Perched Groundwater Investigation Report* (NASA, 2022g).

6.4.5 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 third quarter of 2022 included:

- NMED disapproved the *NASA WSTF 100 Area Wastewater Lagoons Closure (SWMU 2) Investigation Report* (NASA, 2020b) on July 5, 2022 and directed NASA to address 20 NMED comments and submit a revised report no later than January 31, 2023 (NMED, 2022i).
- NMED disapproved the *NASA WSTF 200 Area Wastewater Lagoons Closure (SWMU 8) Investigation Report* (NASA, 2019d) on June 6, 2022 and directed NASA to address 14 NMED comments and submit a revised report no later than December 30, 2022 (NMED, 2022g).
- NMED disapproved the *NASA WSTF 600 Area Wastewater Lagoons Closure (SWMU 34) Investigation Report* (NASA, 2019e) on June 16, 2022 and directed NASA to address 15 NMED comments and submit a revised report no later than December 30, 2022 (NMED, 2022h).
- NMED disapproved the *NASA White Sands Test Facility WSTF STGT Wastewater Lagoons Closure (AOC 51) Investigation Report* (NASA, 2020e) on July 25, 2022 and directed NASA to address 16 NMED comment and submit a revised report no later than February 28, 2023 (NMED, 2022j).

6.4.6 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. Minimal activities during the third quarter of 2022 consisted of the following:

- NMED is reviewing NASA's March 4, 2022 *Response to Second Disapproval of NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report and Risk Assessment Report* (NASA, 2022a).

6.4.7 Dye Tracer Test Investigation

Activities during the third quarter of 2022 included the following:

- NASA continued evaluating NMED's April 5, 2022 *Approval with Modification Report on Tracer Testing in the 200/600 Areas and Mid-plume Constriction Area* (NMED, 2022d) and developing the response to NMED's two-part comment. A work plan proposing the installation of additional monitoring wells is due to NMED no later than December 30, 2022.

6.4.8 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 third quarter of 2022 were:

- NMED is reviewing NASA's September 28, 2021 *Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* on (NASA, 2021k).

6.4.9 SWMUs 21–27 (Septic Tanks)

Activities during the third quarter of 2022 included the following:

- NMED is reviewing NASA's May 18, 2021 *Response to Second Disapproval of NASA WSTF Septic Tanks (SWMUs 21−27) Investigation Report* (NASA, 2021c).

6.4.10 SWMUs 29–31 (Small Arms Firing Ranges)

During the third quarter of 2022, 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, 2020c).

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

During the third quarter of 2022, activities related to this SWMU included:

- NMED disapproved NASA's August 17, 2020 *SWMU 33 Historical Investigation Summary and Investigation Work Plan* (NASA, 2020d) on May 9, 2022 and directed NASA to address 13 comments and submit a revised work plan no later than September 15, 2022. NASA submitted the *Response to Disapproval of NASA WSTF 300 Area Test Stand 302 Cooling Water Pond (SWMU 33) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* on September 14, 2022 (NASA, 2022i).

6.4.12 SWMU 47 (500 Fuel Storage Area)

NASA plans to perform an investigation of the 500 Area Fuel Storage Area (SWMU 47). During the third quarter of 2022, 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, 2021e).

6.4.13 SWMU 49 (700 Area Landfill)

NASA completed 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, 2019b). Activities during the third quarter of 2022 include the following:

- NMED is reviewing the *NASA White Sands Test Facility (WSTF) 700 Area Landfill Closure (SWMU 49) Phase I Investigation Report* (April 29, 2022; NASA, 2022d).

6.4.14 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 third quarter of 2022 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, 2020f).

6.4.15 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 third quarter of 2022 included the following:

- NMED is reviewing the *Response to Disapproval of NASA WSTF Second TDRSS Underground Storage Tank (SWMU 52) Release Assessment Report* (April 26, 2022; NASA, 2022c).

6.4.16 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. In the December 20, 2021, *Approval 500 Area Newly Identified SWMU Release Assessment Report* (NMED, 2021c), 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. Activities during the third quarter of 2022 include the following:

- NASA completed preparation of the historical investigation summary and investigation work plan for the former oxidizer burner in the 500 Area. The unit will be identified as a SWMU in the Permit at an appropriate time. NASA submitted the *500 Area Former Oxidizer Burner (FOB) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* on August 25, 2022 (NASA, 2022h).

7.0 Planned Activities

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

7.1 Groundwater Monitoring and Related Projects

7.1.1 Monitoring Well Performance or Sampling Equipment Issues

This section presents plans to address wells that could not be sampled in the data reporting period (May 1 through July 31, 2022) 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 6.1. The section also presents issues that have been resolved.

- In May 2022, NASA was unable to sample well ST-3-735 because the sampling system was inoperable. No additional planning is required because NASA repaired the sampling system and completed sampling of the well in September 2022.

7.1.2 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 or 2023 per NMED's November 15, 2021 *Approval with Modifications of the 2021 GMP* (NMED, 2021b), and are reflected in the GMP update for 2022 (NASA, 2022e). NASA committed to PFAS sampling in its *Response to Approval with Modifications of NASA WSTF Groundwater Monitoring Plan Update for 2021* (NASA, 2021n). As indicated in that response, NASA replaced the dedicated sampling system and equipment with non-fluoropolymer-based materials (e.g., Teflon) in wells 100-D-176, 200-B-240, and BLM-14-327, and made arrangements for the use of PFAS-free sampling equipment in perched groundwater well 600-G-138. In the *NASA WSTF Groundwater Monitoring Plan Update for 2022* (NASA, 2022g), NASA identified several wells that were scheduled for PFAS sampling as part of an ongoing initiative related to PFAS in groundwater sponsored by the NASA Headquarters Environmental Management Division. NASA is performing a preliminary assessment of potential PFAS contamination in groundwater at numerous NASA centers, including WSTF. As a result of this self-imposed requirement, and to accommodate schedule constraints placed on WSTF by NASA Headquarters, NASA and the Headquarters-selected contractor collected groundwater samples from the wells identified in the 2022 GMP for the analysis of PFAS in April 2022. NASA plans to summarize the results of the assessment in a report to be published in the near future. NASA will provide a copy of the report to NMED for reference purposes when it becomes available for use at WSTF.

7.1.3 Westbay Well Reconfiguration

NASA expects to plug and abandon well BLM-28 in late 2022. NASA also plans to plug and abandon the borehole at former monitoring well BLM-30 in late 2022 and install replacement well BLM-43 (NASA, 2021l) at a later date.

7.1.4 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. NASA also plans to replace Westbay monitoring well PL-6.

7.2 Groundwater Remediation System Monitoring

The RSMP (NASA, 2021d) and DP-1255 (NMED, 2017a) 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).

8.0 References

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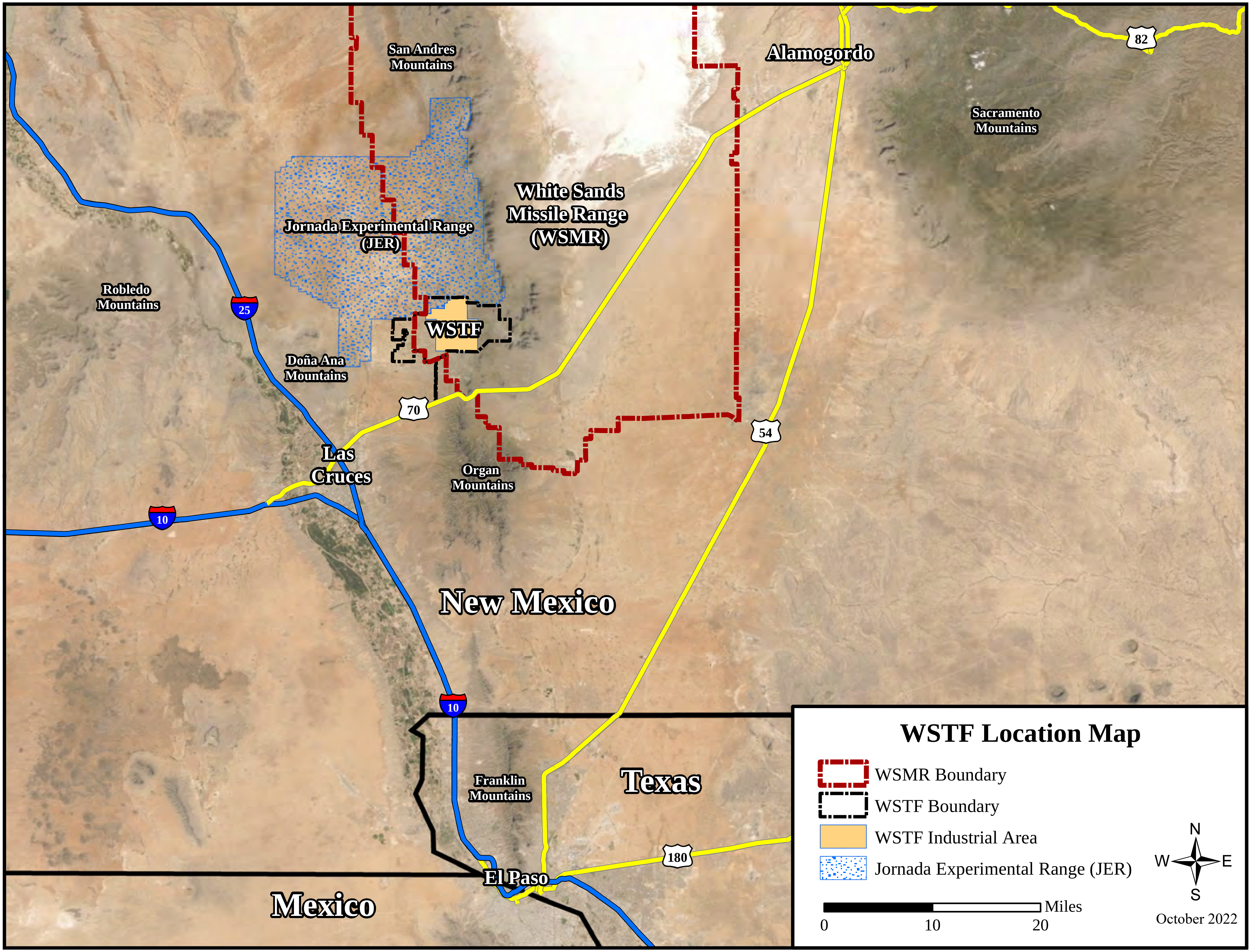
Figures

Figure 1.1 WSTF Location Map

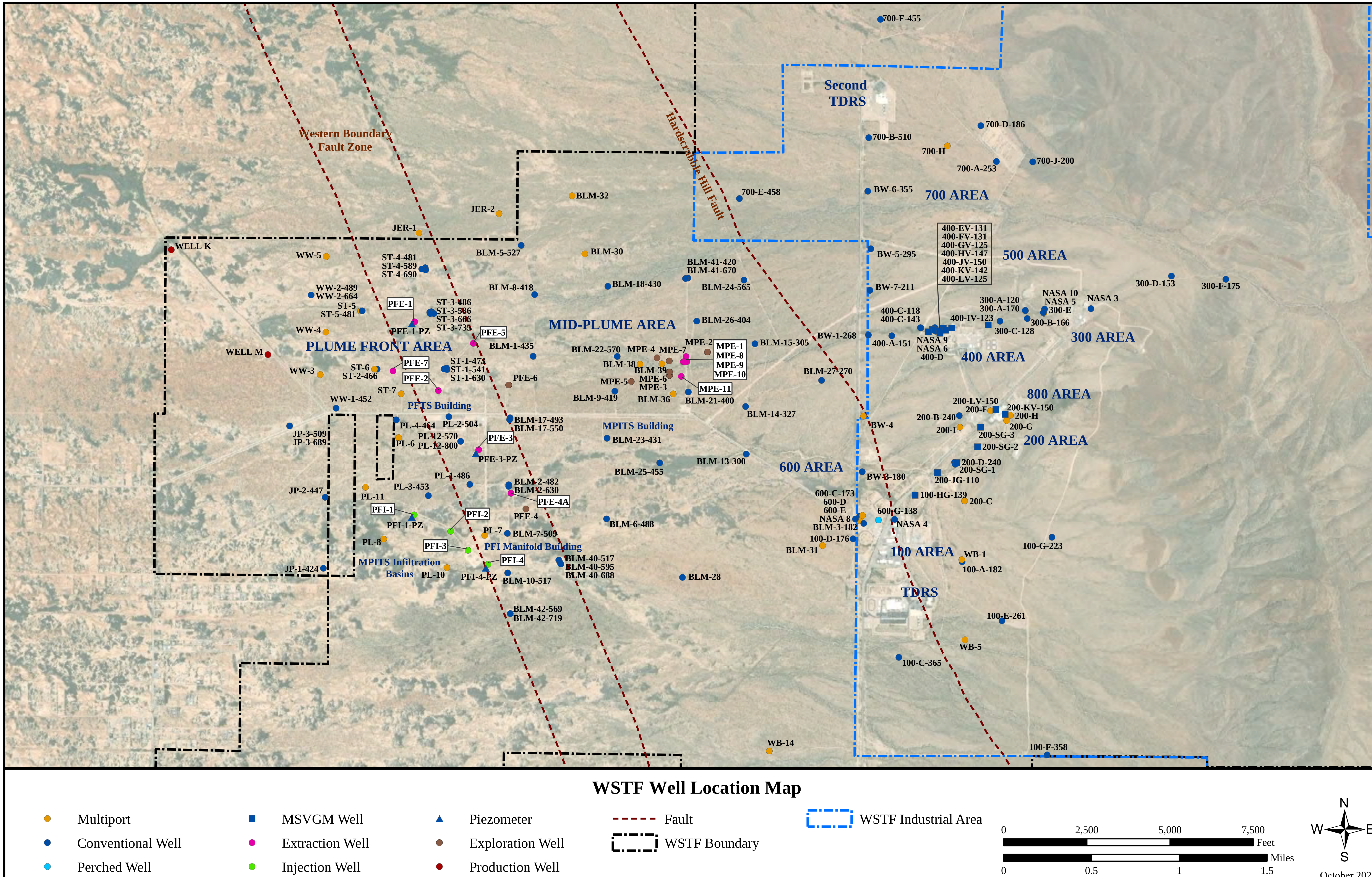
(SEE NEXT PAGE)



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
WSTF Location Map
WSMR Boundary
WSTF Boundary
WSTF Industrial Area
Jornada Experimental Range (JER)
Miles
0
10
20
N
W
E
S
October 2022

Figure 1.2 **WSTF Well Location Map**

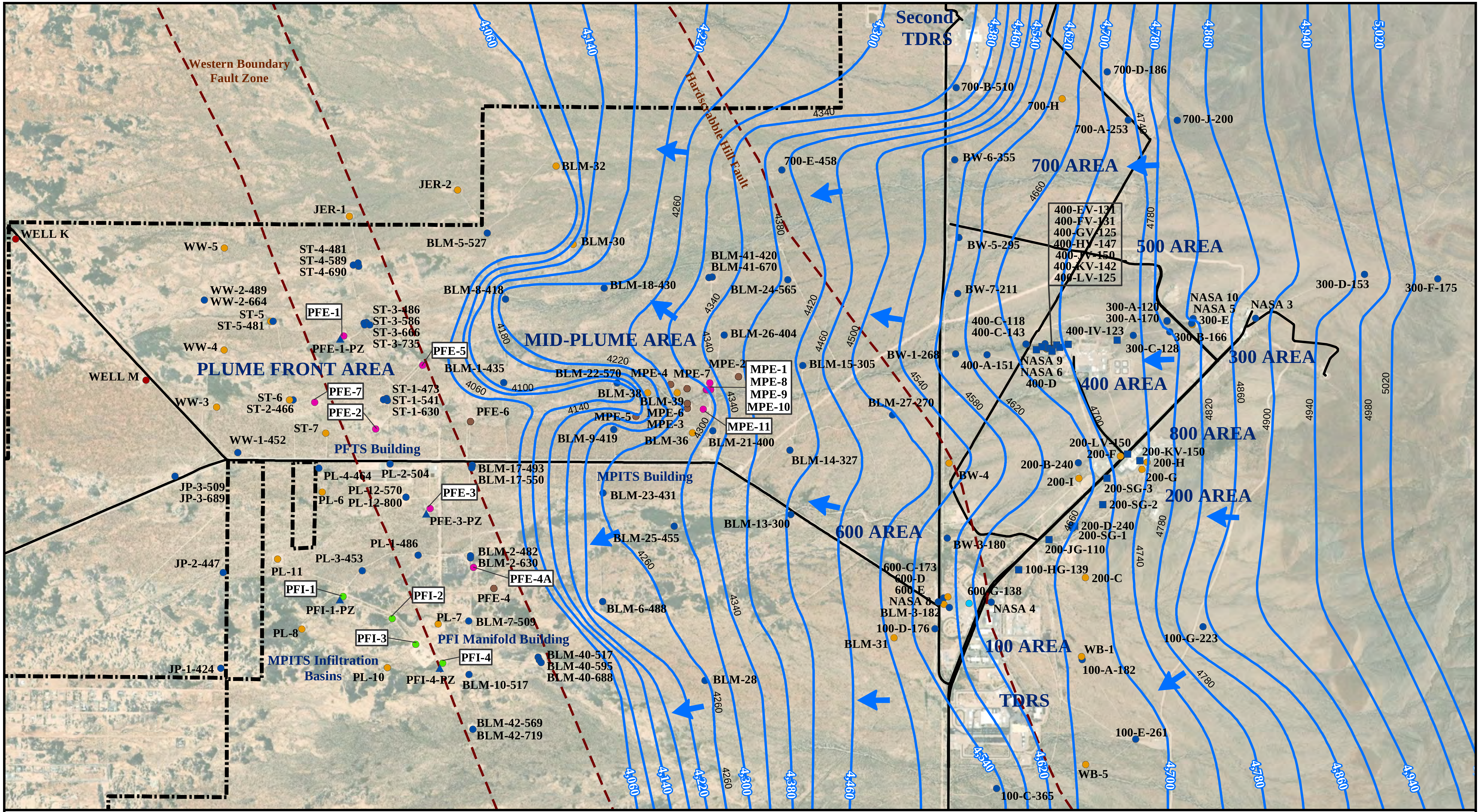
(SEE NEXT PAGE)



WSTF Well Location Map

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

(SEE NEXT PAGE)



Site-Wide Groundwater Elevations for Third Quarter 2022

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
Western Boundary Fault Zone

0 2,000 4,000 6,000 Feet

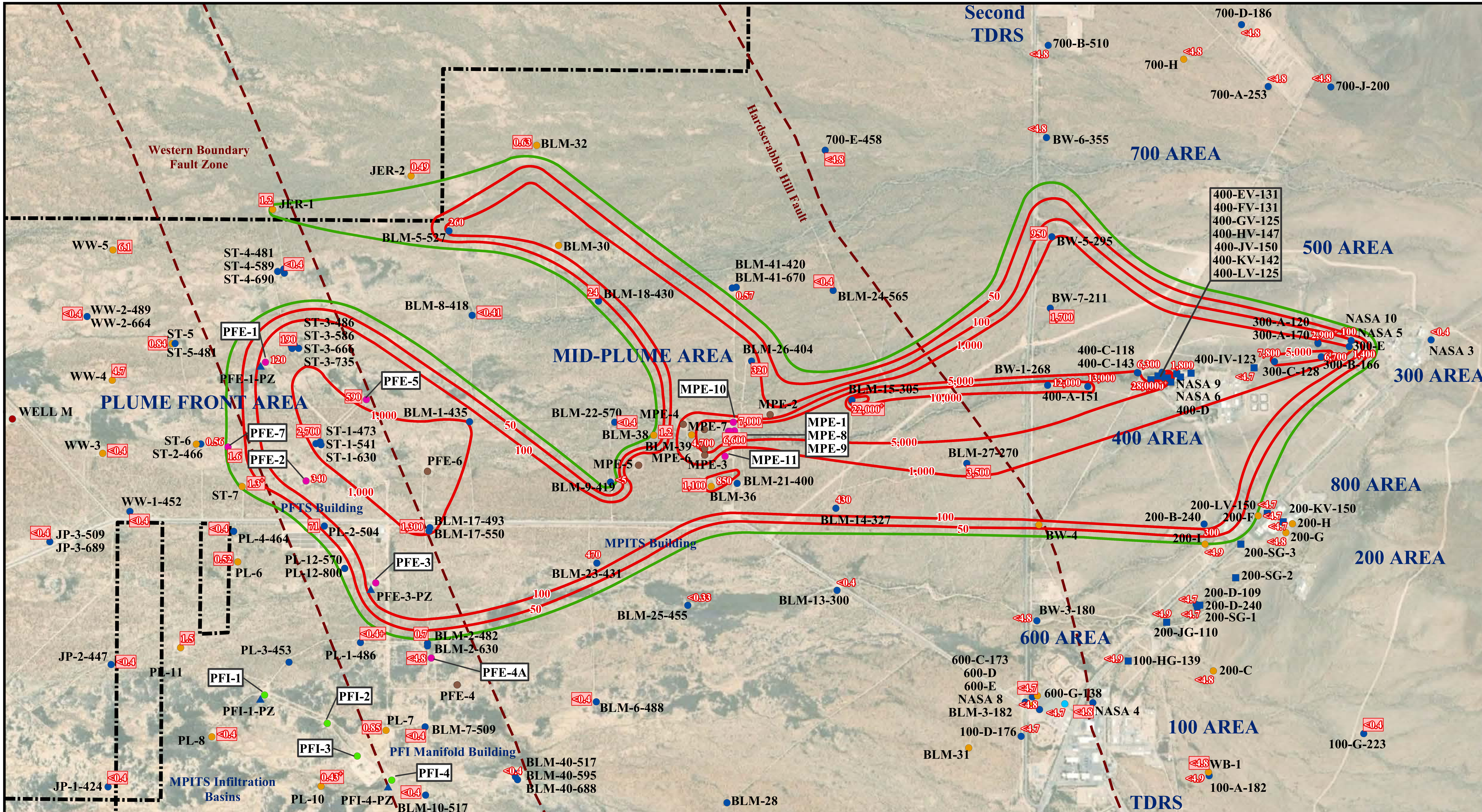
Contour Interval = 40 Feet

N S E W

October 2022

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

(SEE NEXT PAGE)



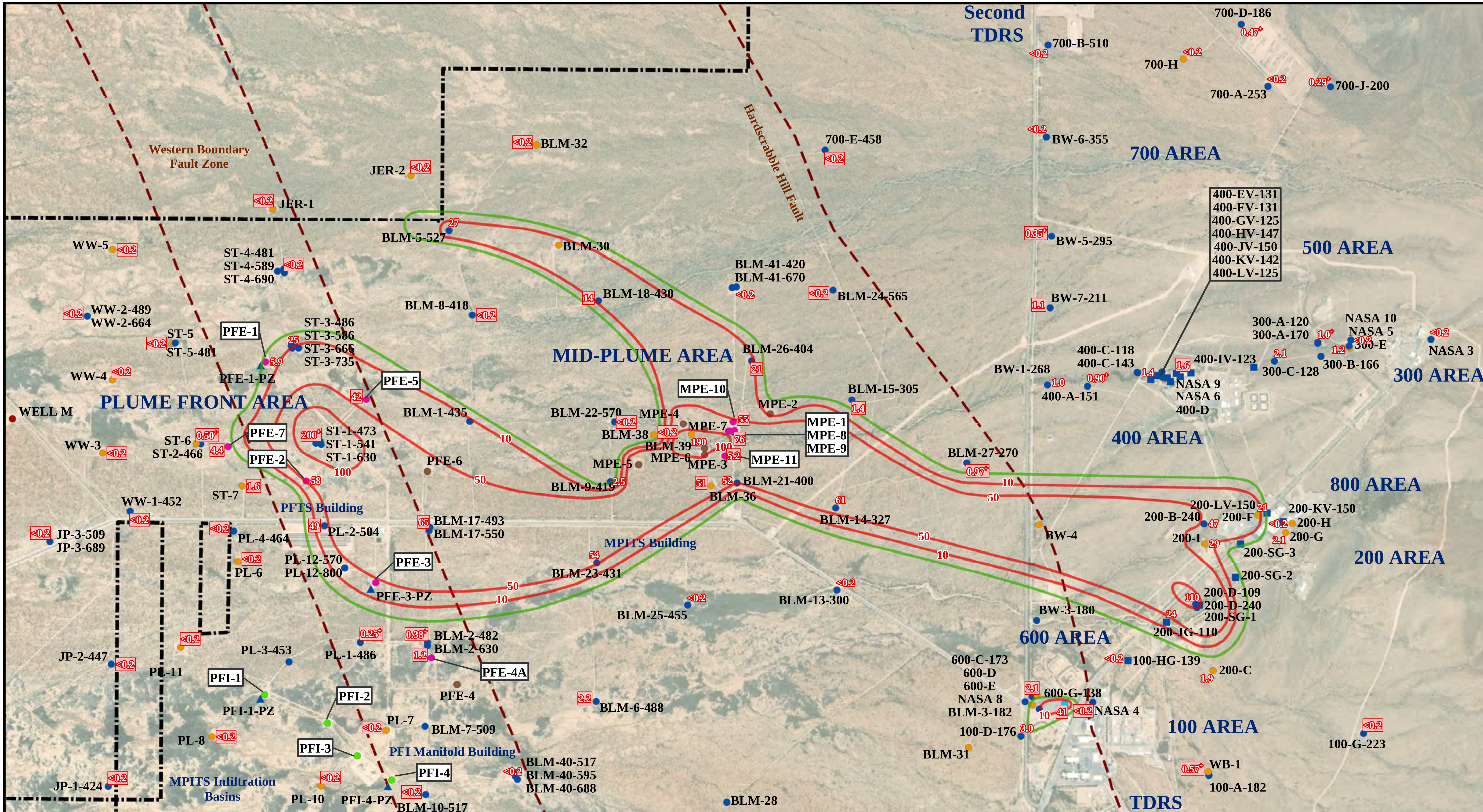
NDMA Maximum Concentrations in Groundwater for Third Quarter 2022

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" in ng/L.
\- No value indicates the well has not been sampled in the last year.

October 2022

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

(SEE NEXT PAGE)



TCE Maximum Concentrations in Groundwater for Third Quarter 2022

- Equiconcentration Line (ug/L)
- TCE Cleanup Level (4.9 ug/L)
- Multiport
- Conventional Well
- Perched Well
- MSVGM Well
- Extraction Well
- Injection Well
- Piezometer
- Exploration Well
- Production Well
- Fault
- WSTF Boundary

0 4,000 8,000 Feet

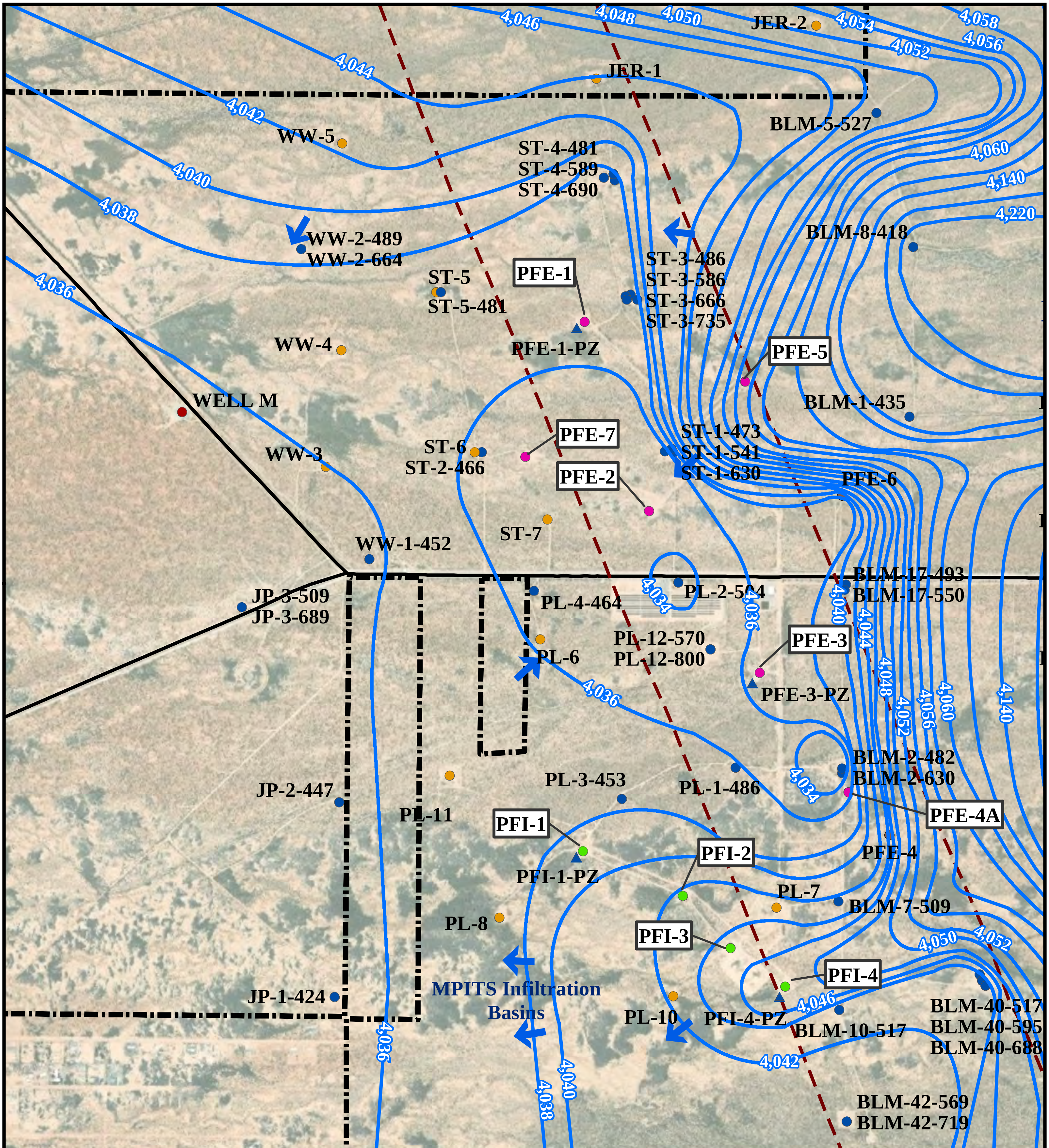
N S E W

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" in μg/L.
- No value indicates the well has not been sampled in the last year.

October 2022

Figure 6.1 Plume Front Groundwater Elevations for the Reporting Period

(SEE NEXT PAGE)

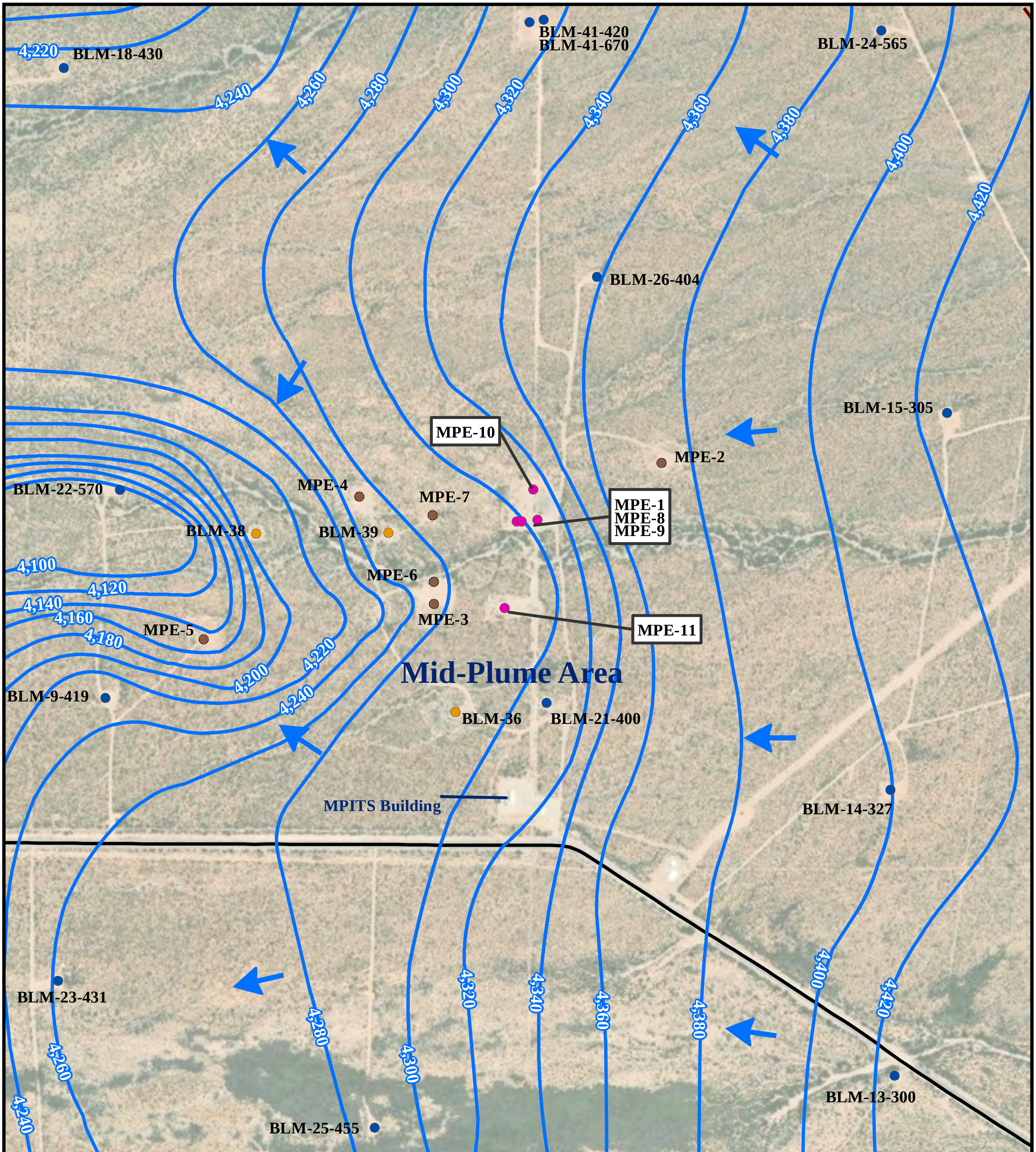


Plume Front Groundwater Elevations for Third Quarter 2022

October 2022

Figure 6.2 Mid-plume Groundwater Elevations for the Reporting Period

(SEE NEXT PAGE)



Mid-plume Groundwater Elevations for Third Quarter 2022

4,300 Groundwater Elevation Contour (feet)

Groundwater Flow Direction

Conventional Well

Multiport Well

Extraction Well

Exploration Well

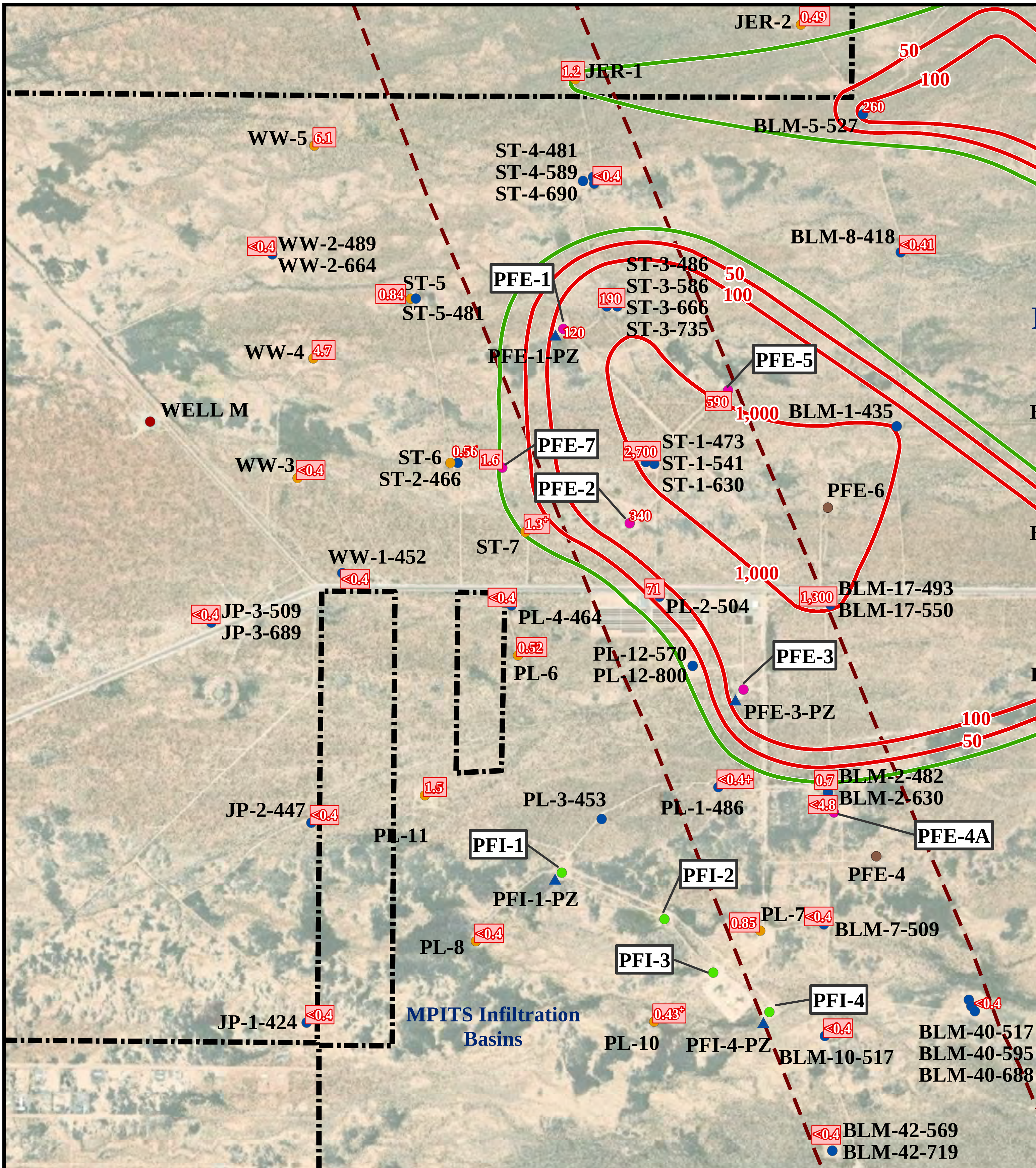
0 625 1,250 Feet

N W E S

October 2022

Figure 6.3 N-Nitrosodimethylamine Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front NDMA Maximum Concentrations in Groundwater for Third Quarter 2022

- 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

0 750 1,500 Feet

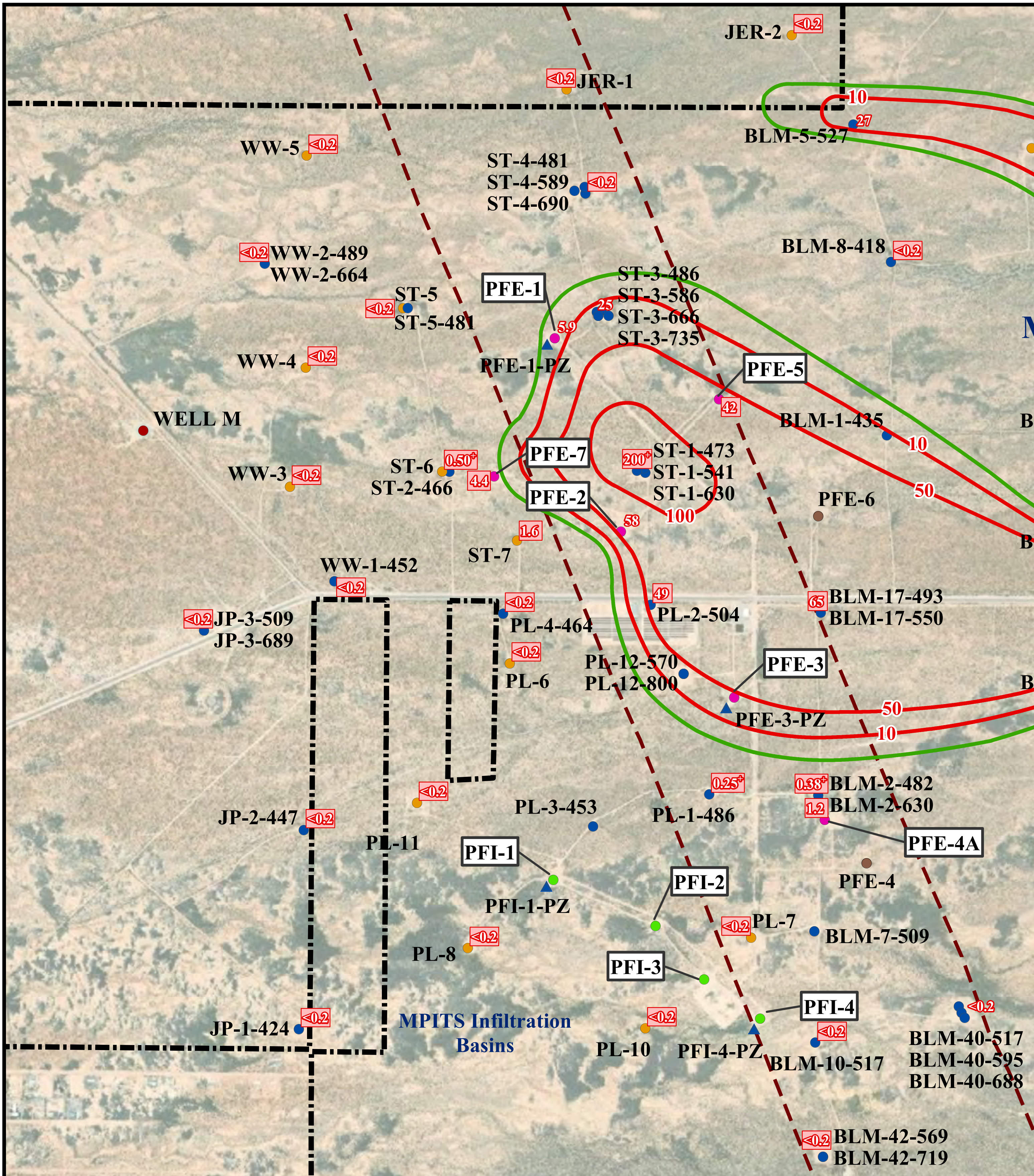
N W E S

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" in ng/L.
- No value indicates the well has not been sampled in the last year.

October 2022

Figure 6.4 Trichloroethene Concentrations at the Plume Front for the Reporting Period

(SEE NEXT PAGE)



Plume Front TCE Maximum Concentrations in Groundwater for Third Quarter 2022

- 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

0 750 1,500 Feet

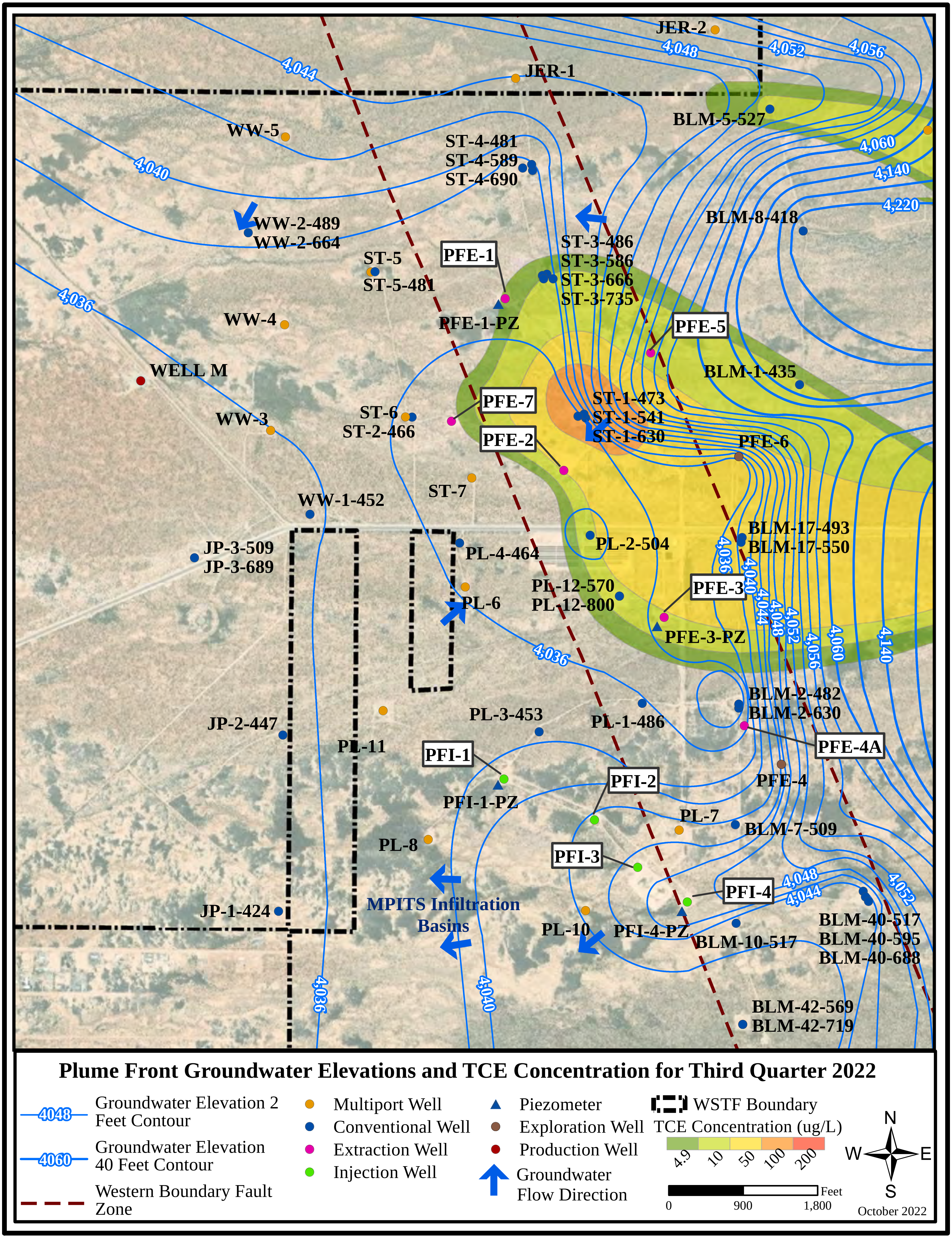
N W E S

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" in µg/L.
- No value indicates the well has not been sampled in the last year.

October 2022

Figure 6.5 Plume Front Groundwater Elevations and Trichloroethene Concentrations for the Reporting Period

(SEE NEXT PAGE)



Plume Front Groundwater Elevations and TCE Concentration for Third Quarter 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 Part 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
WW-4-419	4164-28-7	N-Nitrodimethylamine
WW-4-589	4164-28-7	N-Nitrodimethylamine

Table 3.3 Unconfirmed New Detections – Resolution Pending

Well ID	CAS Number	Analyte	Scheduled Resample Date
ST-6-568	67-64-1	Acetone	9/14/2022
BLM-42-709	62-75-9	N-Nitrosodimethylamine	9/15/2022
ST-6-568	117-81-7	Bis(2-ethylhexyl) Phthalate	9/15/2022
ST-6-678	314-40-9	Bromacil	9/16/2022
PL-3-453	314-40-9	Bromacil	10/4/2022
ST-7-779	7440-50-8	Copper, Total	10/6/2022
JER-2-584	7440-66-6	Zinc, Total	10/13/2022
JER-1-483	314-40-9	Bromacil	10/14/2022
BLM-41-420	314-40-9	Bromacil	10/18/2022
WW-5-459	117-81-7	Bis(2-ethylhexyl) Phthalate	10/19/2022
WW-5-809	117-81-7	Bis(2-ethylhexyl) Phthalate	10/20/2022
400-C-143	7429-90-5	Aluminum, Total	11/17/2022
700-B-510	314-40-9	Bromacil	12/9/2022
100-HG-139	67-64-1	Acetone	3/14/2023
PL-10-484	7440-02-0	Nickel, Total	4/5/2023
BLM-40-595	14797-73-0	Perchlorate	4/12/2023
200-B-240	7429-90-5	Aluminum, Total	4/19/2023
200-B-240	7439-89-6	Iron, Total	4/19/2023
WW-4-419	7440-36-0	Antimony, Total	5/23/2023
WW-4-419	7440-42-8	Boron, Total	5/23/2023
WW-4-419	7439-89-6	Iron, Total	5/23/2023
WW-4-419	7439-96-5	Manganese, Total	5/23/2023
WW-4-589	7440-36-0	Antimony, Total	5/23/2023
WW-4-589	7440-42-8	Boron, Total	5/23/2023
WW-4-948	7440-36-0	Antimony, Total	5/24/2023
100-E-261	7429-90-5	Aluminum, Total	6/13/2023
100-E-261	7439-89-6	Iron, Total	6/13/2023
700-E-458	314-40-9	Bromacil	7/11/2023
PL-10-484	314-40-9	Bromacil	10/6/2023

Table 3.4 Unconfirmed Detections Resolved This Reporting Period

Well ID	CAS Number	Analyte	Scheduled Resample Date	Resolution
BLM-8-418	314-40-9	Bromacil	5/6/2022	Unconfirmed
BLM-38-480	314-40-9	Bromacil	5/11/2022	Unconfirmed
WB-1-200	75-15-0	Carbon Disulfide	5/18/2022	Unconfirmed
PL-8-605	123-91-1	1,4-Dioxane	6/7/2022	Unconfirmed
WW-5-579	4164-28-7	N-Nitrodimethylamine	7/13/2022	Unconfirmed

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

Well Name	Event Date	Well Group	Well Name	Event Date	Well Group	Well Name	Event Date	Well Group
100-E-261	06/13/22	S. Boundary	BLM-42-709	06/13/22	Sentinel	PL-7-560	05/10/22	Plume Front
100-F-358	07/11/22	Upgradient	BLM-6-488	07/13/22	S. Boundary	PL-8-455	06/07/22	Sentinel
100-G-223	07/11/22	Upgradient	BLM-7-509	06/06/22	Plume Front	PL-8-605	06/07/22	Sentinel
300-F-175	07/13/22	Upgradient	BLM-8-418	05/03/22	Mid-plume	ST-1-473	05/12/22	In Plume
400-EV-131	05/02/22	300/400	BW-5-295	05/03/22	300/400	ST-1-541	05/16/22	In Plume
400-GV-125	05/03/22	300/400	BW-7-211	06/15/22	300/400	ST-1-630	05/12/22	In Plume
400-JV-150	05/02/22	300/400	JER-1-483	07/06/22	N. Boundary	ST-3-486	06/08/22	In Plume
600A-001-GW-1	05/05/22	100/600	JER-1-563	07/06/22	N. Boundary	ST-3-586	06/09/22	In Plume
600A-002-GW-1	05/04/22	100/600	JER-1-683	07/07/22	N. Boundary	ST-3-666	06/13/22	In Plume
600-C-173	05/17/22	100/600	JER-2-504	07/11/22	N. Boundary	ST-4-481	06/08/22	Plume Front
600-G-138	07/26/22	100/600	JER-2-584	07/11/22	N. Boundary	ST-4-589	05/09/22	Plume Front
700-E-458	07/11/22	N. Boundary	JER-2-684	07/12/22	N. Boundary	ST-4-690	06/07/22	Plume Front
BLM-10-517	07/07/22	Plume Front	JP-1-424	07/05/22	Sentinel	ST-5-485	05/02/22	Plume Front
BLM-15-305	07/06/22	Mid-plume	JP-2-447	07/05/22	Sentinel	ST-5-655	05/02/22	Plume Front
BLM-17-493	05/03/22	In Plume	JP-3-509	07/08/22	Sentinel	ST-6-528	06/14/22	Plume Front
BLM-17-550	07/06/22	In Plume	JP-3-689	07/18/22	Sentinel	ST-6-568	06/14/22	Plume Front
BLM-18-430	07/07/22	Mid-plume	NASA 4	05/18/22	100/600	ST-6-678	06/15/22	Plume Front
BLM-22-570	05/16/22	Mid-plume	PL-10-484	07/06/22	Sentinel	ST-6-824	06/15/22	Plume Front
BLM-24-565	05/04/22	N. Boundary	PL-10-592	07/06/22	Sentinel	ST-6-970	06/16/22	Plume Front
BLM-2-630	05/09/22	In Plume	PL-11-470	06/07/22	Sentinel	ST-7-453	07/18/22	Plume Front
BLM-26-404	05/04/22	Mid-plume	PL-11-530	06/08/22	Sentinel	ST-7-544	07/18/22	Plume Front
BLM-27-270	06/10/22	Mid-plume	PL-11-710	06/08/22	Sentinel	ST-7-779	07/19/22	Plume Front
BLM-32-543	05/02/22	N. Boundary	PL-11-820	06/09/22	Sentinel	ST-7-970	07/19/22	Plume Front
BLM-32-571	05/02/22	N. Boundary	PL-11-980	06/09/22	Sentinel	WB-1-200	05/17/22	100/600
BLM-32-632	05/02/22	N. Boundary	PL-12-570	05/19/22	In Plume	WB-1-255	05/16/22	100/600
BLM-36-350	05/04/22	Mid-plume	PL-12-800	05/05/22	In Plume	WB-1-330	05/16/22	100/600
BLM-36-610	05/03/22	Mid-plume	PL-1-486	07/12/22	In Plume	WW-1-452	06/06/22	Plume Front
BLM-36-800	05/04/22	Mid-plume	PL-2-504	06/14/22	In Plume	WW-2-489	06/09/22	Sentinel
BLM-36-860	05/03/22	Mid-plume	PL-4-464	06/14/22	Plume Front	WW-2-664	06/10/22	Sentinel
BLM-38-480	05/09/22	Mid-plume	PL-6-545	07/07/22	Plume Front	WW-3-469	06/06/22	Sentinel
BLM-38-620	05/05/22	Mid-plume	PL-6-725	07/07/22	Plume Front	WW-3-569	06/06/22	Sentinel
BLM-42-569	06/13/22	Sentinel	PL-7-480	05/10/22	Plume Front	WW-4-419	05/23/22	Sentinel

Well Name	Event Date	Well Group
WW-4-589	05/23/22	Sentinel
WW-4-848	05/24/22	Sentinel
WW-4-948	05/24/22	Sentinel

Well Name	Event Date	Well Group
WW-5-459	07/20/22	Sentinel
WW-5-579	07/20/22	Sentinel
WW-5-809	07/21/22	Sentinel

Well Name	Event Date	Well Group
WW-5-909	07/21/22	Sentinel

Plume Front	
Well Name	Event Date
B650-EFF-1	05/13/22
B650-EFF-1	06/10/22
B650-EFF-1	07/19/22
B650-INF-1	05/13/22
B650-INF-1	06/10/22
B650-INF-1	07/19/22

Plume Front	
Well Name	Event Date
PFE-4A	07/20/22
PFE-5	07/20/22
PFE-7	07/20/22

Mid-plume	
Well Name	Event Date
B655-EFF-2	05/13/22
B655-EFF-2	06/10/22
B655-EFF-2	07/19/22
B655-INF-2	05/13/22
B655-INF-2	06/10/22
B655-INF-2	07/19/22

Mid-plume	
Well Name	Event Date
MPE-1	05/17/22
MPE-10	05/18/22
MPE-11	05/17/22
MPE-8	05/17/22
MPE-9	06/09/22

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	4,668.70	08/09/22
100-C-365	391	365	386	4,536.80	08/09/22
100-D-176	201	176	196	4,568.36	08/09/22
100-E-261	277	261	271	4,682.60	08/09/22
100-F-358	378	358	368	4,713.08	08/09/22
100-G-223	238	223	233	4,851.88	08/09/22
100-HG-139	165	139	159	4,647.12	08/09/22
200-B-240	255	240	250	4,647.10	08/09/22
200-C(170)i	290	N/A	N/A	4,681.04	07/19/22
200-D-240	280	240	250	4,663.13	08/09/22
200-F(370)i	590	N/A	N/A	4,719.25	07/19/22
200-G(220)i	515	N/A	N/A	4,725.55	07/19/22
200-H(331)i	458	N/A	N/A	4,732.98	07/19/22
200-JG-110	150	110	130	4,654.44	08/09/22
200-KV-150	175	150	170	4,726.01	08/09/22
200-LV-150	175	150	170	4,727.85	08/09/22
200-SG-1	138	123	138	4,652.05	08/09/22
300-A-120	151	120	146	4,785.44	08/09/22
300-B-166	181	165	176	4,773.02	08/09/22
300-C-128	160	128	154	4,739.68	08/09/22
300-D-153	179	153	174	4,949.23	08/09/22
300-E(138)i	395	N/A	N/A	4,805.60	07/19/22
300-F-175	195	175	185	5,045.29	08/09/22
400-A-151	187	151	176	4,636.62	08/09/22
400-C-143	159	143	153	4,669.55	08/09/22
400-D(275)i	380	N/A	N/A	4,663.81	07/19/22
600-C-173	199	173	193	4,568.51	08/09/22
600-E(280)i	690	N/A	N/A	4,556.12	07/19/22
700-A-253	269	253	263	4,728.83	08/09/22
700-B-510	550	510	531	4,344.82	08/09/22
700-D-186	202	186	196	4,711.39	08/09/22
700-E-458	484	458	479	4,411.17	08/09/22
700-H(350)i	695	N/A	N/A	4,636.54	07/19/22
700-J-200	230	200	220	4,834.88	08/09/22
BLM-10-517	532	517	527	4,042.34	08/09/22
BLM-13-300	316	300	310	4,422.41	08/09/22
BLM-1-435	451	435	446	4,145.87	08/09/22
BLM-14-327	343	327	337	4,399.78	08/09/22

Well Name	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Groundwater Elevation (ft amsl)	Measurement Date
BLM-15-305	321	305	315	4,423.52	08/09/22
BLM-17-493	519	493	513	4,041.19	08/09/22
BLM-18-430	456	430	451	4,225.18	08/09/22
BLM-21-400	413	400	410	4,312.45	08/09/22
BLM-22-570	597	570	592	4,095.10	08/09/22
BLM-23-431	447	431	441	4,260.60	08/09/22
BLM-24-565	590	565	585	4,385.05	08/09/22
BLM-25-455	470	455	465	4,283.23	08/09/22
BLM-2-630	498	482	493	4,032.31	08/09/22
BLM-26-404	420	404	414	4,358.03	08/09/22
BLM-27-270	286	270	280	4,497.63	08/09/22
BLM-28 (Borehole)i	555	N/A	N/A	4,257.84	08/09/22
BLM-3-182	208	182	203	4,569.23	08/09/22
BLM-36(350)ii	905	604	614	4,114.89	07/19/22
BLM-38(480)ii	641	475	485	4,202.56	07/19/22
BLM-39(385)ii	595	379	389	4,277.86	07/19/22
BLM-40-517	532	517	527	4,043.07	08/09/22
BLM-41-420	435	420	430	4,317.31	08/09/22
BLM-6-488	503	488	498	4,231.22	08/09/22
BLM-7-509	525	509	520	4,042.45	08/09/22
BLM-8-418	434	418	428	4,225.16	08/09/22
BLM-9-419	445	419	440	4,226.77	08/09/22
BW-1-268	294	268	289	4,607.30	08/09/22
BW-3-180	205	180	200	4,566.99	08/09/22
BW-5-295	311	295	305	4,582.24	08/09/22
BW-6-355	381	355	376	4,573.46	08/09/22
BW-7-211	225	211	222	4,605.75	08/09/22
JP-1-424	440	424	434	4,034.66	08/09/22
JP-2-447	462	446	457	4,035.61	08/09/22
MPE-2	600	400	580	4,372.61	08/09/22
MPE-3	639	479	619	4,271.01	08/09/22
MPE-4	639	499	619	4,275.86	08/09/22
MPE-5	590	450	570	4,144.23	08/09/22
MPE-6	603	383	602	4,276.16	08/09/22
MPE-7	600	401	600	4,235.55	08/09/22
NASA 10	135	110	130	4,823.05	08/09/22
NASA 3	144	119	139	4,889.28	08/09/22
NASA 4	171	146	166	4,638.08	08/09/22

Well Name	Total Depth (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Groundwater Elevation (ft amsl)	Measurement Date
NASA 5	135	110	130	4,792.65	08/09/22
NASA 6	153	128	148	4,690.15	08/09/22
NASA 8	197	172	192	4,571.37	08/09/22
PFE-1-PZ	609	588	598	4,036.93	08/09/22
PFE-3-PZ	620	590	600	4,036.70	08/09/22
PFE-4	877	397	876	4,042.83	08/09/22
PFI-1-PZ	619	589	599	4,038.96	08/09/22
PFI-4-PZ	600	398	600	4,046.83	08/09/22
PL-1-486	502	486	496	4,036.29	08/09/22
PL-2-504	520	504	514	4,033.85	08/09/22
PL-3-453	469	453	464	4,037.46	08/09/22
PL-4-464	480	464	474	4,035.06	08/09/22
PL-6(545)[ii]	1,860	540	550	4,034.18	07/19/22
ST-1-473	488	473	483	4,034.24	08/09/22
ST-2-466	481	466	476	4,034.94	08/09/22
ST-3-486	502	486	496	4,036.85	08/09/22
ST-4-481	497	481	491	4,037.69	08/09/22
ST-5-481	497	481	491	4,037.32	08/09/22
WB-14(520)[i]	545	N/A	N/A	4,432.54	07/19/22
WB-5(250)i	400	N/A	N/A	4,668.51	07/19/22
WW-1-452	468	452	462	4,035.87	08/09/22

[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)
May-22	27 of 31	561	66	31 of 31	7.7	0.96
Jun-22	24 of 30	546	55.6	30 of 30	8.1	1.16
Jul-22	31 of 31	467	64.4	31 of 31	8.2	0.92

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			
4/21/22	5/5/22	Planned	NASA shut the system down for scheduled maintenance.
5/22/22	5/23/22	Planned	NASA shut the system down to repair two UV lamps.
6/16/22	6/21/22	Unplanned	The system shut down automatically because of a disruption in the electrical power supply.
6/24/22	6/27/22	Unplanned	The system shut down automatically because of a communications loss.
7/19/22	7/19/22	Unplanned	The system shut down automatically because of a low flow alarm on one of the air strippers.
7/21/22	7/21/22	Planned	NASA shut the system down to clean the interiors of the motor control cabinets at the PFE and PFI wells.
Mid-plume Interception and Treatment System Shutdowns			
6/16/22	6/16/22	Unplanned	The system shut down automatically because of a disruption in the electrical power supply.
6/19/22	6/19/22	Unplanned	The system shut down automatically because of a disruption in the electrical power supply.
6/24/22	6/24/22	Unplanned	The system shut down automatically because of a false high-level alarm at the surge tank.
6/28/22	6/28/22	Unplanned	The system shut down automatically because of a transmissivity reading error.
7/5/22	7/6/22	Unplanned	The system shut down automatically because of a suspected power surge that triggered false leak detection alarms.
7/6/22	7/6/22	Unplanned	The system shut down automatically because of a false leak detection alarm.
7/19/22	7/19/22	Planned	NASA shut the system down to clean a UV transmissivity sensor.
7/25/22	7/25/22	Planned	NASA shut the system down to clean a UV transmissivity sensor.
7/31/22	8/1/22	Unplanned	The system shut down automatically because of a suspected power surge that affected the system PLC.

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

	Analyte	Unit	Design	May-22	Jun-22	Jul-22
Air Stripper Influent Concentrations	TCE	µg/L	130	20	19	23
	PCE	µg/L	0.66	0.79 J	0.81 J	0.77 J
	Freon 11	µg/L	860	14	11	18
	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	98[a]	121[b]	146[c]
UV Reactor Effluent Concentrations	NDMA[4]	ng/L	< 2.0	<0.4[2]	0.42 J	<0.4[2]

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.
TB - The analyte was detected in the trip 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: 51%[a], 58%[b], 41%[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	N/O	N/O	N/O	N/O
	PFE-2	224	241	49	108%	22%
	PFE-3	213	N/O	N/O	N/O	N/O
	PFE-4A	200	171	163	85%	81%
	PFE-5	5.5	4.0	3.8	73%	70%
	PFE-7	125	154	146	123%	117%
Injection Wells (gpm)	**PFI-1**	269	N/O	N/O	N/O	N/O
	PFI-2	269	142	137	53%	51%
	PFI-3	344	136	131	40%	38%
	PFI-4	194	92	88	47%	46%

[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 - Not operating during reporting period.

Table 5.5 Comparison of Specific Capacities for the Plume Front Wells

Well Name	Specific Capacity at Installation	Specific Capacity Oct-21	Specific Capacity Jan-22[2]	Specific Capacity Apr-22	Specific Capacity Jul-22[3]
PFE-1	8.3	6.6	6.9	NA[1]	NA[1]
PFE-2	5.7	6.6	6.4	6.0	5.8
PFE-3	19.4	10.5	NA[1]	NA[1]	NA[1]
PFE-4A	3.1	2.4	2.8	3.9	2.1
PFE-5	0.14	0.1	0.1	<0.1	<0.1
PFE-7	6	5.8	5.9	5.9	5.7
Well Name	**Specific Capacity at Installation (Ideal Range)**	**Specific Capacity Oct-21**	**Specific Capacity Jan-22[2]**	**Specific Capacity Apr-22**	**Specific Capacity Jul-22[3]**
PFI-1	2.8–5	NA[1]	NA[1]	NA[1]	NA[1]
PFI-2	2.8–7	1.6	1.7	2.1	2.0
PFI-3	2–4	2.0	1.9	2.2	1.9
PFI-4	2.3–3.5	1.5	1.4	1.7	1.2

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.
[2] – Measurements from December 2021 were used because not all wells experienced a drawdown and recovery cycle in January 2022.
[3] – Measurements from June 2022 were used because not all wells experienced a drawdown and recovery cycle in July 2022.

Table 5.6 Plume Front Mass Removal[1]

Date	TCE (kg)	Freon 11 (kg)	Chloroform(g)	PCE (g)	NDMA (g)
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
Nov-21	2.8	2.1	ND	85	16
Dec-21	1.5	1.3	ND	52	14
Jan-22	2.4	2.3	ND	74	17
Feb-22	1.8	1.4	ND	59	10
Mar-22	2.3	1.5	ND	63	14
Apr-22	1.2	1.2	ND	33	8
May-22	1.6	1.1	ND	47	8
Jun-22	1.3	0.74	ND	41	8
Jul-22	1.8	1.4	ND	45	12
Total[2]	**21**	**18**	**ND**	**671**	**140**

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	May-22	Jun-22	Jul-22
Air Stripper Influent Concentrations (MPE Wells)	TCE	μg/L	140	49	41	55
	PCE	μg/L	6.4	2.6	2.4	2.5
	Freon 11	μg/L	240	120	79	110
	Chloroform	μg/L	NA[1]	<0.24[2]	<0.24[2]	<0.24[2]
Air Stripper Influent Concentrations (Well 600-G-138)	TCE	μg/L	140	NS	NS	41
	PCE	μg/L	6.4	NS	NS	<0.21[2]
	Freon 11	μg/L	240	NS	NS	0.48 J
	Chloroform	μg/L	NA[1]	NS	NS	0.48 J
Air Stripper Effluent Concentrations	TCE	μg/L	1.0	<0.20[2]	<0.20[2]	<0.20[2]
	PCE	μg/L	1.0	<0.21[2]	<0.21[2]	<0.21[2]
	Freon 11	μg/L	50	<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 (MPE Wells)	NDMA[3]	ng/L	25,500	3,600[a]	3,100[b]	3,400[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	<0.4[1]	<0.4[1]	<0.4[1]

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.

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

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

3 Reported NDMA concentration is corrected for extraction efficiency. Modified EPA Method 607 batch-specific laboratory control sample recovery of NDMA: 53%[a], 58%[b], 41%[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)
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
Nov-21	65	123	ND	3.1	4.1
Dec-21	63	120	ND	3.0	4.4
Jan-22	72	138	ND	3.4	5.0
Feb-22	54	114	ND	2.4	4.5
Mar-22	69	137	ND	3.0	5.9
Apr-22	52	112	ND	2.3	4.3
May-22	53	122	ND	2.1	4.0
Jun-22	65	147	ND	2.6	5.0
Jul-22	52	117	ND	2.1	4.0
Total[2]	**707**	**1434**	**ND**	**30.7**	**55.5**

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
Aug-21	28,802,957	$60,547	$53,940	$3.97	$23,373	$0.81	$137,860	$4.79
Sep-21	26,672,390	$118,079	$66,298	$6.91	$29,110[2]	$1.09	$213,487	$8.00
Oct-21	28,005,674	$65,147	$49,923	$4.11	$38,421[2]	$1.37	$153,491	$5.48
Nov-21	33,533,267	$101,792	$49,614	$4.52	$40,390[2]	$1.20	$191,796	$5.72
Dec-21	9,661,806	$122,151	$55,846	$18.42	$20,021[2]	$2.07	$198,017	$20.49
Jan-22	24,289,224	$81,434	$45,431	$5.22	$26,150[2]	$1.08	$153,015	$6.30
Feb-22	29,904,475	$101,792	$50,793	$5.10	$19,193	$0.64	$171,779	$5.74
Mar-22	23,578,185	$81,434	$49,834	$5.57	$18,756	$0.80	$150,024	$6.36
Apr-22	27,294,811	$61,075	$35,658	$3.54	$22,271	$0.82	$119,004	$4.36
May-22	11,619,980	$101,792	$61,948	$14.09	$16,101	$2.01	$187,113	$16.10
Jun-22	24,221,372	$62,581	$47,477	$4.54	$27,954	$1.20	$139,168	$5.75
Jul-22	24,265,862	$104,302	$46,301	$6.21	$26,273	$0.99	$174,709	$7.20
12-Month Total	**271,449,060**	**$1,013,795**	**$643,744**	**$6.11**	**$283,416**	**$1.04**	**$1,937,639**	**$7.14**

Notes:
1) Gallons treated reflects amount of water extracted during power reporting period.
2) Includes peak demand rates.

Table 6.1 Status of Wells with Sampling Issues

Well	Date of Discovery	Description	Scheduled for Sampling this Qtr? / Next Sampling Date per GMP	Description of Future Plan or Resolution
New Occurrences this Quarter				
ST-3-735	May-22	The sampling system failed during the scheduled attempt to sample this well.	Yes / Nov-22	NASA repaired the sampling system and completed sampling in September 2022.
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	The well does not provide sufficient water for representative sampling. NASA recommends plugging and abandoning this well as described in the 2022 GMP update (NASA, 2022e).
400-C-118	Nov-20	Unable to collect groundwater sample because the water level in the well was insufficient for sampling. Insufficient recharge.	NA	The well does not provide sufficient water for representative sampling. NASA plans to plug and abandon this well in the fall of 2022, as described in the 2022 GMP update (NASA, 2022e).
400-C-143	Apr-21	Unable to collect groundwater sample because the water level in the well was insufficient for sampling.	No / Nov-22	Previously reported as having insufficient water level. A review of sampling records indicates that the water level was adequate for sampling in November 2021 and the required groundwater samples were collected. The well is scheduled for the next routine sampling event in November 2022.
PL-3-453	Dec-20	Unable to collect groundwater sample because the water level in the well was insufficient for sampling. Insufficient recharge.	NA	The well does not provide sufficient water for representative sampling. NASA recommends plugging and abandoning this well as described in the 2022 GMP update (NASA, 2022e).

Well	Date of Discovery	Description	Scheduled for Sampling this Qtr? / 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.	NA	NASA prepared and submitted a work plan for abandonment and replacement of the monitoring well to NMED on April 29, 2022 (NASA, 202h). NASA plans to plug this well in late 2022 and replace the well following NMED approval of the work plan.
Issues Resolved this Quarter (will not appear in future Periodic Monitoring Reports)				
ST-3-735	May-22	The sampling system failed during the scheduled attempt to sample this well.	Yes / Nov-22	NASA repaired the sampling system and completed sampling in September 2022.

Appendix A
Indicator Parameters and Analytical Data

Appendix A.1
Monitor Well Indicator Parameters

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

Well ID **100-E-261** **Event Date** **6/13/2022**

Sample	Parameter	Result	Units
2206131000A	Conductivity	1438	µS/cm
2206131000A	DO	6.21	mg/L
2206131000A	DTW	221.65	ft
2206131000A	ORP	193	mV
2206131000A	pH	7.82	NA
2206131000A	Temperature	24.77	ºC
2206131000A	Turbidity	2.86	NTU
2206131002A	Conductivity	1424	µS/cm
2206131002A	DO	6.47	mg/L
2206131002A	DTW	222.71	ft
2206131002A	ORP	197	mV
2206131002A	pH	7.87	NA
2206131002A	Temperature	24.75	ºC
2206131002A	Turbidity	2.84	NTU
2206131004A	Conductivity	1444	µS/cm
2206131004A	DO	6.71	mg/L
2206131004A	DTW	222.71	ft
2206131004A	ORP	200	mV
2206131004A	pH	7.91	NA
2206131004A	Temperature	24.70	ºC
2206131004A	Turbidity	2.76	NTU
2206240900C	Conductivity	1229	µS/cm
2206240900C	DO	3.12	mg/L
2206240900C	ORP	320	mV
2206240900C	pH	7.31	NA
2206240900C	Temperature	21.11	ºC
2206240900C	Turbidity	2.88	NTU
2206240902C	Conductivity	1228	µS/cm
2206240902C	DO	3.08	mg/L
2206240902C	ORP	316	mV
2206240902C	pH	7.30	NA
2206240902C	Temperature	21.12	ºC
2206240902C	Turbidity	2.21	NTU
2206240904C	Conductivity	1230	µS/cm
2206240904C	DO	3.08	mg/L
2206240904C	ORP	3.11	mV
2206240904C	pH	7.32	NA
2206240904C	Temperature	21.10	ºC
2206240904C	Turbidity	2.42	NTU

Well ID	100-F-358	Event Date	7/11/2022

Sample	Parameter	Result	Units
2207110920C	Conductivity	1194	µS/cm
2207110920C	DO	3.36	mg/L
2207110920C	ORP	-140	mV
2207110920C	pH	7.18	NA
2207110920C	Temperature	22.37	ºC
2207110920C	Turbidity	0.61	NTU
2207110923C	Conductivity	1195	µS/cm
2207110923C	DO	3.30	mg/L
2207110923C	ORP	-115	mV
2207110923C	pH	7.16	NA
2207110923C	Temperature	22.34	ºC
2207110923C	Turbidity	0.79	NTU
2207110926C	Conductivity	1192	µS/cm
2207110926C	DO	3.48	mg/L
2207110926C	ORP	-100	mV
2207110926C	pH	7.05	NA
2207110926C	Temperature	22.46	ºC
2207110926C	Turbidity	0.80	NTU

Well ID	100-G-223	Event Date	7/11/2022

Sample	Parameter	Result	Units
2207111350C	Conductivity	1055	µS/cm
2207111350C	DO	3.27	mg/L
2207111350C	ORP	60	mV
2207111350C	pH	6.91	NA
2207111350C	Temperature	21.40	ºC
2207111350C	Turbidity	1.85	NTU
2207111352C	Conductivity	1053	µS/cm
2207111352C	DO	3.20	mg/L
2207111352C	ORP	61	mV
2207111352C	pH	6.95	NA
2207111352C	Temperature	21.38	ºC
2207111352C	Turbidity	0.96	NTU
2207111354C	Conductivity	1050	µS/cm
2207111354C	DO	3.34	mg/L
2207111354C	ORP	59	mV
2207111354C	pH	6.97	NA
2207111354C	Temperature	21.37	ºC
2207111354C	Turbidity	0.55	NTU

Well ID **300-F-175** **Event Date** **7/13/2022**

Sample	Parameter	Result	Units
2207130820A	Conductivity	1341	µS/cm
2207130820A	DO	7.37	mg/L
2207130820A	DTW	85.37	ft
2207130820A	ORP	342.9	mV
2207130820A	pH	7.76	NA
2207130820A	Temperature	22.27	ºC
2207130820A	Turbidity	2.28	NTU
2207130821A	Conductivity	1335	µS/cm
2207130821A	DO	7.34	mg/L
2207130821A	DTW	85.49	ft
2207130821A	ORP	341.7	mV
2207130821A	pH	7.80	NA
2207130821A	Temperature	22.21	ºC
2207130821A	Turbidity	2.20	NTU
2207130822A	Conductivity	1328	µS/cm
2207130822A	DO	7.33	mg/L
2207130822A	DTW	85.55	ft
2207130822A	ORP	341.0	mV
2207130822A	pH	7.83	NA
2207130822A	Temperature	22.19	ºC
2207130822A	Turbidity	2.09	NTU

Well ID 400-EV-131	Event Date 5/2/2022		
Sample	**Parameter**	**Result**	**Units**
2205020945A	Conductivity	1352	µS/cm
2205020945A	DO	5.34	mg/L
2205020945A	DTW	142.25	ft
2205020945A	ORP	267	mV
2205020945A	pH	7.52	NA
2205020945A	Temperature	23.90	ºC
2205020945A	Turbidity	3.60	NTU
2205020947A	Conductivity	1361	µS/cm
2205020947A	DO	5.28	mg/L
2205020947A	DTW	142.30	ft
2205020947A	ORP	266	mV
2205020947A	pH	7.51	NA
2205020947A	Temperature	23.95	ºC
2205020947A	Turbidity	3.49	NTU
2205020949A	Conductivity	1363	µS/cm
2205020949A	DO	5.25	mg/L
2205020949A	DTW	142.30	ft
2205020949A	ORP	265	mV
2205020949A	pH	7.49	NA
2205020949A	Temperature	23.98	ºC
2205020949A	Turbidity	3.26	NTU

Well ID 400-GV-125 Event Date 5/3/2022

Sample	Parameter	Result	Units
2205030850A	Conductivity	1419	µS/cm
2205030850A	DO	4.09	mg/L
2205030850A	DTW	130.40	ft
2205030850A	ORP	311	mV
2205030850A	pH	7.21	NA
2205030850A	Temperature	21.43	ºC
2205030850A	Turbidity	2.49	NTU
2205030852A	Conductivity	1420	µS/cm
2205030852A	DO	4.08	mg/L
2205030852A	DTW	131.38	ft
2205030852A	ORP	309	mV
2205030852A	pH	7.21	NA
2205030852A	Temperature	21.37	ºC
2205030852A	Turbidity	3.26	NTU
2205030854A	Conductivity	1419	µS/cm
2205030854A	DO	4.07	mg/L
2205030854A	DTW	131.38	ft
2205030854A	ORP	307	mV
2205030854A	pH	7.21	NA
2205030854A	Temperature	21.33	ºC
2205030854A	Turbidity	0.96	NTU

Well ID 400-JV-150 Event Date 5/2/2022

Sample	Parameter	Result	Units
2205021420A	Conductivity	2085	µS/cm
2205021420A	DO	4.86	mg/L
2205021420A	DTW	146.20	ft
2205021420A	ORP	297	mV
2205021420A	pH	7.72	NA
2205021420A	Temperature	24.88	ºC
2205021420A	Turbidity	8.44	NTU
2205021422A	Conductivity	2098	µS/cm
2205021422A	DO	4.60	mg/L
2205021422A	DTW	147.30	ft
2205021422A	ORP	295	mV
2205021422A	pH	7.59	NA
2205021422A	Temperature	24.90	ºC
2205021422A	Turbidity	8.17	NTU
2205021424A	Conductivity	2113	µS/cm
2205021424A	DO	4.26	mg/L
2205021424A	DTW	147.30	ft
2205021424A	ORP	292	mV
2205021424A	pH	7.47	NA
2205021424A	Temperature	24.93	ºC
2205021424A	Turbidity	8.14	NTU

Well ID 600A-001-GW-1 Event Date 5/5/2022

Sample	Parameter	Result	Units
2205051245B	Conductivity	2040	µS/cm
2205051245B	DTW	150.77	ft
2205051245B	pH	7.71	NA
2205051245B	Temperature	21.7	ºC
2205051245B	Turbidity	25.3	NTU
2205051259B	Conductivity	2160	µS/cm
2205051259B	DTW	151.05	ft
2205051259B	pH	7.89	NA
2205051259B	Temperature	22.4	ºC
2205051259B	Turbidity	NA	NTU

Well ID 600A-002-GW-1 Event Date 5/4/2022

Sample	Parameter	Result	Units
2205040955B	Conductivity	1385	µS/cm
2205040955B	DTW	174.85	ft
2205040955B	pH	7.89	NA
2205040955B	Temperature	21.5	ºC
2205040955B	Turbidity	13.4	NTU
2205041020B	Conductivity	1392	µS/cm
2205041020B	DTW	175.02	ft
2205041020B	pH	7.90	NA
2205041020B	Temperature	21.6	ºC
2205041020B	Turbidity	115	NTU

Well ID 600-C-173 Event Date 5/17/2022

Sample	Parameter	Result	Units
2205170801A	Conductivity	13228	µS/cm
2205170801A	DO	8.39	mg/L
2205170801A	ORP	348.2	mV
2205170801A	pH	6.66	NA
2205170801A	Temperature	21.30	ºC
2205170801A	Turbidity	3.44	NTU
2205170802A	Conductivity	12900	µS/cm
2205170802A	DO	8.29	mg/L
2205170802A	ORP	349.4	mV
2205170802A	pH	6.68	NA
2205170802A	Temperature	21.29	ºC
2205170802A	Turbidity	3.73	NTU
2205170803A	Conductivity	13108	µS/cm
2205170803A	DO	8.31	mg/L
2205170803A	ORP	358.9	mV
2205170803A	pH	6.72	NA
2205170803A	Temperature	21.28	ºC
2205170803A	Turbidity	3.15	NTU

Well ID 600-G-138 Event Date 7/26/2022

Sample	Parameter	Result	Units
2207261005A	Conductivity	2130	µS/cm
2207261005A	DTW	145.00	ft
2207261005A	pH	7.75	NA
2207261005A	Temperature	22.5	ºC
2207261005A	Turbidity	0.70	NTU
2207261020A	Conductivity	2130	µS/cm
2207261020A	DTW	145.33	ft
2207261020A	pH	7.70	NA
2207261020A	Temperature	23.1	ºC
2207261020A	Turbidity	0.74	NTU

Well ID 700-E-458 Event Date 7/11/2022

Sample	Parameter	Result	Units
2207110855A	Conductivity	1098	µS/cm
2207110855A	DO	5.10	mg/L
2207110855A	DTW	310.72	ft
2207110855A	ORP	291.7	mV
2207110855A	pH	8.08	NA
2207110855A	Temperature	24.62	ºC
2207110855A	Turbidity	3.05	NTU
2207110858A	Conductivity	1105	µS/cm
2207110858A	DO	4.93	mg/L
2207110858A	DTW	311.94	ft
2207110858A	ORP	288.4	mV
2207110858A	pH	8.05	NA
2207110858A	Temperature	24.57	ºC
2207110858A	Turbidity	2.67	NTU
2207110901A	Conductivity	1112	µS/cm
2207110901A	DO	4.70	mg/L
2207110901A	DTW	311.97	ft
2207110901A	ORP	287.7	mV
2207110901A	pH	8.03	NA
2207110901A	Temperature	24.50	ºC
2207110901A	Turbidity	2.41	NTU

Well ID **BLM-10-517** **Event Date** **7/7/2022**

Sample	Parameter	Result	Units
2207071339A	Conductivity	947	µS/cm
2207071339A	DO	6.27	mg/L
2207071339A	DTW	496.70	ft
2207071339A	ORP	55	mV
2207071339A	pH	6.62	NA
2207071339A	Temperature	25.50	ºC
2207071339A	Turbidity	0.43	NTU
2207071340A	Conductivity	994	µS/cm
2207071340A	DO	5.17	mg/L
2207071340A	DTW	496.73	ft
2207071340A	ORP	52	mV
2207071340A	pH	6.94	NA
2207071340A	Temperature	25.52	ºC
2207071340A	Turbidity	0.40	NTU
2207071341A	Conductivity	989	µS/cm
2207071341A	DO	5.17	mg/L
2207071341A	DTW	496.73	ft
2207071341A	ORP	49	mV
2207071341A	pH	7.30	NA
2207071341A	Temperature	25.17	ºC
2207071341A	Turbidity	0.68	NTU

Well ID BLM-15-305 Event Date 7/6/2022

Sample	Parameter	Result	Units
2207061325A	Conductivity	1097	µS/cm
2207061325A	DO	1.89	mg/L
2207061325A	DTW	282.83	ft
2207061325A	ORP	50	mV
2207061325A	pH	7.32	NA
2207061325A	Temperature	23.57	ºC
2207061325A	Turbidity	2.15	NTU
2207061330A	Conductivity	1106	µS/cm
2207061330A	DO	1.53	mg/L
2207061330A	DTW	283.401	ft
2207061330A	ORP	42	mV
2207061330A	pH	7.68	NA
2207061330A	Temperature	23.47	ºC
2207061330A	Turbidity	1.18	NTU
2207061335A	Conductivity	1110	µS/cm
2207061335A	DO	1.36	mg/L
2207061335A	DTW	283.40	ft
2207061335A	ORP	37	mV
2207061335A	pH	7.87	NA
2207061335A	Temperature	23.15	ºC
2207061335A	Turbidity	1.14	NTU

Well ID BLM-17-493 Event Date 5/3/2022

Sample	Parameter	Result	Units
2205031350A	Conductivity	1133	µS/cm
2205031350A	DO	5.21	mg/L
2205031350A	ORP	257	mV
2205031350A	pH	7.33	NA
2205031350A	Temperature	21.19	ºC
2205031350A	Turbidity	13.6	NTU
2205031352A	Conductivity	1134	µS/cm
2205031352A	DO	5.17	mg/L
2205031352A	ORP	258	mV
2205031352A	pH	7.30	NA
2205031352A	Temperature	21.27	ºC
2205031352A	Turbidity	12.2	NTU
2205031354A	Conductivity	1147	µS/cm
2205031354A	DO	5.12	mg/L
2205031354A	ORP	258	mV
2205031354A	pH	7.30	NA
2205031354A	Temperature	21.21	ºC
2205031354A	Turbidity	10.8	NTU

Well ID BLM-17-550 Event Date 7/6/2022

Sample	Parameter	Result	Units
2207060910A	Conductivity	1117	µS/cm
2207060910A	DO	77.5	mg/L
2207060910A	DTW	505.38	ft
2207060910A	ORP	136	mV
2207060910A	pH	3.68	NA
2207060910A	Temperature	21.66	ºC
2207060910A	Turbidity	7.95	NTU
2207060915A	Conductivity	1116	µS/cm
2207060915A	DO	91.7	mg/L
2207060915A	DTW	505.69	ft
2207060915A	ORP	144	mV
2207060915A	pH	4.04	NA
2207060915A	Temperature	20.96	ºC
2207060915A	Turbidity	5.17	NTU
2207060920A	Conductivity	1108	µS/cm
2207060920A	DO	80.8	mg/L
2207060920A	DTW	505.69	ft
2207060920A	ORP	146	mV
2207060920A	pH	4.40	NA
2207060920A	Temperature	21.34	ºC
2207060920A	Turbidity	4.17	NTU

Well ID **BLM-18-430** **Event Date** **7/7/2022**

Sample	Parameter	Result	Units
2207070915A	Conductivity	0.300	µS/cm
2207070915A	DO	5.95	mg/L
2207070915A	DTW	388.38	ft
2207070915A	ORP	61	mV
2207070915A	pH	7.26	NA
2207070915A	Temperature	22.77	ºC
2207070915A	Turbidity	1.41	NTU
2207070916A	Conductivity	0.351	µS/cm
2207070916A	DO	6.22	mg/L
2207070916A	DTW	389.15	ft
2207070916A	ORP	63	mV
2207070916A	pH	7.59	NA
2207070916A	Temperature	22.06	ºC
2207070916A	Turbidity	0.49	NTU
2207070917A	Conductivity	0.298	µS/cm
2207070917A	DO	5.86	mg/L
2207070917A	DTW	389.15	ft
2207070917A	ORP	59	mV
2207070917A	pH	7.60	NA
2207070917A	Temperature	23.46	ºC
2207070917A	Turbidity	0.76	NTU

Well ID **BLM-22-570** **Event Date** **5/16/2022**

Sample	Parameter	Result	Units
2205160940A	Conductivity	952.62	µS/cm
2205160940A	DO	56.56	mg/L
2205160940A	ORP	418.8	mV
2205160940A	pH	6.79	NA
2205160940A	Temperature	21.52	ºC
2205160940A	Turbidity	NA	NTU
2205160941A	Conductivity	962.47	µS/cm
2205160941A	DO	62.98	mg/L
2205160941A	ORP	420.9	mV
2205160941A	pH	6.80	NA
2205160941A	Temperature	32.43	ºC
2205160941A	Turbidity	2.43	NTU
2205160943A	Conductivity	943.39	µS/cm
2205160943A	DO	81.45	mg/L
2205160943A	ORP	422.5	mV
2205160943A	pH	6.83	NA
2205160943A	Temperature	21.45	ºC
2205160943A	Turbidity	2.81	NTU

Well ID BLM-24-565 Event Date 5/4/2022

Sample	Parameter	Result	Units
2205040930A	Conductivity	1054	µS/cm
2205040930A	DO	3.25	mg/L
2205040930A	ORP	118	mV
2205040930A	pH	10.50	NA
2205040930A	Temperature	21.55	ºC
2205040930A	Turbidity	1.73	NTU
2205040932A	Conductivity	1070	µS/cm
2205040932A	DO	3.11	mg/L
2205040932A	ORP	122	mV
2205040932A	pH	10.63	NA
2205040932A	Temperature	21.52	ºC
2205040932A	Turbidity	1.24	NTU
2205040934A	Conductivity	1067	µS/cm
2205040934A	DO	2.67	mg/L
2205040934A	ORP	120	mV
2205040934A	pH	10.67	NA
2205040934A	Temperature	21.60	ºC
2205040934A	Turbidity	1.06	NTU

Well ID BLM-2-630 Event Date 5/9/2022

Sample	Parameter	Result	Units
2205090940A	Conductivity	913	µS/cm
2205090940A	DO	4.45	mg/L
2205090940A	ORP	347	mV
2205090940A	pH	7.35	NA
2205090940A	Temperature	19.90	ºC
2205090940A	Turbidity	49.7	NTU
2205090942A	Conductivity	911	µS/cm
2205090942A	DO	4.95	mg/L
2205090942A	ORP	354	mV
2205090942A	pH	7.32	NA
2205090942A	Temperature	19.95	ºC
2205090942A	Turbidity	77.3	NTU
2205090944A	Conductivity	915	µS/cm
2205090944A	DO	4.29	mg/L
2205090944A	ORP	358	mV
2205090944A	pH	7.30	NA
2205090944A	Temperature	20.09	ºC
2205090944A	Turbidity	81.0	NTU

Well ID	BLM-26-404	Event Date	5/4/2022

Sample	Parameter	Result	Units
2205041400A	Conductivity	1004	µS/cm
2205041400A	DO	5.06	mg/L
2205041400A	ORP	263	mV
2205041400A	pH	7.26	NA
2205041400A	Temperature	21.53	ºC
2205041400A	Turbidity	1.04	NTU
2205041402A	Conductivity	1003	µS/cm
2205041402A	DO	5.10	mg/L
2205041402A	ORP	267	mV
2205041402A	pH	7.37	NA
2205041402A	Temperature	21.69	ºC
2205041402A	Turbidity	1.32	NTU
2205041404A	Conductivity	1004	µS/cm
2205041404A	DO	5.06	mg/L
2205041404A	ORP	263	mV
2205041404A	pH	7.26	NA
2205041404A	Temperature	21.53	ºC
2205041404A	Turbidity	1.04	NTU

Well ID **BLM-27-270** **Event Date** **6/10/2022**

Sample	Parameter	Result	Units
2206100905A	Conductivity	879.13	µS/cm
2206100905A	DO	4.06	mg/L
2206100905A	DTW	234.20	ft
2206100905A	ORP	250.4	mV
2206100905A	pH	7.25	NA
2206100905A	Temperature	22.12	ºC
2206100905A	Turbidity	0.95	NTU
2206100908A	Conductivity	807.28	µS/cm
2206100908A	DO	4.10	mg/L
2206100908A	DTW	234.30	ft
2206100908A	ORP	248.1	mV
2206100908A	pH	7.28	NA
2206100908A	Temperature	21.69	ºC
2206100908A	Turbidity	0.40	NTU
2206100912A	Conductivity	807.78	µS/cm
2206100912A	DO	4.12	mg/L
2206100912A	DTW	234.30	ft
2206100912A	ORP	249.3	mV
2206100912A	pH	7.29	NA
2206100912A	Temperature	21.63	ºC
2206100912A	Turbidity	0.36	NTU
2206230921A	Conductivity	981	µS/cm
2206230921A	DO	5.44	mg/L
2206230921A	ORP	310	mV
2206230921A	pH	7.65	NA
2206230921A	Temperature	21.49	ºC
2206230921A	Turbidity	1.96	NTU
2206230923A	Conductivity	998	µS/cm
2206230923A	DO	5.60	mg/L
2206230923A	ORP	311	mV
2206230923A	pH	7.63	NA
2206230923A	Temperature	21.51	ºC
2206230923A	Turbidity	1.92	NTU
2206230925A	Conductivity	975	µS/cm
2206230925A	DO	5.66	mg/L
2206230925A	ORP	312	mV
2206230925A	pH	7.62	NA
2206230925A	Temperature	21.48	ºC
2206230925A	Turbidity	1.92	NTU

Well ID	BLM-32-543	Event Date	5/2/2022
Sample	**Parameter**	**Result**	**Units**
2205021405B	Conductivity	1084	µS/cm
2205021405B	pH	8.40	NA
2205021405B	Temperature	25.4	ºC
2205021405B	Turbidity	0.69	NTU
2205021450B	Conductivity	1081	µS/cm
2205021450B	pH	8.37	NA
2205021450B	Temperature	25.5	ºC
2205021450B	Turbidity	0.73	NTU

Well ID	BLM-32-571	Event Date	5/2/2022
Sample	**Parameter**	**Result**	**Units**
2205021315B	Conductivity	1092	µS/cm
2205021315B	pH	7.75	NA
2205021315B	Temperature	23.7	ºC
2205021315B	Turbidity	0.94	NTU
2205021328B	Conductivity	1090	µS/cm
2205021328B	pH	7.72	NA
2205021328B	Temperature	23.8	ºC
2205021328B	Turbidity	0.91	NTU

Well ID	BLM-32-632	Event Date	5/2/2022
Sample	**Parameter**	**Result**	**Units**
2205021345B	Conductivity	1092	µS/cm
2205021345B	pH	7.67	NA
2205021345B	Temperature	23.1	ºC
2205021345B	Turbidity	0.69	NTU
2205021358B	Conductivity	1095	µS/cm
2205021358B	pH	7.62	NA
2205021358B	Temperature	23.2	ºC
2205021358B	Turbidity	0.73	NTU

Well ID	**BLM-36-350**	**Event Date**	**5/4/2022**
Sample	**Parameter**	**Result**	**Units**
2205041105Y	Atmospheric Pressure	12.50	psia
2205041105Y	Conductivity	1284	µS/cm
2205041105Y	DTW	572.70	ft
2205041105Y	Formation Pressure	32.61	psia
2205041105Y	pH	8.14	NA
2205041105Y	Temperature	24.2	ºC
2205041105Y	Turbidity	1.41	NTU
2205041443Y	Atmospheric Pressure	12.52	psia
2205041443Y	Conductivity	1292	µS/cm
2205041443Y	DTW	572.70	ft
2205041443Y	pH	7.94	NA
2205041443Y	Temperature	25.3	ºC
2205041443Y	Turbidity	1.10	NTU

Well ID	**BLM-36-610**	**Event Date**	**5/3/2022**
Sample	**Parameter**	**Result**	**Units**
2205030840Y	Atmospheric Pressure	12.44	psia
2205030840Y	Conductivity	1149	µS/cm
2205030840Y	DTW	572.33	ft
2205030840Y	Formation Pressure	101.50	psia
2205030840Y	pH	8.21	NA
2205030840Y	Temperature	24.4	ºC
2205030840Y	Turbidity	2.16	NTU
2205030941Y	Atmospheric Pressure	12.43	psia
2205030941Y	Conductivity	1162	µS/cm
2205030941Y	DTW	572.42	ft
2205030941Y	pH	8.15	NA
2205030941Y	Temperature	24.2	ºC
2205030941Y	Turbidity	1.71	NTU

Well ID BLM-36-800 Event Date 5/4/2022

Sample	Parameter	Result	Units
2205040845Y	Atmospheric Pressure	12.44	psia
2205040845Y	Conductivity	1087	µS/cm
2205040845Y	DTW	572.57	ft
2205040845Y	Formation Pressure	173.56	psia
2205040845Y	pH	8.17	NA
2205040845Y	Temperature	25.3	ºC
2205040845Y	Turbidity	1.55	NTU
2205040950Y	Atmospheric Pressure	12.48	psia
2205040950Y	Conductivity	1075	µS/cm
2205040950Y	DTW	572.70	ft
2205040950Y	pH	8.09	NA
2205040950Y	Temperature	25.7	ºC
2205040950Y	Turbidity	1.03	NTU

Well ID BLM-36-860 Event Date 5/3/2022

Sample	Parameter	Result	Units
2205031105Y	Atmospheric Pressure	12.47	psia
2205031105Y	Conductivity	1035	µS/cm
2205031105Y	DTW	572.42	ft
2205031105Y	Formation Pressure	137.62	psia
2205031105Y	pH	8.07	NA
2205031105Y	Temperature	26.0	ºC
2205031105Y	Turbidity	15.6	NTU
2205031411Y	Atmospheric Pressure	12.51	psia
2205031411Y	Conductivity	1039	µS/cm
2205031411Y	DTW	572.57	ft
2205031411Y	pH	7.91	NA
2205031411Y	Temperature	25.7	ºC
2205031411Y	Turbidity	13.3	NTU

Well ID BLM-38-480 Event Date 5/9/2022

Sample	Parameter	Result	Units
2205090910Y	Atmospheric Pressure	12.46	psia
2205090910Y	Conductivity	944	µS/cm
2205090910Y	DTW	402.65	ft
2205090910Y	Formation Pressure	39.93	psia
2205090910Y	pH	8.29	NA
2205090910Y	Temperature	22.3	ºC
2205090910Y	Turbidity	0.81	NTU
2205091111Y	Atmospheric Pressure	12.49	psia
2205091111Y	Conductivity	954	µS/cm
2205091111Y	DTW	402.77	ft
2205091111Y	pH	8.15	NA
2205091111Y	Temperature	22.1	ºC
2205091111Y	Turbidity	0.70	NTU

Well ID BLM-38-620 Event Date 5/5/2022

Sample	Parameter	Result	Units
2205051035Y	Atmospheric Pressure	12.53	psia
2205051035Y	Conductivity	1002	µS/cm
2205051035Y	DTW	402.50	ft
2205051035Y	Formation Pressure	87.11	psia
2205051035Y	pH	8.07	NA
2205051035Y	Temperature	23.1	ºC
2205051035Y	Turbidity	1.44	NTU
2205051421Y	Atmospheric Pressure	12.51	psia
2205051421Y	Conductivity	1017	µS/cm
2205051421Y	DTW	402.65	ft
2205051421Y	pH	7.95	NA
2205051421Y	Temperature	23.7	ºC
2205051421Y	Turbidity	1.36	NTU

Well ID	BLM-42-569	Event Date	6/13/2022

Sample	Parameter	Result	Units
2206130825C	Conductivity	602	µS/cm
2206130825C	DO	2.82	mg/L
2206130825C	ORP	117	mV
2206130825C	pH	7.30	NA
2206130825C	Temperature	20.72	ºC
2206130825C	Transducer	48.96	ft
2206130825C	Turbidity	1.59	NTU
2206130828C	Conductivity	596	µS/cm
2206130828C	DO	2.61	mg/L
2206130828C	ORP	114	mV
2206130828C	pH	7.26	NA
2206130828C	Temperature	20.77	ºC
2206130828C	Transducer	48.96	ft
2206130828C	Turbidity	1.41	NTU
2206130831C	Conductivity	594	µS/cm
2206130831C	DO	2.40	mg/L
2206130831C	ORP	113	mV
2206130831C	pH	7.24	NA
2206130831C	Temperature	20.82	ºC
2206130831C	Transducer	48.96	ft
2206130831C	Turbidity	1.21	NTU

Well ID BLM-42-709 Event Date 6/13/2022

Sample	Parameter	Result	Units
2206131000C	Conductivity	615	µS/cm
2206131000C	DO	3.38	mg/L
2206131000C	ORP	121	mV
2206131000C	pH	7.61	NA
2206131000C	Temperature	21.17	ºC
2206131000C	Transducer	49.01	ft
2206131000C	Turbidity	2.50	NTU
2206131003C	Conductivity	622	µS/cm
2206131003C	DO	3.28	mg/L
2206131003C	ORP	122	mV
2206131003C	pH	7.62	NA
2206131003C	Temperature	21.25	ºC
2206131003C	Transducer	49.01	ft
2206131003C	Turbidity	2.35	NTU
2206131006C	Conductivity	618	µS/cm
2206131006C	DO	3.16	mg/L
2206131006C	ORP	122	mV
2206131006C	pH	7.65	NA
2206131006C	Temperature	21.31	ºC
2206131006C	Transducer	49.01	ft
2206131006C	Turbidity	2.11	NTU

Well ID BLM-6-488 Event Date 7/13/2022

Sample	Parameter	Result	Units
2207130955C	Conductivity	1422	µS/cm
2207130955C	DO	1.02	mg/L
2207130955C	ORP	186.3	mV
2207130955C	pH	7.33	NA
2207130955C	Temperature	22.48	ºC
2207130955C	Turbidity	1.62	NTU
2207130956C	Conductivity	1427	µS/cm
2207130956C	DO	1.48	mg/L
2207130956C	ORP	190.5	mV
2207130956C	pH	7.31	NA
2207130956C	Temperature	22.58	ºC
2207130956C	Turbidity	1.50	NTU
2207130957C	Conductivity	1418	µS/cm
2207130957C	DO	1.36	mg/L
2207130957C	ORP	185.8	mV
2207130957C	pH	7.34	NA
2207130957C	Temperature	22.49	ºC
2207130957C	Turbidity	1.48	NTU

Well ID	BLM-7-509	Event Date	6/6/2022
Sample	**Parameter**	**Result**	**Units**
2206061403A	Conductivity	1487.1	µS/cm
2206061403A	DO	6.30	mg/L
2206061403A	DTW	495.28	ft
2206061403A	ORP	171.5	mV
2206061403A	pH	7.83	NA
2206061403A	Temperature	24.08	ºC
2206061403A	Turbidity	3.58	NTU
2206061404A	Conductivity	1500.6	µS/cm
2206061404A	DO	6.72	mg/L
2206061404A	DTW	495.28	ft
2206061404A	ORP	171.3	mV
2206061404A	pH	7.83	NA
2206061404A	Temperature	24.75	ºC
2206061404A	Turbidity	3.64	NTU
2206061405A	Conductivity	1506.3	µS/cm
2206061405A	DO	6.45	mg/L
2206061405A	DTW	495.28	ft
2206061405A	ORP	171.1	mV
2206061405A	pH	7.84	NA
2206061405A	Temperature	24.95	ºC
2206061405A	Turbidity	3.48	NTU

Well ID **BLM-8-418** **Event Date** **5/3/2022**

Sample	Parameter	Result	Units
2205030845C	Conductivity	1036	µS/cm
2205030845C	DO	4.92	mg/L
2205030845C	DTW	335.55	ft
2205030845C	ORP	316.8	mV
2205030845C	pH	7.24	NA
2205030845C	Temperature	21.03	ºC
2205030845C	Turbidity	0.60	NTU
2205030847C	Conductivity	1039	µS/cm
2205030847C	DO	4.89	mg/L
2205030847C	DTW	335.71	ft
2205030847C	ORP	321.3	mV
2205030847C	pH	7.24	NA
2205030847C	Temperature	21.08	ºC
2205030847C	Turbidity	0.61	NTU
2205030849C	Conductivity	1036	µS/cm
2205030849C	DO	4.92	mg/L
2205030849C	DTW	335.71	ft
2205030849C	ORP	323.1	mV
2205030849C	pH	7.25	NA
2205030849C	Temperature	20.97	ºC
2205030849C	Turbidity	0.55	NTU

Well ID BW-5-295 Event Date 5/3/2022

Sample	Parameter	Result	Units
2205031350C	Conductivity	828.64	µS/cm
2205031350C	DO	4.40	mg/L
2205031350C	DTW	236.60	ft
2205031350C	ORP	225.2	mV
2205031350C	pH	7.78	NA
2205031350C	Temperature	22.54	ºC
2205031350C	Turbidity	1.09	NTU
2205031352C	Conductivity	821.55	µS/cm
2205031352C	DO	4.41	mg/L
2205031352C	DTW	236.60	ft
2205031352C	ORP	228.2	mV
2205031352C	pH	7.75	NA
2205031352C	Temperature	22.47	ºC
2205031352C	Turbidity	1.08	NTU
2205031354C	Conductivity	827.90	µS/cm
2205031354C	DO	4.43	mg/L
2205031354C	DTW	236.60	ft
2205031354C	ORP	232.7	mV
2205031354C	pH	7.77	NA
2205031354C	Temperature	22.74	ºC
2205031354C	Turbidity	1.15	NTU

Well ID **BW-7-211** **Event Date** **6/15/2022**

Sample	Parameter	Result	Units
2206150955C	Conductivity	972	µS/cm
2206150955C	DO	5.01	mg/L
2206150955C	DTW	196.40	ft
2206150955C	ORP	44	mV
2206150955C	pH	7.95	NA
2206150955C	Temperature	22.13	ºC
2206150955C	Turbidity	0.41	NTU
2206150958C	Conductivity	978	µS/cm
2206150958C	DO	5.24	mg/L
2206150958C	DTW	196.43	ft
2206150958C	ORP	44	mV
2206150958C	pH	7.97	NA
2206150958C	Temperature	22.21	ºC
2206150958C	Turbidity	0.45	NTU
2206151001C	Conductivity	981	µS/cm
2206151001C	DO	5.35	mg/L
2206151001C	DTW	196.43	ft
2206151001C	ORP	42	mV
2206151001C	pH	8.01	NA
2206151001C	Temperature	22.29	ºC
2206151001C	Turbidity	0.38	NTU

Well ID **JER-1-483** **Event Date** **7/6/2022**

Sample	Parameter	Result	Units
2207061355B	Conductivity	1250	µS/cm
2207061355B	pH	8.42	NA
2207061355B	Temperature	26.4	ºC
2207061355B	Turbidity	0.96	NTU

Well ID **JER-1-563** **Event Date** **7/6/2022**

Sample	Parameter	Result	Units
2207061410B	Conductivity	1243	µS/cm
2207061410B	pH	8.22	NA
2207061410B	Temperature	25.3	ºC
2207061410B	Turbidity	2.82	NTU

Well ID **JER-1-683** **Event Date** **7/7/2022**

Sample	Parameter	Result	Units
2207071400B	Conductivity	1239	µS/cm
2207071400B	pH	8.49	NA
2207071400B	Temperature	28.4	ºC
2207071400B	Turbidity	2.42	NTU

Well ID JER-2-504 Event Date 7/11/2022

Sample	Parameter	Result	Units
2207111355B	Conductivity	1085	µS/cm
2207111355B	pH	8.42	NA
2207111355B	Temperature	27.4	ºC
2207111355B	Turbidity	0.86	NTU

Well ID JER-2-584 Event Date 7/11/2022

Sample	Parameter	Result	Units
2207111415B	Conductivity	1115	µS/cm
2207111415B	pH	8.36	NA
2207111415B	Temperature	30.8	ºC
2207111415B	Turbidity	0.57	NTU

Well ID JER-2-684 Event Date 7/12/2022

Sample	Parameter	Result	Units
2207121400B	Conductivity	1187	µS/cm
2207121400B	pH	8.42	NA
2207121400B	Temperature	32.1	ºC
2207121400B	Turbidity	0.79	NTU

Well ID JP-1-424 Event Date 7/5/2022

Sample	Parameter	Result	Units
2207050840C	Conductivity	967	µS/cm
2207050840C	DO	5.20	mg/L
2207050840C	DTW	413.57	ft
2207050840C	ORP	82	mV
2207050840C	pH	6.53	NA
2207050840C	Temperature	20.75	ºC
2207050840C	Turbidity	1.50	NTU
2207050843C	Conductivity	968	µS/cm
2207050843C	DO	5.31	mg/L
2207050843C	DTW	413.76	ft
2207050843C	ORP	78	mV
2207050843C	pH	6.56	NA
2207050843C	Temperature	20.86	ºC
2207050843C	Turbidity	1.14	NTU
2207050846C	Conductivity	973	µS/cm
2207050846C	DO	5.42	mg/L
2207050846C	DTW	413.76	ft
2207050846C	ORP	76	mV
2207050846C	pH	6.61	NA
2207050846C	Temperature	20.95	ºC
2207050846C	Turbidity	1.03	NTU

Well ID	JP-2-447	Event Date	7/5/2022
Sample	**Parameter**	**Result**	**Units**
2207051025C	Conductivity	1014	µS/cm
2207051025C	DO	5.38	mg/L
2207051025C	DTW	414.81	ft
2207051025C	ORP	51	mV
2207051025C	pH	7.61	NA
2207051025C	Temperature	22.31	ºC
2207051025C	Turbidity	1.33	NTU
2207051028C	Conductivity	1020	µS/cm
2207051028C	DO	5.16	mg/L
2207051028C	DTW	415.05	ft
2207051028C	ORP	50	mV
2207051028C	pH	7.65	NA
2207051028C	Temperature	22.46	ºC
2207051028C	Turbidity	1.16	NTU
2207051031C	Conductivity	1031	µS/cm
2207051031C	DO	5.05	mg/L
2207051031C	DTW	415.05	ft
2207051031C	ORP	50	mV
2207051031C	pH	7.66	NA
2207051031C	Temperature	22.58	ºC
2207051031C	Turbidity	1.12	NTU

Well ID	JP-3-509	Event Date	7/8/2022
Sample	**Parameter**	**Result**	**Units**
2207080829A	Conductivity	992	µS/cm
2207080829A	DO	4.82	mg/L
2207080829A	ORP	71	mV
2207080829A	pH	6.54	NA
2207080829A	Temperature	21.26	ºC
2207080829A	Turbidity	1.12	NTU
2207080830A	Conductivity	994	µS/cm
2207080830A	DO	4.49	mg/L
2207080830A	ORP	77	mV
2207080830A	pH	6.54	NA
2207080830A	Temperature	21.38	ºC
2207080830A	Turbidity	0.69	NTU
2207080831A	Conductivity	991	µS/cm
2207080831A	DO	4.30	mg/L
2207080831A	ORP	78	mV
2207080831A	pH	6.74	NA
2207080831A	Temperature	21.43	ºC
2207080831A	Turbidity	0.58	NTU

Well ID JP-3-689 Event Date 7/18/2022

Sample	Parameter	Result	Units
2207180940C	Conductivity	1253.2	µS/cm
2207180940C	DO	5.56	mg/L
2207180940C	ORP	322	mV
2207180940C	pH	7.35	NA
2207180940C	Temperature	21.74	ºC
2207180940C	Turbidity	2.48	NTU
2207180942C	Conductivity	1250.6	µS/cm
2207180942C	DO	5.50	mg/L
2207180942C	ORP	322	mV
2207180942C	pH	7.36	NA
2207180942C	Temperature	21.77	ºC
2207180942C	Turbidity	2.53	NTU
2207180944C	Conductivity	1248.2	µS/cm
2207180944C	DO	5.51	mg/L
2207180944C	ORP	325	mV
2207180944C	pH	7.35	NA
2207180944C	Temperature	21.80	ºC
2207180944C	Turbidity	2.50	NTU

Well ID NASA 4 Event Date 5/18/2022

Sample	Parameter	Result	Units
2205181245A	Conductivity	1382	µS/cm
2205181245A	DTW	137.20	ft
2205181245A	pH	8.66	NA
2205181245A	Temperature	24.7	ºC
2205181245A	Turbidity	24.8	NTU
2205181311A	Conductivity	1358	µS/cm
2205181311A	pH	8.22	NA
2205181311A	Temperature	25.6	ºC
2205181311A	Turbidity	19.5	NTU

Well ID	PL-10-484	Event Date	7/6/2022
Sample	**Parameter**	**Result**	**Units**
2207061345Y	Atmospheric Pressure	12.22	psia
2207061345Y	Conductivity	1262	µS/cm
2207061345Y	DTW	465.24	ft
2207061345Y	Formation Pressure	20.93	psia
2207061345Y	pH	8.16	NA
2207061345Y	Temperature	25.2	ºC
2207061345Y	Turbidity	1.79	NTU
2207061456Y	Atmospheric Pressure	12.21	psia
2207061456Y	Conductivity	1270	µS/cm
2207061456Y	DTW	465.36	ft
2207061456Y	pH	8.21	NA
2207061456Y	Temperature	25.4	ºC
2207061456Y	Turbidity	1.34	NTU

Well ID	PL-10-592	Event Date	7/6/2022
Sample	**Parameter**	**Result**	**Units**
2207060910Y	Atmospheric Pressure	12.23	psia
2207060910Y	Conductivity	1257	µS/cm
2207060910Y	DTW	465.15	ft
2207060910Y	Formation Pressure	67.91	psia
2207060910Y	pH	8.12	NA
2207060910Y	Temperature	24.6	ºC
2207060910Y	Turbidity	0.21	NTU
2207060948Y	Atmospheric Pressure	12.21	psia
2207060948Y	Conductivity	1250	µS/cm
2207060948Y	DTW	465.24	ft
2207060948Y	pH	7.95	NA
2207060948Y	Temperature	24.5	ºC
2207060948Y	Turbidity	0.24	NTU

Well ID	PL-11-470	Event Date	6/7/2022
Sample	**Parameter**	**Result**	**Units**
2206071400B	Conductivity	1255	µS/cm
2206071400B	pH	7.87	NA
2206071400B	Temperature	26.6	ºC
2206071400B	Turbidity	0.24	NTU

Well ID	PL-11-530	Event Date	6/8/2022
Sample	**Parameter**	**Result**	**Units**
2206081315B	Conductivity	1198	µS/cm
2206081315B	pH	8.13	NA
2206081315B	Temperature	24.8	ºC
2206081315B	Turbidity	0.37	NTU

Well ID	PL-11-710	Event Date	6/8/2022
Sample	**Parameter**	**Result**	**Units**
2206081335B	Conductivity	1273	µS/cm
2206081335B	pH	7.38	NA
2206081335B	Temperature	23.9	ºC
2206081335B	Turbidity	0.60	NTU

Well ID	PL-11-820	Event Date	6/9/2022
Sample	**Parameter**	**Result**	**Units**
2206091330B	Conductivity	1143	µS/cm
2206091330B	pH	8.48	NA
2206091330B	Temperature	26.3	ºC
2206091330B	Turbidity	0.69	NTU

Well ID	PL-11-980	Event Date	6/9/2022
Sample	**Parameter**	**Result**	**Units**
2206091350B	Conductivity	1049	µS/cm
2206091350B	pH	8.46	NA
2206091350B	Temperature	24.5	ºC
2206091350B	Transducer	76.98	ft
2206091350B	Turbidity	0.35	NTU

Well ID	PL-12-570	Event Date	5/19/2022
Sample	**Parameter**	**Result**	**Units**
2205190939A	Conductivity	1037.0	µS/cm
2205190939A	DO	35.4	mg/L
2205190939A	ORP	435.4	mV
2205190939A	pH	7.24	NA
2205190939A	Temperature	2.38	ºC
2205190939A	Transducer	22.78	ft
2205190939A	Turbidity	0.77	NTU
2205190940A	Conductivity	1031.0	µS/cm
2205190940A	DO	42.32	mg/L
2205190940A	ORP	435.5	mV
2205190940A	pH	7.27	NA
2205190940A	Temperature	21.20	ºC
2205190940A	Turbidity	0.83	NTU
2205190941A	Conductivity	1024.2	µS/cm
2205190941A	DO	39.86	mg/L
2205190941A	ORP	435.0	mV
2205190941A	pH	7.23	NA
2205190941A	Temperature	21.06	ºC
2205190941A	Transducer	22.81	ft
2205190941A	Turbidity	0.82	NTU

Well ID PL-12-800 Event Date 5/5/2022

Sample	Parameter	Result	Units
2205051035A	Conductivity	1013	µS/cm
2205051035A	DO	3.49	mg/L
2205051035A	ORP	408	mV
2205051035A	pH	7.15	NA
2205051035A	Temperature	20.65	ºC
2205051035A	Transducer	22.75	ft
2205051035A	Turbidity	0.93	NTU
2205051037A	Conductivity	1012	µS/cm
2205051037A	DO	3.32	mg/L
2205051037A	ORP	408	mV
2205051037A	pH	7.16	NA
2205051037A	Temperature	20.69	ºC
2205051037A	Turbidity	0.81	NTU
2205051039A	Conductivity	1013	µS/cm
2205051039A	DO	3.28	mg/L
2205051039A	ORP	408	mV
2205051039A	pH	7.18	NA
2205051039A	Temperature	20.73	ºC
2205051039A	Transducer	22.72	ft
2205051039A	Turbidity	0.78	NTU

Well ID PL-1-486 Event Date 7/12/2022

Sample	Parameter	Result	Units
2207120910A	Conductivity	1227	µS/cm
2207120910A	DO	7.15	mg/L
2207120910A	DTW	485.62	ft
2207120910A	ORP	340.8	mV
2207120910A	pH	7.71	NA
2207120910A	Temperature	23.78	ºC
2207120910A	Turbidity	3.36	NTU
2207120913A	Conductivity	1236	µS/cm
2207120913A	DO	6.83	mg/L
2207120913A	DTW	485.76	ft
2207120913A	ORP	338.6	mV
2207120913A	pH	7.68	NA
2207120913A	Temperature	23.85	ºC
2207120913A	Turbidity	2.86	NTU
2207120916A	Conductivity	1239	µS/cm
2207120916A	DO	6.40	mg/L
2207120916A	DTW	485.76	ft
2207120916A	ORP	337.1	mV
2207120916A	pH	7.64	NA
2207120916A	Temperature	23.92	ºC
2207120916A	Turbidity	2.80	NTU

Well ID **PL-2-504** **Event Date** **6/14/2022**

Sample	Parameter	Result	Units
2206140855C	Conductivity	956	µS/cm
2206140855C	DO	5.13	mg/L
2206140855C	DTW	478.55	ft
2206140855C	ORP	123	mV
2206140855C	pH	7.85	NA
2206140855C	Temperature	21.09	ºC
2206140855C	Turbidity	0.62	NTU
2206140858C	Conductivity	949	µS/cm
2206140858C	DO	4.92	mg/L
2206140858C	DTW	478.68	ft
2206140858C	ORP	123	mV
2206140858C	pH	7.87	NA
2206140858C	Temperature	21.18	ºC
2206140858C	Turbidity	0.55	NTU
2206140901C	Conductivity	946	µS/cm
2206140901C	DO	4.70	mg/L
2206140901C	DTW	478.68	ft
2206140901C	ORP	121	mV
2206140901C	pH	7.88	NA
2206140901C	Temperature	21.27	ºC
2206140901C	Turbidity	0.52	NTU

Well ID **PL-4-464** **Event Date** **6/14/2022**

Sample	Parameter	Result	Units
2206141335C	Conductivity	996	µS/cm
2206141335C	DO	6.02	mg/L
2206141335C	DTW	450.28	ft
2206141335C	ORP	37	mV
2206141335C	pH	8.04	NA
2206141335C	Temperature	22.65	ºC
2206141335C	Turbidity	0.49	NTU
2206141338C	Conductivity	999	µS/cm
2206141338C	DO	5.68	mg/L
2206141338C	DTW	450.62	ft
2206141338C	ORP	37	mV
2206141338C	pH	7.98	NA
2206141338C	Temperature	22.71	ºC
2206141338C	Turbidity	0.44	NTU
2206141341C	Conductivity	1005	µS/cm
2206141341C	DO	5.30	mg/L
2206141341C	DTW	450.62	ft
2206141341C	ORP	37	mV
2206141341C	pH	7.95	NA
2206141341C	Temperature	22.79	ºC
2206141341C	Turbidity	0.38	NTU

Well ID **PL-6-545** **Event Date** **7/7/2022**

Sample	Parameter	Result	Units
2207080845Y	Atmospheric Pressure	12.62	psia
2207080845Y	Conductivity	1152	µS/cm
2207080845Y	DTW	475.27	ft
2207080845Y	Formation Pressure	55.74	psia
2207080845Y	pH	7.34	NA
2207080845Y	Temperature	23.8	ºC
2207080845Y	Turbidity	0.91	NTU
2207080945Y	Atmospheric Pressure	12.58	psia
2207080945Y	Conductivity	1135	µS/cm
2207080945Y	DTW	475.38	ft
2207080945Y	pH	7.33	NA
2207080945Y	Temperature	24.1	ºC
2207080945Y	Turbidity	0.76	NTU

Well ID PL-6-725 Event Date 7/7/2022

Sample	Parameter	Result	Units
2207071010Y	Atmospheric Pressure	12.59	psia
2207071010Y	Conductivity	1184	µS/cm
2207071010Y	DTW	475.15	ft
2207071010Y	Formation Pressure	134.30	psia
2207071010Y	pH	8.24	NA
2207071010Y	Temperature	24.1	ºC
2207071010Y	Turbidity	0.40	NTU
2207071042Y	Atmospheric Pressure	12.59	psia
2207071042Y	Conductivity	1174	µS/cm
2207071042Y	DTW	475.27	ft
2207071042Y	pH	8.22	NA
2207071042Y	Temperature	24.4	ºC
2207071042Y	Turbidity	0.36	NTU

Well ID PL-7-480 Event Date 5/10/2022

Sample	Parameter	Result	Units
2205101410Y	Atmospheric Pressure	12.55	psia
2205101410Y	Conductivity	1050	µS/cm
2205101410Y	DTW	482.55	ft
2205101410Y	Formation Pressure	12.80	psia
2205101410Y	pH	8.21	NA
2205101410Y	Temperature	22.7	ºC
2205101410Y	Turbidity	0.95	NTU
2205130940Y	Atmospheric Pressure	12.57	psia
2205130940Y	Conductivity	1152	µS/cm
2205130940Y	DTW	483.65	ft
2205130940Y	pH	7.51	NA
2205130940Y	Temperature	19.9	ºC
2205130940Y	Turbidity	0.82	NTU

Well ID **PL-7-560** **Event Date** **5/10/2022**

Sample	Parameter	Result	Units
2205100840Y	Atmospheric Pressure	12.53	psia
2205100840Y	Conductivity	1015	µS/cm
2205100840Y	DTW	482.42	ft
2205100840Y	Formation Pressure	47.21	psia
2205100840Y	pH	8.23	NA
2205100840Y	Temperature	23.3	ºC
2205100840Y	Turbidity	3.73	NTU
2205101041Y	Atmospheric Pressure	12.54	psia
2205101041Y	Conductivity	1004	µS/cm
2205101041Y	DTW	482.55	ft
2205101041Y	pH	8.11	NA
2205101041Y	Temperature	23.9	ºC
2205101041Y	Turbidity	1.92	NTU

Well ID **PL-8-455** **Event Date** **6/7/2022**

Sample	Parameter	Result	Units
2206071445Y	Atmospheric Pressure	12.55	psia
2206071445Y	Conductivity	1146	µS/cm
2206071445Y	DTW	441.25	ft
2206071445Y	Formation Pressure	22.47	psia
2206071445Y	pH	8.01	NA
2206071445Y	Temperature	25.7	ºC
2206071445Y	Turbidity	1.56	NTU
2206080925Y	Atmospheric Pressure	12.57	psia
2206080925Y	Conductivity	1155	µS/cm
2206080925Y	DTW	441.34	ft
2206080925Y	pH	7.90	NA
2206080925Y	Temperature	24.6	ºC
2206080925Y	Turbidity	1.37	NTU

Well ID PL-8-605 Event Date 6/7/2022

Sample	Parameter	Result	Units
2206070945Y	Atmospheric Pressure	12.66	psia
2206070945Y	Conductivity	1102	µS/cm
2206070945Y	DTW	441.13	ft
2206070945Y	Formation Pressure	87.46	psia
2206070945Y	pH	8.41	NA
2206070945Y	Temperature	25.2	ºC
2206070945Y	Turbidity	1.49	NTU
2206071325Y	Atmospheric Pressure	12.62	psia
2206071325Y	Conductivity	1093	µS/cm
2206071325Y	DTW	441.25	ft
2206071325Y	pH	8.30	NA
2206071325Y	Temperature	24.8	ºC
2206071325Y	Turbidity	1.19	NTU

Well ID ST-1-473 Event Date 5/12/2022

Sample	Parameter	Result	Units
2205121430A	Conductivity	1138	µS/cm
2205121430A	DO	4.01	mg/L
2205121430A	ORP	388	mV
2205121430A	pH	7.26	NA
2205121430A	Temperature	25.00	ºC
2205121430A	Turbidity	9.82	NTU
2205121432A	Conductivity	1134	µS/cm
2205121432A	DO	3.54	mg/L
2205121432A	ORP	394	mV
2205121432A	pH	7.27	NA
2205121432A	Temperature	25.09	ºC
2205121432A	Turbidity	3.94	NTU
2205121434A	Conductivity	1138	µS/cm
2205121434A	DO	3.54	mg/L
2205121434A	ORP	394	mV
2205121434A	pH	7.27	NA
2205121434A	Temperature	25.02	ºC
2205121434A	Turbidity	5.16	NTU

Well ID ST-1-541 Event Date 5/16/2022

Sample	Parameter	Result	Units
2205161419A	Conductivity	1160.3	µS/cm
2205161419A	DO	4.08	mg/L
2205161419A	ORP	457.9	mV
2205161419A	pH	7.17	NA
2205161419A	Temperature	21.93	ºC
2205161419A	Turbidity	0.95	NTU
2205161421A	Conductivity	1161.3	µS/cm
2205161421A	DO	5.40	mg/L
2205161421A	ORP	464.8	mV
2205161421A	pH	7.18	NA
2205161421A	Temperature	21.54	ºC
2205161421A	Turbidity	0.80	NTU
2205161423A	Conductivity	1167.0	µS/cm
2205161423A	DO	4.28	mg/L
2205161423A	ORP	468.1	mV
2205161423A	pH	7.20	NA
2205161423A	Temperature	21.94	ºC
2205161423A	Turbidity	1.00	NTU

Well ID ST-1-630 Event Date 5/12/2022

Sample	Parameter	Result	Units
2205121005A	Conductivity	1008	µS/cm
2205121005A	DO	3.49	mg/L
2205121005A	ORP	351	mV
2205121005A	pH	7.33	NA
2205121005A	Temperature	20.58	ºC
2205121005A	Turbidity	3.56	NTU
2205121008A	Conductivity	1011	µS/cm
2205121008A	DO	4.00	mg/L
2205121008A	ORP	355	mV
2205121008A	pH	7.31	NA
2205121008A	Temperature	20.62	ºC
2205121008A	Turbidity	3.04	NTU
2205121012A	Conductivity	1008	µS/cm
2205121012A	DO	4.20	mg/L
2205121012A	ORP	363	mV
2205121012A	pH	7.34	NA
2205121012A	Temperature	20.75	ºC
2205121012A	Turbidity	3.37	NTU

Well ID **ST-3-486** **Event Date** **6/8/2022**

Sample	Parameter	Result	Units
2206081417A	Conductivity	965.31	µS/cm
2206081417A	DO	64.22	mg/L
2206081417A	DTW	462.63	ft
2206081417A	ORP	231.8	mV
2206081417A	pH	6.89	NA
2206081417A	Temperature	22.35	ºC
2206081417A	Turbidity	0.96	NTU
2206081418A	Conductivity	960.16	µS/cm
2206081418A	DO	64.46	mg/L
2206081418A	DTW	462.92	ft
2206081418A	ORP	232.6	mV
2206081418A	pH	6.88	NA
2206081418A	Temperature	22.45	ºC
2206081418A	Turbidity	1.16	NTU
2206081419A	Conductivity	961.25	µS/cm
2206081419A	DO	64.68	mg/L
2206081419A	DTW	462.92	ft
2206081419A	ORP	237.3	mV
2206081419A	pH	6.87	NA
2206081419A	Temperature	22.22	ºC
2206081419A	Turbidity	0.81	NTU

Well ID	ST-3-586	Event Date 6/9/2022	
Sample	**Parameter**	**Result**	**Units**
2206090954A	Conductivity	1009.5	µS/cm
2206090954A	DO	68.32	mg/L
2206090954A	DTW	461.55	ft
2206090954A	ORP	285.1	mV
2206090954A	pH	7.01	NA
2206090954A	Temperature	23.76	ºC
2206090954A	Turbidity	0.45	NTU
2206090955A	Conductivity	968.94	µS/cm
2206090955A	DO	68.91	mg/L
2206090955A	DTW	461.55	ft
2206090955A	ORP	288.9	mV
2206090955A	pH	7.03	NA
2206090955A	Temperature	23.34	ºC
2206090955A	Turbidity	0.51	NTU
2206090956A	Conductivity	1108.6	µS/cm
2206090956A	DO	69.02	mg/L
2206090956A	DTW	461.55	ft
2206090956A	ORP	289.5	mV
2206090956A	pH	7.03	NA
2206090956A	Temperature	22.99	ºC
2206090956A	Turbidity	0.42	NTU
2206221350C	Conductivity	1027	µS/cm
2206221350C	DO	6.32	mg/L
2206221350C	DTW	461.48	ft
2206221350C	ORP	288.2	mV
2206221350C	pH	7.10	NA
2206221350C	Temperature	21.90	ºC
2206221350C	Turbidity	0.58	NTU
2206221353C	Conductivity	1018	µS/cm
2206221353C	DO	5.79	mg/L
2206221353C	DTW	461.53	ft
2206221353C	ORP	289.6	mV
2206221353C	pH	7.13	NA
2206221353C	Temperature	21.98	ºC
2206221353C	Turbidity	0.51	NTU
2206221356C	Conductivity	1015	µS/cm
2206221356C	DO	5.42	mg/L
2206221356C	DTW	461.53	ft
2206221356C	ORP	289.3	mV
2206221356C	pH	7.14	NA
2206221356C	Temperature	22.15	ºC
2206221356C	Turbidity	0.45	NTU

Well ID ST-3-666		Event Date 6/13/2022	
Sample	**Parameter**	**Result**	**Units**
2206131410A	Conductivity	1236	µS/cm
2206131410A	DO	6.91	mg/L
2206131410A	DTW	461.50	ft
2206131410A	ORP	264	mV
2206131410A	pH	7.10	NA
2206131410A	Temperature	21.83	ºC
2206131410A	Turbidity	2.90	NTU
2206131412A	Conductivity	1234	µS/cm
2206131412A	DO	6.96	mg/L
2206131412A	DTW	461.70	ft
2206131412A	ORP	269	mV
2206131412A	pH	7.09	NA
2206131412A	Temperature	21.78	ºC
2206131412A	Turbidity	1.90	NTU
2206131414A	Conductivity	1240	µS/cm
2206131414A	DO	6.90	mg/L
2206131414A	DTW	461.70	ft
2206131414A	ORP	270	mV
2206131414A	pH	7.09	NA
2206131414A	Temperature	21.87	ºC
2206131414A	Turbidity	1.64	NTU

Well ID	ST-4-481	Event Date	6/8/2022
Sample	**Parameter**	**Result**	**Units**
2206080900A	Conductivity	1020.9	µS/cm
2206080900A	DO	65.37	mg/L
2206080900A	DTW	459.08	ft
2206080900A	ORP	295.9	mV
2206080900A	pH	7.09	NA
2206080900A	Temperature	23.09	ºC
2206080900A	Turbidity	5.60	NTU
2206080901A	Conductivity	994.77	µS/cm
2206080901A	DO	65.47	mg/L
2206080901A	DTW	459.08	ft
2206080901A	ORP	294.3	mV
2206080901A	pH	7.09	NA
2206080901A	Temperature	23.21	ºC
2206080901A	Turbidity	5.45	NTU
2206080902A	Conductivity	1016.7	µS/cm
2206080902A	DO	65.59	mg/L
2206080902A	DTW	459.08	ft
2206080902A	ORP	295.5	mV
2206080902A	pH	7.08	NA
2206080902A	Temperature	22.52	ºC
2206080902A	Turbidity	5.40	NTU

Well ID	ST-4-589	Event Date	5/9/2022
Sample	**Parameter**	**Result**	**Units**
2205091400A	Conductivity	746	µS/cm
2205091400A	DO	1.79	mg/L
2205091400A	ORP	316	mV
2205091400A	pH	8.30	NA
2205091400A	Temperature	21.37	ºC
2205091400A	Turbidity	1.36	NTU
2205091402A	Conductivity	752	µS/cm
2205091402A	DO	1.70	mg/L
2205091402A	ORP	31.8	mV
2205091402A	pH	8.27	NA
2205091402A	Temperature	21.41	ºC
2205091402A	Turbidity	1.32	NTU
2205091404A	Conductivity	739	µS/cm
2205091404A	DO	1.82	mg/L
2205091404A	ORP	319	mV
2205091404A	pH	8.25	NA
2205091404A	Temperature	21.35	ºC
2205091404A	Turbidity	1.44	NTU

Well ID **ST-4-690** **Event Date** **6/7/2022**

Sample	Parameter	Result	Units
2206071304A	Conductivity	842.30	µS/cm
2206071304A	DO	45.70	mg/L
2206071304A	DTW	458.05	ft
2206071304A	ORP	183.6	mV
2206071304A	pH	7.61	NA
2206071304A	Temperature	32.51	ºC
2206071304A	Turbidity	3.19	NTU
2206071305A	Conductivity	929.96	µS/cm
2206071305A	DO	47.04	mg/L
2206071305A	DTW	458.20	ft
2206071305A	ORP	168.6	mV
2206071305A	pH	8.02	NA
2206071305A	Temperature	28.40	ºC
2206071305A	Turbidity	2.30	NTU
2206071306A	Conductivity	917.68	µS/cm
2206071306A	DO	46.58	mg/L
2206071306A	DTW	458.20	ft
2206071306A	ORP	191.3	mV
2206071306A	pH	7.78	NA
2206071306A	Temperature	30.35	ºC
2206071306A	Turbidity	2.20	NTU

Well ID **ST-5-485** **Event Date** **5/2/2022**

Sample	Parameter	Result	Units
2205021055Y	Atmospheric Pressure	12.57	psia
2205021055Y	Conductivity	1029	µS/cm
2205021055Y	DTW	476.13	ft
2205021055Y	Formation Pressure	40.13	psia
2205021055Y	pH	8.32	NA
2205021055Y	Temperature	23.8	ºC
2205021055Y	Turbidity	1.97	NTU
2205021325Y	Atmospheric Pressure	12.56	psia
2205021325Y	Conductivity	1020	µS/cm
2205021325Y	DTW	476.19	ft
2205021325Y	pH	8.39	NA
2205021325Y	Temperature	23.6	ºC
2205021325Y	Turbidity	1.23	NTU

Well ID ST-5-655 Event Date 5/2/2022

Sample	Parameter	Result	Units
2205020900Y	Atmospheric Pressure	12.53	psia
2205020900Y	Conductivity	866	µS/cm
2205020900Y	DTW	475.96	ft
2205020900Y	Formation Pressure	113.89	psia
2205020900Y	pH	8.51	NA
2205020900Y	Temperature	22.8	ºC
2205020900Y	Turbidity	4.57	NTU
2205020932Y	Atmospheric Pressure	12.53	psia
2205020932Y	Conductivity	859	µS/cm
2205020932Y	DTW	476.13	ft
2205020932Y	pH	8.38	NA
2205020932Y	Temperature	23.0	ºC
2205020932Y	Turbidity	3.51	NTU

Well ID ST-6-528 Event Date 6/14/2022

Sample	Parameter	Result	Units
2206141300B	Conductivity	1227	µS/cm
2206141300B	pH	7.14	NA
2206141300B	Temperature	22.9	ºC
2206141300B	Transducer	71.73	ft
2206141300B	Turbidity	0.50	NTU

Well ID ST-6-568 Event Date 6/14/2022

Sample	Parameter	Result	Units
2206141330B	Conductivity	1165	µS/cm
2206141330B	pH	8.10	NA
2206141330B	Temperature	26.8	ºC
2206141330B	Turbidity	1.07	NTU

Well ID ST-6-678 Event Date 6/15/2022

Sample	Parameter	Result	Units
2206151325B	Conductivity	1011	µS/cm
2206151325B	pH	8.34	NA
2206151325B	Temperature	22.9	ºC
2206151325B	Turbidity	0.30	NTU

Well ID ST-6-824 Event Date 6/15/2022

Sample	Parameter	Result	Units
2206151400B	Conductivity	975	µS/cm
2206151400B	pH	8.24	NA
2206151400B	Temperature	24.3	ºC
2206151400B	Transducer	75.03	ft
2206151400B	Turbidity	0.22	NTU

Well ID	ST-6-970	Event Date	6/16/2022
Sample	**Parameter**	**Result**	**Units**
2206161410B	Conductivity	1118	µS/cm
2206161410B	pH	8.24	NA
2206161410B	Temperature	24.7	ºC
2206161410B	Turbidity	0.38	NTU

Well ID	ST-7-453	Event Date	7/18/2022
Sample	**Parameter**	**Result**	**Units**
2207181355B	Conductivity	1238	µS/cm
2207181355B	pH	7.71	NA
2207181355B	Temperature	27.3	ºC
2207181355B	Turbidity	0.63	NTU

Well ID	ST-7-544	Event Date	7/18/2022
Sample	**Parameter**	**Result**	**Units**
2207181425B	Conductivity	1222	µS/cm
2207181425B	pH	7.77	NA
2207181425B	Temperature	27.9	ºC
2207181425B	Turbidity	0.95	NTU

Well ID	ST-7-779	Event Date	7/19/2022
Sample	**Parameter**	**Result**	**Units**
2207191409B	Conductivity	1069	µS/cm
2207191409B	pH	8.42	NA
2207191409B	Temperature	28.9	ºC
2207191409B	Turbidity	1.83	NTU

Well ID	ST-7-970	Event Date	7/19/2022
Sample	**Parameter**	**Result**	**Units**
2207191429B	Conductivity	965	µS/cm
2207191429B	pH	7.90	NA
2207191429B	Temperature	27.6	ºC
2207191429B	Turbidity	1.43	NTU

Well ID WB-1-200 Event Date 5/17/2022

Sample	Parameter	Result	Units
2205170845Y	Atmospheric Pressure	12.41	psia
2205170845Y	Conductivity	1125	µS/cm
2205170845Y	DTW	187.77	ft
2205170845Y	Formation Pressure	23.94	psia
2205170845Y	pH	8.05	NA
2205170845Y	Temperature	21.4	ºC
2205170845Y	Turbidity	3.71	NTU
2205171026Y	Atmospheric Pressure	12.44	psia
2205171026Y	Conductivity	1113	µS/cm
2205171026Y	DTW	187.86	ft
2205171026Y	pH	8.12	NA
2205171026Y	Temperature	21.9	ºC
2205171026Y	Turbidity	2.53	NTU

Well ID WB-1-255 Event Date 5/16/2022

Sample	Parameter	Result	Units
2205161355Y	Atmospheric Pressure	12.44	psia
2205161355Y	Conductivity	1192	µS/cm
2205161355Y	DTW	187.69	ft
2205161355Y	Formation Pressure	53.76	psia
2205161355Y	pH	7.97	NA
2205161355Y	Temperature	23.8	ºC
2205161355Y	Turbidity	4.25	NTU
2205161442Y	Atmospheric Pressure	12.45	psia
2205161442Y	Conductivity	1203	µS/cm
2205161442Y	DTW	187.77	ft
2205161442Y	pH	8.05	NA
2205161442Y	Temperature	24.1	ºC
2205161442Y	Turbidity	2.92	NTU

Well ID WB-1-330 Event Date 5/16/2022

Sample	Parameter	Result	Units
2205160910Y	Atmospheric Pressure	12.40	psia
2205160910Y	Conductivity	1160	µS/cm
2205160910Y	DTW	187.60	ft
2205160910Y	Formation Pressure	85.62	psia
2205160910Y	pH	8.08	NA
2205160910Y	Temperature	23.2	ºC
2205160910Y	Turbidity	3.31	NTU
2205161006Y	Atmospheric Pressure	12.39	psia
2205161006Y	Conductivity	1145	µS/cm
2205161006Y	DTW	187.69	ft
2205161006Y	pH	7.94	NA
2205161006Y	Temperature	23.6	ºC
2205161006Y	Turbidity	2.40	NTU

Well ID WW-1-452 Event Date 6/6/2022

Sample	Parameter	Result	Units
2206060945A	Conductivity	1455.6	µS/cm
2206060945A	DO	7.64	mg/L
2206060945A	DTW	423.13	ft
2206060945A	ORP	113.5	mV
2206060945A	pH	7.38	NA
2206060945A	Temperature	22.21	ºC
2206060945A	Turbidity	4.20	NTU
2206060946A	Conductivity	1441.1	µS/cm
2206060946A	DO	7.65	mg/L
2206060946A	DTW	423.21	ft
2206060946A	ORP	114.9	mV
2206060946A	pH	7.41	NA
2206060946A	Temperature	22.31	ºC
2206060946A	Turbidity	5.33	NTU
2206060947A	Conductivity	1440.8	µS/cm
2206060947A	DO	7.66	mg/L
2206060947A	DTW	423.21	ft
2206060947A	ORP	116.4	mV
2206060947A	pH	7.39	NA
2206060947A	Temperature	22.18	ºC
2206060947A	Turbidity	4.29	NTU

Well ID	WW-2-489	Event Date	6/9/2022

Sample	Parameter	Result	Units
2206090900C	Conductivity	853	µS/cm
2206090900C	DO	3.39	mg/L
2206090900C	ORP	63	mV
2206090900C	pH	7.93	NA
2206090900C	Temperature	22.02	ºC
2206090900C	Transducer	19.73	ft
2206090900C	Turbidity	2.90	NTU
2206090903C	Conductivity	859	µS/cm
2206090903C	DO	3.24	mg/L
2206090903C	ORP	63	mV
2206090903C	pH	7.90	NA
2206090903C	Temperature	22.06	ºC
2206090903C	Transducer	19.73	ft
2206090903C	Turbidity	2.43	NTU
2206090906C	Conductivity	861	µS/cm
2206090906C	DO	3.08	mg/L
2206090906C	ORP	65	mV
2206090906C	pH	7.88	NA
2206090906C	Temperature	22.07	ºC
2206090906C	Transducer	19.73	ft
2206090906C	Turbidity	2.22	NTU

Well ID **WW-2-664** **Event Date** **6/10/2022**

Sample	Parameter	Result	Units
2206100915C	Conductivity	839	µS/cm
2206100915C	DO	3.88	mg/L
2206100915C	ORP	64	mV
2206100915C	pH	8.49	NA
2206100915C	Temperature	22.28	ºC
2206100915C	Transducer	19.70	ft
2206100915C	Turbidity	1.33	NTU
2206100918C	Conductivity	830	µS/cm
2206100918C	DO	3.53	mg/L
2206100918C	ORP	60	mV
2206100918C	pH	8.42	NA
2206100918C	Temperature	22.20	ºC
2206100918C	Transducer	19.70	ft
2206100918C	Turbidity	1.26	NTU
2206100921C	Conductivity	827	µS/cm
2206100921C	DO	3.48	mg/L
2206100921C	ORP	59	mV
2206100921C	pH	8.39	NA
2206100921C	Temperature	22.21	ºC
2206100921C	Transducer	19.70	ft
2206100921C	Turbidity	1.19	NTU

Well ID **WW-3-469** **Event Date** **6/6/2022**

Sample	Parameter	Result	Units
2206061345Y	Atmospheric Pressure	12.30	psia
2206061345Y	Conductivity	1274	µS/cm
2206061345Y	DTW	410.46	ft
2206061345Y	Formation Pressure	38.28	psia
2206061345Y	pH	7.57	NA
2206061345Y	Temperature	25.3	ºC
2206061345Y	Turbidity	0.80	NTU
2206061417Y	Atmospheric Pressure	12.31	psia
2206061417Y	Conductivity	1281	µS/cm
2206061417Y	DTW	410.60	ft
2206061417Y	pH	7.46	NA
2206061417Y	Temperature	25.0	ºC
2206061417Y	Turbidity	0.68	NTU

Well ID	WW-3-569	Event Date	6/6/2022
Sample	**Parameter**	**Result**	**Units**
2206060930Y	Atmospheric Pressure	12.26	psia
2206060930Y	Conductivity	1240	µS/cm
2206060930Y	DTW	410.29	ft
2206060930Y	Formation Pressure	81.54	psia
2206060930Y	pH	8.53	NA
2206060930Y	Temperature	24.4	ºC
2206060930Y	Turbidity	1.12	NTU
2206061017Y	Atmospheric Pressure	12.30	psia
2206061017Y	Conductivity	1228	µS/cm
2206061017Y	DTW	410.16	ft
2206061017Y	pH	8.58	NA
2206061017Y	Temperature	24.1	ºC
2206061017Y	Turbidity	0.93	NTU

Well ID	WW-4-419	Event Date	5/23/2022
Sample	**Parameter**	**Result**	**Units**
2205231330C	Conductivity	1039	µS/cm
2205231330C	pH	8.46	NA
2205231330C	Temperature	24.6	ºC
2205231330C	Transducer	120.34	ft
2205231330C	Turbidity	2.34	NTU

Well ID	WW-4-589	Event Date	5/23/2022
Sample	**Parameter**	**Result**	**Units**
2205231340C	Conductivity	1130	µS/cm
2205231340C	pH	8.55	NA
2205231340C	Temperature	25.4	ºC
2205231340C	Transducer	121.23	ft
2205231340C	Turbidity	1.85	NTU

Well ID	WW-4-848	Event Date	5/24/2022
Sample	**Parameter**	**Result**	**Units**
2205241025C	Conductivity	950	µS/cm
2205241025C	pH	8.65	NA
2205241025C	Temperature	23.2	ºC
2205241025C	Transducer	122.50	ft
2205241025C	Turbidity	0.97	NTU

Well ID WW-4-948 Event Date 5/24/2022

Sample	Parameter	Result	Units
2205241038C	Conductivity	1199	µS/cm
2205241038C	pH	8.71	NA
2205241038C	Temperature	22.7	ºC
2205241038C	Transducer	123.91	ft
2205241038C	Turbidity	1.09	NTU

Well ID WW-5-459 Event Date 7/20/2022

Sample	Parameter	Result	Units
2207201359B	Conductivity	1188	µS/cm
2207201359B	pH	7.41	NA
2207201359B	Temperature	25.4	ºC
2207201359B	Turbidity	3.23	NTU

Well ID WW-5-579 Event Date 7/20/2022

Sample	Parameter	Result	Units
2207201429B	Conductivity	1116	µS/cm
2207201429B	pH	8.41	NA
2207201429B	Temperature	25.8	ºC
2207201429B	Turbidity	3.39	NTU

Well ID WW-5-809 Event Date 7/21/2022

Sample	Parameter	Result	Units
2207211359B	Conductivity	1070	µS/cm
2207211359B	pH	7.52	NA
2207211359B	Temperature	25.8	ºC
2207211359B	Turbidity	3.56	NTU

Well ID WW-5-909 Event Date 7/21/2022

Sample	Parameter	Result	Units
2207211429B	Conductivity	1577	µS/cm
2207211429B	pH	7.92	NA
2207211429B	Temperature	25.4	ºC
2207211429B	Turbidity	1.51	NTU

Appendix A.2
Monitor Well Analytical Data

Detections for Monitoring Well Sampling Events in this Reporting Period

Analytical Results for Sampling Events at 100-E-261

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/13/2022	8260	2206131010A	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.74	ug/L	1	0.2		J
6/13/2022	8270	2206131015A	Unknown	83	ug/L	NA	NA		TIC RB
6/13/2022	8270	2206131015A	Unknown	24	ug/L	NA	NA		TIC RB
6/13/2022	8270	2206131015A	Butanoic Acid	6.2	ug/L	NA	NA		TIC
6/13/2022	8270	2206131015A	Unknown	6.2	ug/L	NA	NA		TIC
6/13/2022	METALS	2206131016A	Manganese, Total	0.063	mg/L	0.01	0.004		
6/13/2022	METALS	2206131016A	Zinc, Total	0.045	mg/L	0.02	0.003		
6/13/2022	METALS	2206131016A	Strontium, Total	6.1	mg/L	0.1	0.002		
6/13/2022	METALS	2206131016A	Sodium, Total	41.1	mg/L	1	0.2		
6/13/2022	METALS	2206131016A	Selenium, Total	0.007	mg/L	0.01	0.007		J
6/13/2022	METALS	2206131016A	Potassium, Total	2.7	mg/L	2	0.4		
6/13/2022	METALS	2206131016A	Molybdenum, Total	0.018	mg/L	0.025	0.003		J
6/13/2022	METALS	2206131016A	Magnesium, Total	66.6	mg/L	1	0.03		
6/13/2022	METALS	2206131016A	Arsenic, Total	0.001	mg/L	0.001	0.0004		J
6/13/2022	METALS	2206131016A	Aluminum, Total	0.32	mg/L	0.1	0.03		
6/13/2022	METALS	2206131016A	Nickel, Total	0.013	mg/L	0.04	0.003		J
6/13/2022	METALS	2206131016A	Antimony, Total	0.0002	mg/L	0.001	0.0002		J
6/13/2022	METALS	2206131016A	Iron, Total	0.29	mg/L	0.1	0.07		
6/13/2022	METALS	2206131016A	Barium, Total	0.034	mg/L	0.02	0.003		
6/13/2022	METALS	2206131016A	Boron, Total	0.15	mg/L	0.2	0.02		J
6/13/2022	METALS	2206131016A	Calcium, Total	114	mg/L	1	0.3		
6/13/2022	METALS	2206131016A	Chromium, Total	0.015	mg/L	0.01	0.002		
6/13/2022	METALS	2206131016A	Cobalt, Total	0.001	mg/L	0.05	0.0009		J
6/13/2022	ANIONS	2206131017A	Chloride	26.7	mg/L	2	0.5		
6/13/2022	ANIONS	2206131017A	Fluoride, undistilled	1.27	mg/L	0.1	0.01		
6/13/2022	ANIONS	2206131017A	Sulfate	354	mg/L	8	1.6		
6/13/2022	ANIONS	2206131017A	Alkalinity, Total as CaCO3	230	mg/L	2	1.8		
6/13/2022	SM2540C	2206131018A	Total Dissolved Solids (TDS)	831	mg/L	10	9		
6/13/2022	353.2	2206131021A	Nitrate+Nitrite as Nitrogen	0.133	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 100-F-358

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/11/2022	8270	2207110934C	1,4-Dioxane	0.031	ug/L	0.04	0.027		J RB

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
5/2/2022	8260	2205020950A	Trichlorofluoromethane (CFC 11)	420	ug/L	5	1.2		
5/2/2022	8260	2205020950A	1,1,2-Trichloro-1,2,2-Trifluoroethane	72	ug/L	1	0.2		
5/2/2022	8260	2205020950A	Dichlorofluoromethane (CFC 21)	0.62	ug/L	1	0.2		J
5/2/2022	8260	2205020950A	Trichloroethene (TCE)	1.6	ug/L	1	0.2		

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
5/3/2022	8260	2205030900A	1,1,2-Trichloro-1,2,2-Trifluoroethane	56	ug/L	1	0.2		
5/3/2022	8260	2205030900A	Chloromethane	0.68	ug/L	2	0.28		J FB A
5/3/2022	8260	2205030900A	Dichlorofluoromethane (CFC 21)	5.6	ug/L	1	0.2		
5/3/2022	8260	2205030900A	Trichloroethene (TCE)	1.6	ug/L	1	0.2		
5/3/2022	8260	2205030900A	Trichlorofluoromethane (CFC 11)	180	ug/L	2.5	0.6		
5/3/2022	8260	2205030900A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	5.8	ug/L	1	0.2		

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
5/2/2022	8260	2205021430A	1,1,2-Trichloro-1,2,2-Trifluoroethane	190	ug/L	1	0.2		
5/2/2022	8260	2205021430A	Chloroform	0.56	ug/L	1	0.24		J
5/2/2022	8260	2205021430A	Dichlorofluoromethane (CFC 21)	1.9	ug/L	1	0.2		
5/2/2022	8260	2205021430A	Trichloroethene (TCE)	0.8	ug/L	1	0.2		J
5/2/2022	8260	2205021430A	Trichlorofluoromethane (CFC 11)	670	ug/L	5	1.2		
5/2/2022	8260	2205021430A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.78	ug/L	1	0.2		J

Analytical Results for Sampling Events at 600A-001-GW-

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/5/2022	8260	2205051250B	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.58	ug/L	1	0.2		J
5/5/2022	607	2205051252B	Bromacil	3.46	µg/L	0.01	0.0052	124	
5/5/2022	8270	2205051253B	Ethanol, 1-(2-butoxyethoxy)-	7.3	ug/L	NA	NA		TIC
5/5/2022	8270	2205051253B	1H-Benzotriazole, 5-methyl-	4.4	ug/L	NA	NA		TIC
5/5/2022	8270	2205051253B	Unknown	460	ug/L	NA	NA		TIC
5/5/2022	METALS	2205051254B	Strontium, Total	5.39	mg/L	0.1	0.002		
5/5/2022	METALS	2205051254B	Chromium, Total	0.143	mg/L	0.01	0.002		
5/5/2022	METALS	2205051254B	Magnesium, Total	123	mg/L	1	0.03		
5/5/2022	METALS	2205051254B	Manganese, Total	1.52	mg/L	0.01	0.004		
5/5/2022	METALS	2205051254B	Molybdenum, Total	0.07	mg/L	0.025	0.003		
5/5/2022	METALS	2205051254B	Nickel, Total	0.036	mg/L	0.04	0.003		J
5/5/2022	METALS	2205051254B	Sodium, Total	63.5	mg/L	1	0.2		
5/5/2022	METALS	2205051254B	Thallium, Total	0.00006	mg/L	0.001	0.00004		J
5/5/2022	METALS	2205051254B	Vanadium, Total	0.051	mg/L	0.05	0.0007		
5/5/2022	METALS	2205051254B	Zinc, Total	0.088	mg/L	0.02	0.003		
5/5/2022	METALS	2205051254B	Lead, Total	0.009	mg/L	0.05	0.003		J
5/5/2022	METALS	2205051254B	Potassium, Total	8.6	mg/L	2	0.4		
5/5/2022	METALS	2205051254B	Cobalt, Total	0.012	mg/L	0.05	0.0009		J
5/5/2022	METALS	2205051254B	Iron, Total	103	mg/L	1	0.7		
5/5/2022	METALS	2205051254B	Calcium, Total	314	mg/L	10	3		
5/5/2022	METALS	2205051254B	Cadmium, Total	0.0011	mg/L	0.005	0.0004		J
5/5/2022	METALS	2205051254B	Boron, Total	0.2	mg/L	0.2	0.02		J
5/5/2022	METALS	2205051254B	Beryllium, Total	0.0009	mg/L	0.003	0.0002		J
5/5/2022	METALS	2205051254B	Barium, Total	0.527	mg/L	0.02	0.003		
5/5/2022	METALS	2205051254B	Arsenic, Total	0.0029	mg/L	0.001	0.0004		
5/5/2022	METALS	2205051254B	Antimony, Total	0.0006	mg/L	0.001	0.0002		J
5/5/2022	METALS	2205051254B	Aluminum, Total	36.7	mg/L	0.1	0.03		
5/5/2022	METALS	2205051254B	Copper, Total	0.028	mg/L	0.02	0.004		
5/5/2022	ANIONS	2205051255B	Sulfate	498	mg/L	20	4		
5/5/2022	ANIONS	2205051255B	Alkalinity, Total as CaCO3	131	mg/L	2	1.8		
5/5/2022	ANIONS	2205051255B	Chloride	248	mg/L	8	1.7		
5/5/2022	ANIONS	2205051255B	Fluoride, undistilled	1.21	mg/L	0.1	0.01		
5/5/2022	SM2540C	2205051256B	Total Dissolved Solids (TDS)	1270	mg/L	12	11		
5/5/2022	6850	2205051257B	Perchlorate	0.843	ug/L	0.1	0.025		
5/5/2022	353.2	2205051258B	Nitrate+Nitrite as Nitrogen	1.87	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 600A-002-GW-

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/4/2022	8260	2205041010B	1,1,2-Trichloro-1,2,2-Trifluoroethane	3.7	ug/L	1	0.2		
5/4/2022	8260	2205041010B	Trichloroethene (TCE)	0.22	ug/L	1	0.2		J
5/4/2022	607	2205041012B	Bromacil	0.01	µg/L	0.0094	0.0047	102	J
5/4/2022	8270	2205041014B	Unknown	500	ug/L	NA	NA		TIC
5/4/2022	METALS	2205041015B	Strontium, Total	3.45	mg/L	0.1	0.002		
5/4/2022	METALS	2205041015B	Chromium, Total	0.005	mg/L	0.01	0.002		J
5/4/2022	METALS	2205041015B	Calcium, Total	116	mg/L	1	0.3		
5/4/2022	METALS	2205041015B	Boron, Total	0.09	mg/L	0.2	0.02		J
5/4/2022	METALS	2205041015B	Barium, Total	0.039	mg/L	0.02	0.003		
5/4/2022	METALS	2205041015B	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
5/4/2022	METALS	2205041015B	Iron, Total	0.85	mg/L	0.1	0.07		
5/4/2022	METALS	2205041015B	Aluminum, Total	0.29	mg/L	0.1	0.03		
5/4/2022	METALS	2205041015B	Sodium, Total	40.7	mg/L	1	0.2		
5/4/2022	METALS	2205041015B	Potassium, Total	3.6	mg/L	2	0.4		
5/4/2022	METALS	2205041015B	Molybdenum, Total	0.015	mg/L	0.025	0.003		J
5/4/2022	METALS	2205041015B	Manganese, Total	0.046	mg/L	0.01	0.004		
5/4/2022	METALS	2205041015B	Magnesium, Total	68.7	mg/L	1	0.03		
5/4/2022	METALS	2205041015B	Zinc, Total	0.004	mg/L	0.02	0.003		J
5/4/2022	METALS	2205041015B	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
5/4/2022	ANIONS	2205041016B	Alkalinity, Total as CaCO3	170	mg/L	2	1.8		
5/4/2022	ANIONS	2205041016B	Chloride	108	mg/L	2	0.5		
5/4/2022	ANIONS	2205041016B	Fluoride, undistilled	1.16	mg/L	0.1	0.01		
5/4/2022	ANIONS	2205041016B	Sulfate	287	mg/L	8	1.6		
5/4/2022	SM2540C	2205041017B	Total Dissolved Solids (TDS)	835	mg/L	10	9		
5/4/2022	6850	2205041018B	Perchlorate	0.598	ug/L	0.1	0.025		
5/4/2022	353.2	2205041019B	Nitrate+Nitrite as Nitrogen	1.71	mg/L	0.05	0.002		

Analytical Results for Sampling Events at 600-C-173

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/17/2022	8260	2205170809A	1,1,2-Trichloro-1,2,2-Trifluoroethane	57	ug/L	1	0.2		
5/17/2022	8260	2205170809A	Trichloroethene (TCE)	2.1	ug/L	1	0.2		
5/17/2022	8260	2205170809A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.23	ug/L	1	0.2		J
5/17/2022	8260	2205170809A	Sulfur Dioxide	12	ug/L	NA	NA		TIC
5/17/2022	607	2205170811A	Bromacil	0.58	µg/L	0.0094	0.0047	121	
5/17/2022	METALS	2205170812A	Iron, Total	0.18	mg/L	0.1	0.07		
5/17/2022	METALS	2205170812A	Zinc, Total	0.019	mg/L	0.02	0.003		J
5/17/2022	METALS	2205170812A	Thallium, Total	0.00009	mg/L	0.001	0.00004		J
5/17/2022	METALS	2205170812A	Strontium, Total	42	mg/L	1	0.02		
5/17/2022	METALS	2205170812A	Sodium, Total	375	mg/L	10	2		
5/17/2022	METALS	2205170812A	Potassium, Total	12.6	mg/L	2	0.4		
5/17/2022	METALS	2205170812A	Nickel, Total	0.392	mg/L	0.04	0.003		
5/17/2022	METALS	2205170812A	Molybdenum, Total	0.05	mg/L	0.025	0.003		
5/17/2022	METALS	2205170812A	Magnesium, Total	789	mg/L	10	0.3		
5/17/2022	METALS	2205170812A	Cobalt, Total	0.004	mg/L	0.05	0.0009		J
5/17/2022	METALS	2205170812A	Chromium, Total	0.041	mg/L	0.01	0.002		
5/17/2022	METALS	2205170812A	Calcium, Total	1180	mg/L	10	3		
5/17/2022	METALS	2205170812A	Boron, Total	0.15	mg/L	0.2	0.02		J
5/17/2022	METALS	2205170812A	Barium, Total	0.352	mg/L	0.02	0.003		
5/17/2022	METALS	2205170812A	Antimony, Total	0.0007	mg/L	0.001	0.0002		J
5/17/2022	METALS	2205170812A	Manganese, Total	0.225	mg/L	0.01	0.004		
5/17/2022	SM2540C	2205170814A	Total Dissolved Solids (TDS)	8010	mg/L	100	90		
5/17/2022	353.2	2205170816A	Nitrate+Nitrite as Nitrogen	5.03	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
7/26/2022	8260	2207261010A	Trichlorofluoromethane (CFC 11)	0.39	ug/L	1	0.24		J
7/26/2022	8260	2207261010A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.47	ug/L	1	0.2		J
7/26/2022	8260	2207261010A	1,1,2-Trichloro-1,2,2-Trifluoroethane	25	ug/L	1	0.2		
7/26/2022	8260	2207261010A	Chloroform	0.48	ug/L	1	0.24		J
7/26/2022	8260	2207261010A	Trichloroethene (TCE)	41	ug/L	1	0.2		
7/26/2022	8260	2207261011A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.53	ug/L	1	0.2		J
7/26/2022	8260	2207261011A	1,1,2-Trichloro-1,2,2-Trifluoroethane	25	ug/L	1	0.2		
7/26/2022	8260	2207261011A	Chloroform	0.48	ug/L	1	0.24		J
7/26/2022	8260	2207261011A	Trichloroethene (TCE)	39	ug/L	1	0.2		
7/26/2022	8260	2207261011A	Trichlorofluoromethane (CFC 11)	0.48	ug/L	1	0.24		J
7/26/2022	300.0	2207261013A	Chloride	188	mg/L	8	1.7		
7/26/2022	353.2	2207261014A	Nitrate+Nitrite as Nitrogen	11.8	mg/L	0.5	0.02		

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
7/11/2022	607	2207110922A	Bromacil	0.01	µg/L	0.0095	0.0048	105	
7/11/2022	METALS	2207110923A	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
7/11/2022	METALS	2207110923A	Vanadium, Total	0.011	mg/L	0.05	0.0007		J
7/11/2022	METALS	2207110923A	Strontium, Total	0.73	mg/L	0.1	0.002		
7/11/2022	METALS	2207110923A	Sodium, Total	139	mg/L	1	0.2		
7/11/2022	METALS	2207110923A	Potassium, Total	1.6	mg/L	2	0.4		J
7/11/2022	METALS	2207110923A	Magnesium, Total	4.4	mg/L	1	0.03		
7/11/2022	METALS	2207110923A	Iron, Total	0.19	mg/L	0.1	0.07		Q
7/11/2022	METALS	2207110923A	Chromium, Total	0.02	mg/L	0.01	0.002		
7/11/2022	METALS	2207110923A	Calcium, Total	13.2	mg/L	1	0.3		
7/11/2022	METALS	2207110923A	Boron, Total	0.18	mg/L	0.2	0.02		J Q
7/11/2022	METALS	2207110923A	Barium, Total	0.018	mg/L	0.02	0.003		J
7/11/2022	METALS	2207110923A	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
7/11/2022	METALS	2207110923A	Nickel, Total	0.009	mg/L	0.04	0.003		J

Analytical Results for Sampling Events at BLM-15-305

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/6/2022	8260	2207061336A	Trichlorofluoromethane (CFC 11)	88	ug/L	1	0.24		
7/6/2022	8260	2207061336A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.3	ug/L	1	0.2		
7/6/2022	8260	2207061336A	Trichloroethene (TCE)	1.4	ug/L	1	0.2		
7/6/2022	8260	2207061336A	Dichlorofluoromethane (CFC 21)	2.8	ug/L	1	0.2		
7/6/2022	8260	2207061336A	Chloroform	1.5	ug/L	1	0.24		
7/6/2022	8260	2207061336A	Bromoform	2.7	ug/L	1	0.25		
7/6/2022	8260	2207061336A	Bromodichloromethane	1.4	ug/L	1	0.2		
7/6/2022	8260	2207061336A	1,1,2-Trichloro-1,2,2-Trifluoroethane	41	ug/L	1	0.2		
7/6/2022	8260	2207061336A	Dibromochloromethane	2.5	ug/L	1	0.2		
7/6/2022	607	2207061338A	Bromacil	0.98	µg/L	0.0094	0.0047	107	
7/6/2022	607	2207061338A	N-Nitrosodimethylamine	9.06	µg/L	0.094	0.047	42	D
7/6/2022	607	2207061338A	N-Nitrodimethylamine	4.16	µg/L	0.0094	0.0047	71	

Analytical Results for Sampling Events at BLM-17-493

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/3/2022	8260	2205031400A	Dichlorofluoromethane (CFC 21)	0.54	ug/L	1	0.2		J
5/3/2022	8260	2205031400A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.85	ug/L	1	0.2		J
5/3/2022	8260	2205031400A	Trichlorofluoromethane (CFC 11)	55	ug/L	1	0.24		
5/3/2022	8260	2205031400A	Tetrachloroethene (PCE)	2.7	ug/L	1	0.21		
5/3/2022	8260	2205031400A	1,1,2-Trichloro-1,2,2-Trifluoroethane	96	ug/L	1	0.2		
5/3/2022	8260	2205031400A	Trichloroethene (TCE)	57	ug/L	1	0.2		
5/3/2022	607	2205031402A	N-Nitrosodimethylamine	0.47	µg/L	0.0094	0.0047	44	
5/3/2022	607	2205031402A	N-Nitrodimethylamine	0.38	µg/L	0.0094	0.0047	80	
5/3/2022	607	2205031402A	Bromacil	0.52	µg/L	0.0094	0.0047	102	

Analytical Results for Sampling Events at BLM-17-550

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/6/2022	8260	2207060922A	Dichlorofluoromethane (CFC 21)	0.5	ug/L	1	0.2		J
7/6/2022	8260	2207060922A	Trichlorofluoromethane (CFC 11)	80	ug/L	1	0.24		
7/6/2022	8260	2207060922A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.1	ug/L	1	0.2		
7/6/2022	8260	2207060922A	1,1,2-Trichloro-1,2,2-Trifluoroethane	190	ug/L	1	0.2		
7/6/2022	8260	2207060922A	Trichloroethene (TCE)	65	ug/L	1	0.2		
7/6/2022	8260	2207060922A	Tetrachloroethene (PCE)	3	ug/L	1	0.21		
7/6/2022	607	2207060924A	N-Nitrosodimethylamine	0.54	µg/L	0.0094	0.0047	42	
7/6/2022	607	2207060924A	N-Nitrodimethylamine	0.41	µg/L	0.0094	0.0047	71	
7/6/2022	607	2207060924A	Bromacil	0.38	µg/L	0.0094	0.0047	107	

Analytical Results for Sampling Events at BLM-18-430

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/7/2022	8260	2207070923A	1,1,2-Trichloro-1,2,2-Trifluoroethane	17	ug/L	1	0.2		
7/7/2022	8260	2207070923A	Tetrachloroethene (PCE)	0.48	ug/L	1	0.21		J
7/7/2022	8260	2207070923A	Trichloroethene (TCE)	14	ug/L	1	0.2		
7/7/2022	8260	2207070923A	Trichlorofluoromethane (CFC 11)	19	ug/L	1	0.24		
7/7/2022	8260	2207070924A	1,1,2-Trichloro-1,2,2-Trifluoroethane	18	ug/L	1	0.2		
7/7/2022	8260	2207070924A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.21	ug/L	1	0.2		J
7/7/2022	8260	2207070924A	Trichlorofluoromethane (CFC 11)	19	ug/L	1	0.24		
7/7/2022	8260	2207070924A	Tetrachloroethene (PCE)	0.45	ug/L	1	0.21		J
7/7/2022	8260	2207070924A	Trichloroethene (TCE)	14	ug/L	1	0.2		
7/7/2022	607	2207070926A	N-Nitrosodimethylamine	0.01	µg/L	0.0094	0.0047	42	
7/7/2022	607	2207070926A	Bromacil	0.04	µg/L	0.0094	0.0047	107	

Analytical Results for Sampling Events at BLM-22-570

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/16/2022	METALS	2205160953A	Potassium, Total	5.1	mg/L	2	0.4		
5/16/2022	METALS	2205160953A	Vanadium, Total	0.001	mg/L	0.05	0.0007		J
5/16/2022	METALS	2205160953A	Strontium, Total	3.32	mg/L	0.1	0.002		
5/16/2022	METALS	2205160953A	Sodium, Total	48.7	mg/L	1	0.2		
5/16/2022	METALS	2205160953A	Selenium, Total	0.007	mg/L	0.01	0.007		J
5/16/2022	METALS	2205160953A	Molybdenum, Total	0.013	mg/L	0.025	0.003		J RB
5/16/2022	METALS	2205160953A	Magnesium, Total	58.5	mg/L	1	0.03		
5/16/2022	METALS	2205160953A	Calcium, Total	122	mg/L	1	0.3		
5/16/2022	METALS	2205160953A	Boron, Total	0.1	mg/L	0.2	0.02		J
5/16/2022	METALS	2205160953A	Arsenic, Total	0.0013	mg/L	0.001	0.0004		
5/16/2022	METALS	2205160953A	Barium, Total	0.013	mg/L	0.02	0.003		J

Analytical Results for Sampling Events at BLM-24-565

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/4/2022	8260_LL	2205040940A	1,2-Dichloroethane	3	ug/L	0.5	0.2		
5/4/2022	METALS	2205040944A	Chromium, Total	0.005	mg/L	0.01	0.002		J
5/4/2022	METALS	2205040944A	Strontium, Total	0.13	mg/L	0.1	0.002		
5/4/2022	METALS	2205040944A	Vanadium, Total	0.027	mg/L	0.05	0.0007		J
5/4/2022	METALS	2205040944A	Sodium, Total	222	mg/L	10	2		
5/4/2022	METALS	2205040944A	Potassium, Total	0.9	mg/L	2	0.4		J
5/4/2022	METALS	2205040944A	Molybdenum, Total	0.033	mg/L	0.025	0.003		
5/4/2022	METALS	2205040944A	Boron, Total	0.37	mg/L	0.2	0.02		
5/4/2022	METALS	2205040944A	Barium, Total	0.016	mg/L	0.02	0.003		J
5/4/2022	METALS	2205040944A	Arsenic, Total	0.002	mg/L	0.001	0.0004		
5/4/2022	METALS	2205040944A	Aluminum, Total	0.06	mg/L	0.1	0.03		J
5/4/2022	METALS	2205040944A	Calcium, Total	12.9	mg/L	1	0.3		
5/4/2022	METALS	2205040944A	Antimony, Total	0.0016	mg/L	0.001	0.0002		
5/4/2022	METALS	2205040945A	Boron, Total	0.36	mg/L	0.2	0.02		
5/4/2022	METALS	2205040945A	Vanadium, Total	0.027	mg/L	0.05	0.0007		J
5/4/2022	METALS	2205040945A	Strontium, Total	0.13	mg/L	0.1	0.002		
5/4/2022	METALS	2205040945A	Sodium, Total	218	mg/L	10	2		
5/4/2022	METALS	2205040945A	Potassium, Total	0.9	mg/L	2	0.4		J
5/4/2022	METALS	2205040945A	Molybdenum, Total	0.032	mg/L	0.025	0.003		
5/4/2022	METALS	2205040945A	Calcium, Total	13	mg/L	1	0.3		
5/4/2022	METALS	2205040945A	Barium, Total	0.016	mg/L	0.02	0.003		J
5/4/2022	METALS	2205040945A	Arsenic, Total	0.0022	mg/L	0.001	0.0004		
5/4/2022	METALS	2205040945A	Antimony, Total	0.0015	mg/L	0.001	0.0002		
5/4/2022	METALS	2205040945A	Aluminum, Total	0.06	mg/L	0.1	0.03		J
5/4/2022	METALS	2205040945A	Chromium, Total	0.005	mg/L	0.01	0.002		J

Analytical Results for Sampling Events at BLM-2-630

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/9/2022	8260	2205090950A	Chloromethane	0.38	ug/L	2	0.28		J RB TB FB
5/9/2022	8260	2205090950A	Trichloroethene (TCE)	0.38	ug/L	1	0.2		J
5/9/2022	NDMA_LL	2205090952A	N-Nitrosodimethylamine	0.69	ng/L	0.48	0.4		
5/9/2022	NDMA_LL	2205090952A	N-Nitrodimethylamine	0.66	ng/L	0.48	0.2		
5/9/2022	NDMA_LL	2205090953A	N-Nitrosodimethylamine	0.7	ng/L	0.47	0.4		
5/9/2022	NDMA_LL	2205090953A	N-Nitrodimethylamine	0.57	ng/L	0.47	0.2		

Analytical Results for Sampling Events at BLM-26-404

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/4/2022	8260	2205041410A	1,1,2-Trichloro-1,2,2-Trifluoroethane	54	ug/L	1	0.2		
5/4/2022	8260	2205041410A	Dichlorofluoromethane (CFC 21)	0.39	ug/L	1	0.2		J
5/4/2022	8260	2205041410A	Tetrachloroethene (PCE)	0.49	ug/L	1	0.21		J
5/4/2022	8260	2205041410A	Trichloroethene (TCE)	21	ug/L	1	0.2		
5/4/2022	8260	2205041410A	Trichlorofluoromethane (CFC 11)	67	ug/L	1	0.24		
5/4/2022	8260	2205041410A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.43	ug/L	1	0.2		J
5/4/2022	8260	2205041410A	Unknown	5.8	ug/L	NA	NA		TIC RB FB
5/4/2022	607	2205041412A	N-Nitrodimethylamine	0.06	µg/L	0.0095	0.0048	80	
5/4/2022	607	2205041412A	Bromacil	0.01	µg/L	0.0095	0.0048	102	
5/4/2022	607	2205041412A	N-Nitrosodimethylamine	0.13	µg/L	0.0095	0.0048	44	
5/4/2022	607	2205041413A	Bromacil	0.01	µg/L	0.0095	0.0048	102	
5/4/2022	607	2205041413A	N-Nitrodimethylamine	0.06	µg/L	0.0095	0.0048	80	
5/4/2022	607	2205041413A	N-Nitrosodimethylamine	0.14	µg/L	0.0095	0.0048	44	
5/4/2022	METALS	2205041414A	Nickel, Total	0.16	mg/L	0.04	0.003		
5/4/2022	METALS	2205041414A	Zinc, Total	0.009	mg/L	0.02	0.003		J
5/4/2022	METALS	2205041414A	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
5/4/2022	METALS	2205041414A	Strontium, Total	2.56	mg/L	0.1	0.002		
5/4/2022	METALS	2205041414A	Sodium, Total	37.9	mg/L	1	0.2		
5/4/2022	METALS	2205041414A	Potassium, Total	5.3	mg/L	2	0.4		
5/4/2022	METALS	2205041414A	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
5/4/2022	METALS	2205041414A	Magnesium, Total	63	mg/L	1	0.03		
5/4/2022	METALS	2205041414A	Calcium, Total	108	mg/L	1	0.3		
5/4/2022	METALS	2205041414A	Boron, Total	0.08	mg/L	0.2	0.02		J
5/4/2022	METALS	2205041414A	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
5/4/2022	METALS	2205041414A	Barium, Total	0.036	mg/L	0.02	0.003		

Analytical Results for Sampling Events at BLM-27-270

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/10/2022	8260	2206100915A	Trichlorofluoromethane (CFC 11)	350	ug/L	5	1.2		
6/10/2022	8260	2206100915A	Trichloroethene (TCE)	0.97	ug/L	1	0.2		J
6/10/2022	8260	2206100915A	Dichlorofluoromethane (CFC 21)	4.8	ug/L	1	0.2		
6/10/2022	8260	2206100915A	1,1,2-Trichloro-1,2,2-Trifluoroethane	190	ug/L	1	0.2		
6/10/2022	8260	2206100915A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	6.2	ug/L	1	0.2		
6/10/2022	607	2206100917A	N-Nitrosodimethylamine	2.01	µg/L	0.0094	0.0047	58	
6/10/2022	607	2206100917A	N-Nitrodimethylamine	1	µg/L	0.0094	0.0047	103	
6/10/2022	607	2206100917A	Bromacil	0.11	µg/L	0.0094	0.0047	157	
6/10/2022	ANIONS	2206100918A	Alkalinity, Total as CaCO3	168	mg/L	2	1.8		
6/10/2022	ANIONS	2206100918A	Chloride	41.9	mg/L	2	0.5		
6/10/2022	ANIONS	2206100918A	Fluoride, undistilled	0.3	mg/L	0.1	0.01		
6/10/2022	ANIONS	2206100918A	Sulfate	190	mg/L	8	1.6		
6/10/2022	SM2540C	2206100919A	Total Dissolved Solids (TDS)	565	mg/L	10	9		
6/10/2022	353.2	2206100921A	Nitrate+Nitrite as Nitrogen	3.57	mg/L	0.25	0.008		
6/10/2022	6850	2206230930A	Perchlorate	0.357	ug/L	0.1	0.025		

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
5/2/2022	8260	2205021407B	Unknown	7.2	ug/L	NA	NA		TIC
5/2/2022	8260	2205021407B	Silane, methoxytrimethyl-	6.3	ug/L	NA	NA		TIC
5/2/2022	8260	2205021407B	Chloromethane	0.29	ug/L	2	0.28		J RB
5/2/2022	607	2205021409B	Bromacil	0.008	µg/L	0.0095	0.0048	102	J
5/2/2022	NDMA_LL	2205021426B	N-Nitrosodimethylamine	0.63	ng/L	0.48	0.4		
5/2/2022	8270	2205021440B	Benzenesulfonamide, N-butyl-	1400	ug/L	NA	NA		TIC
5/2/2022	ANIONS	2205021441B	Alkalinity, Total as CaCO3	182	mg/L	2	1.8		
5/2/2022	ANIONS	2205021441B	Chloride	46.8	mg/L	2	0.5		
5/2/2022	ANIONS	2205021441B	Fluoride, undistilled	0.84	mg/L	0.1	0.01		
5/2/2022	ANIONS	2205021441B	Sulfate	264	mg/L	8	1.6		
5/2/2022	SM2540C	2205021442B	Total Dissolved Solids (TDS)	696	mg/L	10	9		
5/2/2022	6850	2205021443B	Perchlorate	0.426	ug/L	0.1	0.025		
5/2/2022	353.2	2205021444B	Nitrate+Nitrite as Nitrogen	1.44	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
5/2/2022	8260	2205021347B	1,4-Dioxane	15	ug/L	100	13		J

Analytical Results for Sampling Events at BLM-36-350

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/4/2022	8260	2205041320Y	Trichlorofluoromethane (CFC 11)	30	ug/L	1	0.24		
5/4/2022	8260	2205041320Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	56	ug/L	1	0.2		
5/4/2022	8260	2205041320Y	cis-1,2-Dichloroethene	0.45	ug/L	1	0.23		J
5/4/2022	8260	2205041320Y	Trichloroethene (TCE)	51	ug/L	1	0.2		
5/4/2022	8260	2205041320Y	Tetrachloroethene (PCE)	2.4	ug/L	1	0.21		
5/4/2022	8260	2205041320Y	Dichlorofluoromethane (CFC 21)	7	ug/L	1	0.2		
5/4/2022	8260	2205041320Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	5.5	ug/L	1	0.2		
5/4/2022	607	2205041321Y	N-Nitrosodimethylamine	0.4	µg/L	0.0095	0.0048	44	
5/4/2022	607	2205041321Y	N-Nitrodimethylamine	0.33	µg/L	0.0095	0.0048	80	QD
5/4/2022	607	2205041321Y	Bromacil	0.73	µg/L	0.0095	0.0048	102	
5/4/2022	607	2205041345Y	N-Nitrodimethylamine	0.43	µg/L	0.0095	0.0048	80	QD
5/4/2022	607	2205041345Y	Bromacil	0.77	µg/L	0.0095	0.0048	102	
5/4/2022	607	2205041345Y	N-Nitrosodimethylamine	0.5	µg/L	0.0095	0.0048	44	
5/4/2022	METALS	2205041410Y	Calcium, Total	133	mg/L	1	0.3		
5/4/2022	METALS	2205041410Y	Nickel, Total	0.027	mg/L	0.04	0.003		J
5/4/2022	METALS	2205041410Y	Vanadium, Total	0.0007	mg/L	0.05	0.0007		J
5/4/2022	METALS	2205041410Y	Thallium, Total	0.00006	mg/L	0.001	0.00004		J
5/4/2022	METALS	2205041410Y	Strontium, Total	2.89	mg/L	0.1	0.002		
5/4/2022	METALS	2205041410Y	Sodium, Total	66.7	mg/L	1	0.2		
5/4/2022	METALS	2205041410Y	Potassium, Total	4.1	mg/L	2	0.4		
5/4/2022	METALS	2205041410Y	Zinc, Total	0.006	mg/L	0.02	0.003		J
5/4/2022	METALS	2205041410Y	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
5/4/2022	METALS	2205041410Y	Magnesium, Total	65.7	mg/L	1	0.03		
5/4/2022	METALS	2205041410Y	Boron, Total	0.11	mg/L	0.2	0.02		J
5/4/2022	METALS	2205041410Y	Barium, Total	0.036	mg/L	0.02	0.003		
5/4/2022	METALS	2205041410Y	Arsenic, Total	0.0011	mg/L	0.001	0.0004		
5/4/2022	METALS	2205041410Y	Antimony, Total	0.0003	mg/L	0.001	0.0002		J
5/4/2022	METALS	2205041410Y	Manganese, Total	0.041	mg/L	0.01	0.004		
5/4/2022	ANIONS	2205041411Y	Alkalinity, Total as CaCO3	252	mg/L	2	1.8		
5/4/2022	ANIONS	2205041411Y	Chloride	73	mg/L	2	0.5		
5/4/2022	ANIONS	2205041411Y	Fluoride, undistilled	0.98	mg/L	0.1	0.01		
5/4/2022	ANIONS	2205041411Y	Sulfate	355	mg/L	8	1.6		
5/4/2022	SM2540C	2205041440Y	Total Dissolved Solids (TDS)	947	mg/L	10	9		
5/4/2022	6850	2205041441Y	Perchlorate	0.368	ug/L	0.1	0.025		
5/4/2022	353.2	2205041442Y	Nitrate+Nitrite as Nitrogen	2.67	mg/L	0.25	0.008		

Analytical Results for Sampling Events at BLM-36-610

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/3/2022	8260	2205030910Y	Chloromethane	1.3	ug/L	2	0.28		J EB A
5/3/2022	METALS	2205030940Y	Zinc, Total	0.012	mg/L	0.02	0.003		J
5/3/2022	METALS	2205030940Y	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
5/3/2022	METALS	2205030940Y	Barium, Total	0.029	mg/L	0.02	0.003		
5/3/2022	METALS	2205030940Y	Boron, Total	0.06	mg/L	0.2	0.02		J
5/3/2022	METALS	2205030940Y	Calcium, Total	117	mg/L	1	0.3		
5/3/2022	METALS	2205030940Y	Magnesium, Total	61.2	mg/L	1	0.03		
5/3/2022	METALS	2205030940Y	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
5/3/2022	METALS	2205030940Y	Potassium, Total	5.4	mg/L	2	0.4		
5/3/2022	METALS	2205030940Y	Sodium, Total	35.4	mg/L	1	0.2		
5/3/2022	METALS	2205030940Y	Strontium, Total	3.09	mg/L	0.1	0.002		
5/3/2022	METALS	2205030940Y	Thallium, Total	0.00005	mg/L	0.001	0.00004		J
5/3/2022	METALS	2205030940Y	Vanadium, Total	0.003	mg/L	0.05	0.0007		J

Analytical Results for Sampling Events at BLM-36-800

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/4/2022	8260	2205040920Y	Unknown	5	ug/L	NA	NA		TIC RB
5/4/2022	METALS	2205040922Y	Manganese, Total	0.034	mg/L	0.01	0.004		
5/4/2022	METALS	2205040922Y	Vanadium, Total	0.0009	mg/L	0.05	0.0007		J
5/4/2022	METALS	2205040922Y	Thallium, Total	0.00004	mg/L	0.001	0.00004		J
5/4/2022	METALS	2205040922Y	Strontium, Total	2.52	mg/L	0.1	0.002		
5/4/2022	METALS	2205040922Y	Sodium, Total	53.2	mg/L	1	0.2		
5/4/2022	METALS	2205040922Y	Potassium, Total	7.6	mg/L	2	0.4		
5/4/2022	METALS	2205040922Y	Antimony, Total	0.0004	mg/L	0.001	0.0002		J
5/4/2022	METALS	2205040922Y	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
5/4/2022	METALS	2205040922Y	Magnesium, Total	52.7	mg/L	1	0.03		
5/4/2022	METALS	2205040922Y	Calcium, Total	112	mg/L	1	0.3		
5/4/2022	METALS	2205040922Y	Boron, Total	0.05	mg/L	0.2	0.02		J
5/4/2022	METALS	2205040922Y	Barium, Total	0.028	mg/L	0.02	0.003		
5/4/2022	METALS	2205040922Y	Arsenic, Total	0.0016	mg/L	0.001	0.0004		
5/4/2022	METALS	2205040922Y	Zinc, Total	0.015	mg/L	0.02	0.003		J
5/4/2022	METALS	2205040922Y	Nickel, Total	0.032	mg/L	0.04	0.003		J

Analytical Results for Sampling Events at BLM-36-860

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/3/2022	8260	2205031325Y	Chloromethane	1.5	ug/L	2	0.28		J EB A
5/3/2022	METALS	2205031410Y	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
5/3/2022	METALS	2205031410Y	Zinc, Total	0.028	mg/L	0.02	0.003		
5/3/2022	METALS	2205031410Y	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
5/3/2022	METALS	2205031410Y	Thallium, Total	0.00004	mg/L	0.001	0.00004		J
5/3/2022	METALS	2205031410Y	Strontium, Total	2.55	mg/L	0.1	0.002		
5/3/2022	METALS	2205031410Y	Sodium, Total	57.2	mg/L	1	0.2		
5/3/2022	METALS	2205031410Y	Nickel, Total	0.233	mg/L	0.04	0.003		
5/3/2022	METALS	2205031410Y	Manganese, Total	0.097	mg/L	0.01	0.004		
5/3/2022	METALS	2205031410Y	Boron, Total	0.04	mg/L	0.2	0.02		J
5/3/2022	METALS	2205031410Y	Antimony, Total	0.0004	mg/L	0.001	0.0002		J
5/3/2022	METALS	2205031410Y	Potassium, Total	7.5	mg/L	2	0.4		
5/3/2022	METALS	2205031410Y	Barium, Total	0.038	mg/L	0.02	0.003		
5/3/2022	METALS	2205031410Y	Magnesium, Total	51.6	mg/L	1	0.03		
5/3/2022	METALS	2205031410Y	Calcium, Total	109	mg/L	1	0.3		
5/3/2022	METALS	2205031410Y	Chromium, Total	0.014	mg/L	0.01	0.002		
5/3/2022	METALS	2205031410Y	Cobalt, Total	0.004	mg/L	0.05	0.0009		J
5/3/2022	METALS	2205031410Y	Iron, Total	1.12	mg/L	0.1	0.07		
5/3/2022	METALS	2205031410Y	Arsenic, Total	0.0026	mg/L	0.001	0.0004		

Analytical Results for Sampling Events at BLM-38-480

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/9/2022	8260_LL	2205090945Y	Chloromethane	0.29	ug/L	0.5	0.28		J RB EB
5/9/2022	METALS	2205091110Y	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
5/9/2022	METALS	2205091110Y	Potassium, Total	5.6	mg/L	2	0.4		
5/9/2022	METALS	2205091110Y	Vanadium, Total	0.005	mg/L	0.05	0.0007		J
5/9/2022	METALS	2205091110Y	Sodium, Total	45.6	mg/L	1	0.2		
5/9/2022	METALS	2205091110Y	Nickel, Total	0.098	mg/L	0.04	0.003		
5/9/2022	METALS	2205091110Y	Calcium, Total	107	mg/L	1	0.3		
5/9/2022	METALS	2205091110Y	Strontium, Total	2.52	mg/L	0.1	0.002		
5/9/2022	METALS	2205091110Y	Boron, Total	0.13	mg/L	0.2	0.02		J
5/9/2022	METALS	2205091110Y	Barium, Total	0.033	mg/L	0.02	0.003		
5/9/2022	METALS	2205091110Y	Arsenic, Total	0.0026	mg/L	0.001	0.0004		
5/9/2022	METALS	2205091110Y	Magnesium, Total	45.4	mg/L	1	0.03		

Analytical Results for Sampling Events at BLM-38-620

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/5/2022	NDMA_LL	2205051350Y	N-Nitrosodimethylamine	1.2	ng/L	0.48	0.4		
5/5/2022	METALS	2205051351Y	Sodium, Total	45.8	mg/L	1	0.2		
5/5/2022	METALS	2205051351Y	Strontium, Total	2.64	mg/L	0.1	0.002		
5/5/2022	METALS	2205051351Y	Potassium, Total	4.9	mg/L	2	0.4		
5/5/2022	METALS	2205051351Y	Nickel, Total	0.02	mg/L	0.04	0.003		J
5/5/2022	METALS	2205051351Y	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
5/5/2022	METALS	2205051351Y	Magnesium, Total	57.3	mg/L	1	0.03		
5/5/2022	METALS	2205051351Y	Calcium, Total	114	mg/L	1	0.3		
5/5/2022	METALS	2205051351Y	Boron, Total	0.07	mg/L	0.2	0.02		J
5/5/2022	METALS	2205051351Y	Barium, Total	0.109	mg/L	0.02	0.003		
5/5/2022	METALS	2205051351Y	Zinc, Total	0.016	mg/L	0.02	0.003		J
5/5/2022	METALS	2205051351Y	Manganese, Total	0.884	mg/L	0.01	0.004		

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
6/13/2022	NDMA_LL	2206131017C	N-Nitrosodimethylamine	1.02	ng/L	0.48	0.4		

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
7/13/2022	8260	2207131001C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.3	ug/L	1	0.2		J
7/13/2022	8260	2207131001C	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.6	ug/L	1	0.2		
7/13/2022	8260	2207131001C	Trichloroethene (TCE)	2.2	ug/L	1	0.2		

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
6/6/2022	8260_LL	2206061408A	2-Propanol	3.8	ug/L	40	3.4		J
6/6/2022	8260_LL	2206061408A	Silane, methoxytrimethyl-	7.9	ug/L	NA	NA		TIC

Analytical Results for Sampling Events at BLM-8-418

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/3/2022	8260_LL	2205030855C	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.47	ug/L	0.5	0.2		J
5/3/2022	8260_LL	2205030855C	Trichlorofluoromethane (CFC 11)	0.27	ug/L	0.5	0.24		J
5/3/2022	8260_LL	2205030855C	Sulfur Dioxide	5.4	ug/L	NA	NA		TIC
5/3/2022	NDMA_LL	2205030858C	N-Nitrodimethylamine	0.48	ng/L	0.49	0.2		J
5/3/2022	METALS	2205030901C	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
5/3/2022	METALS	2205030901C	Strontium, Total	2.59	mg/L	0.1	0.002		
5/3/2022	METALS	2205030901C	Vanadium, Total	0.001	mg/L	0.05	0.0007		J
5/3/2022	METALS	2205030901C	Potassium, Total	4	mg/L	2	0.4		
5/3/2022	METALS	2205030901C	Calcium, Total	114	mg/L	1	0.3		
5/3/2022	METALS	2205030901C	Boron, Total	0.06	mg/L	0.2	0.02		J
5/3/2022	METALS	2205030901C	Barium, Total	0.045	mg/L	0.02	0.003		
5/3/2022	METALS	2205030901C	Arsenic, Total	0.001	mg/L	0.001	0.0004		J
5/3/2022	METALS	2205030901C	Sodium, Total	38.1	mg/L	1	0.2		
5/3/2022	METALS	2205030901C	Magnesium, Total	61	mg/L	1	0.03		

Analytical Results for Sampling Events at BW-5-295

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/3/2022	8260	2205031405C	Trichlorofluoromethane (CFC 11)	85	ug/L	1	0.24		
5/3/2022	8260	2205031405C	Silane, fluorotrimethyl-	6.5	ug/L	NA	NA		TIC
5/3/2022	8260	2205031405C	Trichloroethene (TCE)	0.35	ug/L	1	0.2		J
5/3/2022	8260	2205031405C	1,1,2-Trichloro-1,2,2-Trifluoroethane	5.9	ug/L	1	0.2		
5/3/2022	607	2205031407C	N-Nitrodimethylamine	1.64	µg/L	0.0096	0.0048	80	
5/3/2022	607	2205031407C	Bromacil	0.05	µg/L	0.0096	0.0048	102	
5/3/2022	607	2205031407C	N-Nitrosodimethylamine	0.42	µg/L	0.0096	0.0048	44	
5/3/2022	METALS	2205031408C	Barium, Total	0.013	mg/L	0.02	0.003		J
5/3/2022	METALS	2205031408C	Potassium, Total	1.2	mg/L	2	0.4		J
5/3/2022	METALS	2205031408C	Zinc, Total	0.013	mg/L	0.02	0.003		J
5/3/2022	METALS	2205031408C	Vanadium, Total	0.007	mg/L	0.05	0.0007		J
5/3/2022	METALS	2205031408C	Strontium, Total	1.18	mg/L	0.1	0.002		
5/3/2022	METALS	2205031408C	Sodium, Total	121	mg/L	1	0.2		
5/3/2022	METALS	2205031408C	Molybdenum, Total	0.032	mg/L	0.025	0.003		
5/3/2022	METALS	2205031408C	Magnesium, Total	21.2	mg/L	1	0.03		
5/3/2022	METALS	2205031408C	Chromium, Total	0.009	mg/L	0.01	0.002		J
5/3/2022	METALS	2205031408C	Boron, Total	0.54	mg/L	0.2	0.02		
5/3/2022	METALS	2205031408C	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
5/3/2022	METALS	2205031408C	Calcium, Total	33.5	mg/L	1	0.3		

Analytical Results for Sampling Events at BW-7-211

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/15/2022	8260	2206151005C	Dichlorofluoromethane (CFC 21)	0.25	ug/L	1	0.2		J
6/15/2022	8260	2206151005C	Trichloroethene (TCE)	0.86	ug/L	1	0.2		J
6/15/2022	8260	2206151005C	Trichlorofluoromethane (CFC 11)	110	ug/L	1	0.24		
6/15/2022	8260	2206151005C	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.7	ug/L	1	0.2		
6/15/2022	8260	2206151006C	Dichlorofluoromethane (CFC 21)	0.34	ug/L	1	0.2		J
6/15/2022	8260	2206151006C	Trichloroethene (TCE)	1.1	ug/L	1	0.2		
6/15/2022	8260	2206151006C	Trichlorofluoromethane (CFC 11)	120	ug/L	1	0.24		
6/15/2022	8260	2206151006C	1,1,2-Trichloro-1,2,2-Trifluoroethane	8.8	ug/L	1	0.2		
6/15/2022	607	2206151008C	N-Nitrosodimethylamine	0.71	µg/L	0.0094	0.0047	42	
6/15/2022	607	2206151008C	N-Nitrodimethylamine	2.59	µg/L	0.0094	0.0047	73	
6/15/2022	607	2206151008C	Bromacil	2.06	µg/L	0.0094	0.0047	102	
6/15/2022	METALS	2206151009C	Sodium, Total	85.1	mg/L	1	0.2		
6/15/2022	METALS	2206151009C	Zinc, Total	0.014	mg/L	0.02	0.003		J RB
6/15/2022	METALS	2206151009C	Strontium, Total	2.41	mg/L	0.1	0.002		
6/15/2022	METALS	2206151009C	Potassium, Total	3.1	mg/L	2	0.4		
6/15/2022	METALS	2206151009C	Nickel, Total	0.007	mg/L	0.04	0.003		J
6/15/2022	METALS	2206151009C	Molybdenum, Total	0.018	mg/L	0.025	0.003		J RB
6/15/2022	METALS	2206151009C	Chromium, Total	0.005	mg/L	0.01	0.002		J
6/15/2022	METALS	2206151009C	Calcium, Total	75.2	mg/L	1	0.3		
6/15/2022	METALS	2206151009C	Boron, Total	0.26	mg/L	0.2	0.02		
6/15/2022	METALS	2206151009C	Barium, Total	0.038	mg/L	0.02	0.003		
6/15/2022	METALS	2206151009C	Arsenic, Total	0.001	mg/L	0.001	0.0004		J
6/15/2022	METALS	2206151009C	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
6/15/2022	METALS	2206151009C	Magnesium, Total	56.4	mg/L	1	0.03		

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
7/6/2022	8260_LL	2207061357B	Toluene	0.7	ug/L	0.5	0.2		
7/6/2022	8270	2207061401B	1,4-Dioxane	4.5	ug/L	0.04	0.027		

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
7/6/2022	8260_LL	2207061412B	Benzene	0.24	ug/L	0.5	0.2		J
7/6/2022	8260_LL	2207061412B	Toluene	0.32	ug/L	0.5	0.2		J
7/6/2022	8260_LL	2207061412B	Sulfur Dioxide	5.8	ug/L	NA	NA		TIC
7/6/2022	NDMA_LL	2207061415B	N-Nitrosodimethylamine	0.71	ng/L	0.49	0.41		
7/6/2022	NDMA_LL	2207061415B	N-Nitrodimethylamine	0.62	ng/L	0.49	0.2		
7/6/2022	NDMA_LL	2207061440B	N-Nitrosodimethylamine	1.18	ng/L	0.5	0.42		
7/6/2022	NDMA_LL	2207061440B	N-Nitrodimethylamine	1.28	ng/L	0.5	0.21		
7/6/2022	8270	2207061442B	1,4-Dioxane	0.87	ug/L	0.04	0.027		
7/6/2022	8270	2207061443B	1,4-Dioxane	0.88	ug/L	0.04	0.027		

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
7/7/2022	8260_LL	2207071405B	Toluene	0.34	ug/L	0.5	0.2		J
7/7/2022	8260_LL	2207071405B	1,4-Dioxane, 2,5-dimethyl-	8.7	ug/L	NA	NA		TIC
7/7/2022	8260_LL	2207071405B	1,4-Dioxane	38	ug/L	40	13		J
7/7/2022	NDMA_LL	2207071407B	N-Nitrosodimethylamine	1.04	ng/L	0.47	0.4		FB
7/7/2022	8270	2207071409B	1,4-Dioxane	1.8	ug/L	0.04	0.027		

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
7/11/2022	8260_LL	2207111400B	Toluene	2.5	ug/L	0.5	0.2		
7/11/2022	8270	2207111404B	1,4-Dioxane	0.67	ug/L	0.04	0.027		

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
7/11/2022	8260_LL	2207111416B	Toluene	2	ug/L	0.5	0.2		
7/11/2022	NDMA_LL	2207111418B	N-Nitrosodimethylamine	0.49	ng/L	0.47	0.4		
7/11/2022	8270	2207111420B	1,4-Dioxane	0.82	ug/L	0.04	0.027		

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
7/12/2022	8260_LL	2207121401B	Toluene	0.67	ug/L	0.5	0.2		
7/12/2022	8270	2207121405B	1,4-Dioxane	0.59	ug/L	0.04	0.027		

Analytical Results for Sampling Events at NASA 4

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/18/2022	607	2205181259A	Bromacil	10.9	µg/L	0.19	0.095	121	D
5/18/2022	METALS	2205181300A	Molybdenum, Total	0.022	mg/L	0.025	0.003		J RB
5/18/2022	METALS	2205181300A	Vanadium, Total	0.004	mg/L	0.05	0.0007		J
5/18/2022	METALS	2205181300A	Strontium, Total	3.42	mg/L	0.1	0.002		
5/18/2022	METALS	2205181300A	Sodium, Total	47.7	mg/L	1	0.2		
5/18/2022	METALS	2205181300A	Selenium, Total	0.008	mg/L	0.01	0.007		J
5/18/2022	METALS	2205181300A	Boron, Total	0.1	mg/L	0.2	0.02		J
5/18/2022	METALS	2205181300A	Potassium, Total	4.4	mg/L	2	0.4		
5/18/2022	METALS	2205181300A	Nickel, Total	0.168	mg/L	0.04	0.003		
5/18/2022	METALS	2205181300A	Manganese, Total	0.02	mg/L	0.01	0.004		
5/18/2022	METALS	2205181300A	Magnesium, Total	61.2	mg/L	1	0.03		
5/18/2022	METALS	2205181300A	Iron, Total	1.15	mg/L	0.1	0.07		
5/18/2022	METALS	2205181300A	Cobalt, Total	0.002	mg/L	0.05	0.0009		J
5/18/2022	METALS	2205181300A	Calcium, Total	114	mg/L	1	0.3		
5/18/2022	METALS	2205181300A	Barium, Total	0.039	mg/L	0.02	0.003		
5/18/2022	METALS	2205181300A	Arsenic, Total	0.0012	mg/L	0.001	0.0004		
5/18/2022	METALS	2205181300A	Chromium, Total	0.264	mg/L	0.01	0.002		
5/18/2022	6850	2205181302A	Perchlorate	1.41	ug/L	0.1	0.025		
5/18/2022	SM2540C	2205181303A	Total Dissolved Solids (TDS)	838	mg/L	10	9		FB
5/18/2022	353.2	2205181307A	Nitrate+Nitrite as Nitrogen	4.89	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
7/6/2022	NDMA_LL	2207061426Y	N-Nitrosodimethylamine	0.43	ng/L	0.47	0.4		J
7/6/2022	8270	2207061455Y	1,4-Dioxane	0.035	ug/L	0.04	0.027		J

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
7/6/2022	8270	2207060947Y	1,4-Dioxane	0.029	ug/L	0.04	0.027		J

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
6/7/2022	8260_LL	2206071401B	Dichlorofluoromethane (CFC 21)	0.27	ug/L	0.5	0.2		J
6/7/2022	8260_LL	2206071401B	Toluene	0.99	ug/L	0.5	0.2		
6/7/2022	8260_LL	2206071401B	Trichlorofluoromethane (CFC 11)	0.31	ug/L	0.5	0.24		J
6/7/2022	8260_LL	2206071401B	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.2	ug/L	0.5	0.2		J
6/7/2022	NDMA_LL	2206071403B	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		
6/7/2022	NDMA_LL	2206071403B	N-Nitrodimethylamine	0.33	ng/L	0.48	0.2		J
6/7/2022	8270	2206071405B	1,4-Dioxane	2.3	ug/L	0.04	0.027		

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
6/8/2022	NDMA_LL	2206081318B	N-Nitrodimethylamine	0.33	ng/L	0.47	0.2		J FB
6/8/2022	NDMA_LL	2206081318B	N-Nitrosodimethylamine	0.69	ng/L	0.47	0.4		
6/8/2022	8270	2206081320B	1,4-Dioxane	0.82	ug/L	0.04	0.027		

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
6/8/2022	8260_LL	2206081336B	Toluene	0.28	ug/L	0.5	0.2		J
6/8/2022	NDMA_LL	2206081338B	N-Nitrosodimethylamine	0.94	ng/L	0.47	0.4		
6/8/2022	NDMA_LL	2206081338B	N-Nitrodimethylamine	0.28	ng/L	0.47	0.2		J
6/8/2022	8270	2206081340B	1,4-Dioxane	1.5	ug/L	0.04	0.027		
6/8/2022	8270	2206081341B	1,4-Dioxane	1.2	ug/L	0.04	0.027		

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
6/9/2022	8260_LL	2206091331B	Toluene	0.23	ug/L	0.5	0.2		J
6/9/2022	NDMA_LL	2206091333B	N-Nitrodimethylamine	0.3	ng/L	0.48	0.2		J

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
6/9/2022	8260_LL	2206091351B	Toluene	0.29	ug/L	0.5	0.2		J

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
5/19/2022	8260	2205190947A	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.2	ug/L	1	0.2		
5/19/2022	8260	2205190947A	Trichloroethene (TCE)	3.5	ug/L	1	0.2		
5/19/2022	8260	2205190947A	Trichlorofluoromethane (CFC 11)	4	ug/L	1	0.24		
5/19/2022	8260	2205190948A	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.2	ug/L	1	0.2		
5/19/2022	8260	2205190948A	Trichloroethene (TCE)	3.8	ug/L	1	0.2		
5/19/2022	8260	2205190948A	Trichlorofluoromethane (CFC 11)	3.9	ug/L	1	0.24		
5/19/2022	NDMA_LL	2205190950A	N-Nitrosodimethylamine	0.62	ng/L	0.47	0.4		TB

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
5/5/2022	8260	2205051040A	1,1,2-Trichloro-1,2,2-Trifluoroethane	3.9	ug/L	1	0.2		
5/5/2022	8260	2205051040A	Dichlorofluoromethane (CFC 21)	0.24	ug/L	1	0.2		J
5/5/2022	8260	2205051040A	Trichloroethene (TCE)	6.1	ug/L	1	0.2		
5/5/2022	8260	2205051040A	Trichlorofluoromethane (CFC 11)	5	ug/L	1	0.24		
5/5/2022	NDMA_LL	2205051042A	N-Nitrosodimethylamine	1.75	ng/L	0.47	0.4		
5/5/2022	NDMA_LL	2205051043A	N-Nitrosodimethylamine	1.62	ng/L	0.47	0.4		

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
7/12/2022	8260_LL	2207120920A	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.51	ug/L	0.5	0.2		
7/12/2022	8260_LL	2207120920A	Trichloroethene (TCE)	0.25	ug/L	0.5	0.2		J
7/12/2022	8260_LL	2207120921A	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.55	ug/L	0.5	0.2		
7/12/2022	8260_LL	2207120921A	Trichloroethene (TCE)	0.22	ug/L	0.5	0.2		J
7/12/2022	8260_LL	2207120921A	Trichlorofluoromethane (CFC 11)	0.26	ug/L	0.5	0.24		J

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
6/14/2022	8260	2206140910C	1,1,2-Trichloro-1,2,2-Trifluoroethane	24	ug/L	1	0.2		
6/14/2022	8260	2206140910C	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.35	ug/L	1	0.2		J
6/14/2022	8260	2206140910C	Trichlorofluoromethane (CFC 11)	31	ug/L	1	0.24		
6/14/2022	8260	2206140910C	Trichloroethene (TCE)	49	ug/L	1	0.2		
6/14/2022	8260	2206140910C	Dichlorofluoromethane (CFC 21)	0.7	ug/L	1	0.2		J
6/14/2022	8260	2206140910C	Tetrachloroethene (PCE)	0.85	ug/L	1	0.21		J
6/14/2022	607	2206140912C	N-Nitrosodimethylamine	0.03	µg/L	0.0095	0.0048	42	
6/14/2022	607	2206140912C	N-Nitrodimethylamine	0.03	µg/L	0.0095	0.0048	73	
6/14/2022	607	2206140912C	Bromacil	0.02	µg/L	0.0095	0.0048	102	
6/14/2022	METALS	2206140913C	Magnesium, Total	62.1	mg/L	1	0.03		
6/14/2022	METALS	2206140913C	Strontium, Total	2.81	mg/L	0.1	0.002		
6/14/2022	METALS	2206140913C	Sodium, Total	42	mg/L	1	0.2		
6/14/2022	METALS	2206140913C	Potassium, Total	3.5	mg/L	2	0.4		
6/14/2022	METALS	2206140913C	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
6/14/2022	METALS	2206140913C	Molybdenum, Total	0.009	mg/L	0.025	0.003		J RB
6/14/2022	METALS	2206140913C	Calcium, Total	93.4	mg/L	1	0.3		
6/14/2022	METALS	2206140913C	Boron, Total	0.07	mg/L	0.2	0.02		J
6/14/2022	METALS	2206140913C	Barium, Total	0.031	mg/L	0.02	0.003		
6/14/2022	METALS	2206140913C	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
6/14/2022	METALS	2206140913C	Antimony, Total	0.0008	mg/L	0.001	0.0002		J
6/14/2022	METALS	2206140913C	Nickel, Total	0.014	mg/L	0.04	0.003		J
6/14/2022	METALS	2206140913C	Chromium, Total	0.011	mg/L	0.01	0.002		
6/14/2022	METALS	2206140914C	Molybdenum, Total	0.01	mg/L	0.025	0.003		J RB
6/14/2022	METALS	2206140914C	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
6/14/2022	METALS	2206140914C	Strontium, Total	2.78	mg/L	0.1	0.002		
6/14/2022	METALS	2206140914C	Sodium, Total	41.5	mg/L	1	0.2		
6/14/2022	METALS	2206140914C	Nickel, Total	0.014	mg/L	0.04	0.003		J
6/14/2022	METALS	2206140914C	Magnesium, Total	61.3	mg/L	1	0.03		
6/14/2022	METALS	2206140914C	Calcium, Total	92.4	mg/L	1	0.3		
6/14/2022	METALS	2206140914C	Boron, Total	0.07	mg/L	0.2	0.02		J
6/14/2022	METALS	2206140914C	Barium, Total	0.03	mg/L	0.02	0.003		
6/14/2022	METALS	2206140914C	Arsenic, Total	0.001	mg/L	0.001	0.0004		J
6/14/2022	METALS	2206140914C	Antimony, Total	0.0008	mg/L	0.001	0.0002		J
6/14/2022	METALS	2206140914C	Potassium, Total	3.5	mg/L	2	0.4		
6/14/2022	METALS	2206140914C	Chromium, Total	0.01	mg/L	0.01	0.002		J

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
7/7/2022	NDMA_LL	2207071041Y	N-Nitrosodimethylamine	0.52	ng/L	0.49	0.41		

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
5/10/2022	8260_LL	2205101505Y	Chloromethane	0.33	ug/L	0.5	0.28		J RB
5/10/2022	NDMA_LL	2205111400Y	N-Nitrosodimethylamine	0.85	ng/L	0.48	0.4		
5/10/2022	METALS	2205121055Y	Nickel, Total	0.003	mg/L	0.04	0.003		J
5/10/2022	METALS	2205121055Y	Zinc, Total	0.06	mg/L	0.02	0.003		
5/10/2022	METALS	2205121055Y	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
5/10/2022	METALS	2205121055Y	Strontium, Total	2.32	mg/L	0.1	0.002		
5/10/2022	METALS	2205121055Y	Sodium, Total	45.7	mg/L	1	0.2		
5/10/2022	METALS	2205121055Y	Boron, Total	0.06	mg/L	0.2	0.02		J
5/10/2022	METALS	2205121055Y	Potassium, Total	3.6	mg/L	2	0.4		
5/10/2022	METALS	2205121055Y	Molybdenum, Total	0.005	mg/L	0.025	0.003		J
5/10/2022	METALS	2205121055Y	Manganese, Total	0.005	mg/L	0.01	0.004		J
5/10/2022	METALS	2205121055Y	Calcium, Total	102	mg/L	1	0.3		
5/10/2022	METALS	2205121055Y	Magnesium, Total	68.1	mg/L	1	0.03		
5/10/2022	METALS	2205121055Y	Barium, Total	0.025	mg/L	0.02	0.003		
5/10/2022	METALS	2205121055Y	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
5/10/2022	ANIONS	2205121300Y	Alkalinity, Total as CaCO3	208	mg/L	2	1.8		
5/10/2022	ANIONS	2205121300Y	Chloride	43.7	mg/L	2	0.5		
5/10/2022	ANIONS	2205121300Y	Fluoride, undistilled	0.98	mg/L	0.1	0.01		
5/10/2022	ANIONS	2205121300Y	Sulfate	314	mg/L	8	1.6		
5/10/2022	SM2540C	2205121350Y	Total Dissolved Solids (TDS)	829	mg/L	10	9		
5/10/2022	6850	2205130835Y	Perchlorate	0.209	ug/L	0.1	0.025		
5/10/2022	353.2	2205130836Y	Nitrate+Nitrite as Nitrogen	0.861	mg/L	0.05	0.002		

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
5/10/2022	8260_LL	2205100910Y	Chloromethane	0.28	ug/L	0.5	0.28		J RB
5/10/2022	NDMA_LL	2205100940Y	N-Nitrodimethylamine	0.33	ng/L	0.48	0.2		J
5/10/2022	METALS	2205101010Y	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
5/10/2022	METALS	2205101010Y	Strontium, Total	2.56	mg/L	0.1	0.002		
5/10/2022	METALS	2205101010Y	Sodium, Total	37.3	mg/L	1	0.2		
5/10/2022	METALS	2205101010Y	Potassium, Total	3.5	mg/L	2	0.4		
5/10/2022	METALS	2205101010Y	Molybdenum, Total	0.009	mg/L	0.025	0.003		J
5/10/2022	METALS	2205101010Y	Magnesium, Total	64.3	mg/L	1	0.03		
5/10/2022	METALS	2205101010Y	Calcium, Total	93.7	mg/L	1	0.3		
5/10/2022	METALS	2205101010Y	Boron, Total	0.06	mg/L	0.2	0.02		J
5/10/2022	METALS	2205101010Y	Barium, Total	0.021	mg/L	0.02	0.003		
5/10/2022	METALS	2205101010Y	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
5/10/2022	METALS	2205101010Y	Zinc, Total	0.006	mg/L	0.02	0.003		J
5/10/2022	ANIONS	2205101011Y	Alkalinity, Total as CaCO3	180	mg/L	2	1.8		
5/10/2022	ANIONS	2205101011Y	Sulfate	307	mg/L	8	1.6		
5/10/2022	ANIONS	2205101011Y	Fluoride, undistilled	0.96	mg/L	0.1	0.01		
5/10/2022	ANIONS	2205101011Y	Chloride	44.6	mg/L	2	0.5		
5/10/2022	SM2540C	2205101012Y	Total Dissolved Solids (TDS)	787	mg/L	10	9		
5/10/2022	6850	2205101013Y	Perchlorate	0.275	ug/L	0.1	0.025		
5/10/2022	353.2	2205101040Y	Nitrate+Nitrite as Nitrogen	1.02	mg/L	0.05	0.002		

Analytical Results for Sampling Events at ST-1-473

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/12/2022	8260	2205121440A	Trichlorofluoromethane (CFC 11)	51	ug/L	1	0.24		
5/12/2022	8260	2205121440A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.3	ug/L	1	0.2		J
5/12/2022	8260	2205121440A	Trichloroethene (TCE)	100	ug/L	1	0.2		
5/12/2022	8260	2205121440A	Tetrachloroethene (PCE)	1.1	ug/L	1	0.21		
5/12/2022	8260	2205121440A	Dichlorofluoromethane (CFC 21)	0.39	ug/L	1	0.2		J
5/12/2022	8260	2205121440A	1,1,2-Trichloro-1,2,2-Trifluoroethane	48	ug/L	1	0.2		
5/12/2022	8260	2205121440A	Unknown	5.1	ug/L	NA	NA		TIC RB
5/12/2022	607	2205121442A	N-Nitrodimethylamine	0.1	µg/L	0.0097	0.0049	88	
5/12/2022	607	2205121442A	Bromacil	0.01	µg/L	0.0097	0.0049	128	
5/12/2022	607	2205121442A	N-Nitrosodimethylamine	0.24	µg/L	0.0097	0.0049	53	
5/12/2022	METALS	2205121443A	Zinc, Total	0.003	mg/L	0.02	0.003		J
5/12/2022	METALS	2205121443A	Nickel, Total	0.005	mg/L	0.04	0.003		J
5/12/2022	METALS	2205121443A	Sodium, Total	39.2	mg/L	1	0.2		
5/12/2022	METALS	2205121443A	Vanadium, Total	0.0008	mg/L	0.05	0.0007		J
5/12/2022	METALS	2205121443A	Molybdenum, Total	0.01	mg/L	0.025	0.003		J
5/12/2022	METALS	2205121443A	Arsenic, Total	0.0004	mg/L	0.001	0.0004		J
5/12/2022	METALS	2205121443A	Barium, Total	0.02	mg/L	0.02	0.003		
5/12/2022	METALS	2205121443A	Boron, Total	0.06	mg/L	0.2	0.02		J
5/12/2022	METALS	2205121443A	Calcium, Total	122	mg/L	1	0.3		
5/12/2022	METALS	2205121443A	Chromium, Total	0.011	mg/L	0.01	0.002		
5/12/2022	METALS	2205121443A	Magnesium, Total	66.8	mg/L	1	0.03		
5/12/2022	METALS	2205121443A	Strontium, Total	2.58	mg/L	0.1	0.002		
5/12/2022	METALS	2205121443A	Potassium, Total	3	mg/L	2	0.4		

Analytical Results for Sampling Events at ST-1-541

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/16/2022	8260	2205161426A	1,1,2-Trichloro-1,2,2-Trifluoroethane	340	ug/L	2.5	0.5		
5/16/2022	8260	2205161426A	Dichlorofluoromethane (CFC 21)	1.3	ug/L	1	0.2		
5/16/2022	8260	2205161426A	Tetrachloroethene (PCE)	7	ug/L	1	0.21		
5/16/2022	8260	2205161426A	Trichloroethene (TCE)	150	ug/L	1	0.2		
5/16/2022	8260	2205161426A	Trichlorofluoromethane (CFC 11)	180	ug/L	1	0.24		
5/16/2022	8260	2205161426A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.6	ug/L	1	0.2		
5/16/2022	8260	2205161426A	Unknown	16	ug/L	NA	NA		TIC FB
5/16/2022	607	2205161429A	Bromacil	0.24	µg/L	0.0096	0.0048	121	
5/16/2022	607	2205161429A	N-Nitrosodimethylamine	1.28	µg/L	0.0096	0.0048	47	
5/16/2022	607	2205161429A	N-Nitrodimethylamine	0.98	µg/L	0.0096	0.0048	89	

Analytical Results for Sampling Events at ST-1-630

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/12/2022	8260	2205121015A	Dichlorofluoromethane (CFC 21)	0.55	ug/L	1	0.2		J
5/12/2022	8260	2205121015A	Tetrachloroethene (PCE)	6.7	ug/L	1	0.21		Q
5/12/2022	8260	2205121015A	Trichloroethene (TCE)	200	ug/L	2.5	0.5		Q
5/12/2022	8260	2205121015A	Trichlorofluoromethane (CFC 11)	180	ug/L	1	0.24		Q
5/12/2022	8260	2205121015A	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.76	ug/L	1	0.2		J
5/12/2022	8260	2205121015A	Unknown	5.1	ug/L	NA	NA		TIC
5/12/2022	8260	2205121015A	Unknown	13	ug/L	NA	NA		TIC RB
5/12/2022	8260	2205121015A	1,1,2-Trichloro-1,2,2-Trifluoroethane	180	ug/L	1	0.2		Q
5/12/2022	607	2205121017A	N-Nitrosodimethylamine	0.16	µg/L	0.0095	0.0048	53	
5/12/2022	607	2205121017A	N-Nitrodimethylamine	0.09	µg/L	0.0095	0.0048	88	
5/12/2022	607	2205121017A	Bromacil	0.01	µg/L	0.0095	0.0048	128	
5/12/2022	METALS	2205121018A	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
5/12/2022	METALS	2205121018A	Zinc, Total	0.003	mg/L	0.02	0.003		J
5/12/2022	METALS	2205121018A	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
5/12/2022	METALS	2205121018A	Strontium, Total	2.48	mg/L	0.1	0.002		
5/12/2022	METALS	2205121018A	Sodium, Total	43.6	mg/L	1	0.2		
5/12/2022	METALS	2205121018A	Potassium, Total	3.5	mg/L	2	0.4		
5/12/2022	METALS	2205121018A	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
5/12/2022	METALS	2205121018A	Magnesium, Total	67.1	mg/L	1	0.03		
5/12/2022	METALS	2205121018A	Calcium, Total	99.5	mg/L	1	0.3		
5/12/2022	METALS	2205121018A	Boron, Total	0.07	mg/L	0.2	0.02		J
5/12/2022	METALS	2205121018A	Barium, Total	0.027	mg/L	0.02	0.003		

Analytical Results for Sampling Events at ST-3-486

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/8/2022	8260	2206081421A	Trichloroethene (TCE)	2.9	ug/L	1	0.2		
6/8/2022	8260	2206081421A	Trichlorofluoromethane (CFC 11)	2.7	ug/L	1	0.24		
6/8/2022	8260	2206081421A	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.5	ug/L	1	0.2		
6/8/2022	607	2206081423A	N-Nitrodimethylamine	0.03	µg/L	0.0098	0.0049	103	
6/8/2022	607	2206081423A	N-Nitrosodimethylamine	0.04	µg/L	0.0098	0.0049	58	
6/8/2022	METALS	2206081425A	Sodium, Total	36.9	mg/L	1	0.2		
6/8/2022	METALS	2206081425A	Strontium, Total	2.31	mg/L	0.1	0.002		
6/8/2022	METALS	2206081425A	Vanadium, Total	0.002	mg/L	0.05	0.0007		J
6/8/2022	METALS	2206081425A	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
6/8/2022	METALS	2206081425A	Barium, Total	0.022	mg/L	0.02	0.003		
6/8/2022	METALS	2206081425A	Boron, Total	0.06	mg/L	0.2	0.02		J
6/8/2022	METALS	2206081425A	Calcium, Total	104	mg/L	1	0.3		
6/8/2022	METALS	2206081425A	Chromium, Total	0.008	mg/L	0.01	0.002		J
6/8/2022	METALS	2206081425A	Magnesium, Total	58.8	mg/L	1	0.03		
6/8/2022	METALS	2206081425A	Molybdenum, Total	0.016	mg/L	0.025	0.003		J RB
6/8/2022	METALS	2206081425A	Nickel, Total	0.003	mg/L	0.04	0.003		J
6/8/2022	METALS	2206081425A	Potassium, Total	2.8	mg/L	2	0.4		

Analytical Results for Sampling Events at ST-3-586

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/9/2022	8260	2206090957A	Tetrachloroethene (PCE)	0.25	ug/L	1	0.21		J
6/9/2022	8260	2206090957A	1,1,2-Trichloro-1,2,2-Trifluoroethane	5.7	ug/L	1	0.2		
6/9/2022	8260	2206090957A	Trichloroethene (TCE)	5	ug/L	1	0.2		
6/9/2022	8260	2206090957A	Trichlorofluoromethane (CFC 11)	2.8	ug/L	1	0.24		
6/9/2022	8260	2206090958A	1,1,2-Trichloro-1,2,2-Trifluoroethane	5.4	ug/L	1	0.2		
6/9/2022	8260	2206090958A	Trichloroethene (TCE)	4.9	ug/L	1	0.2		
6/9/2022	8260	2206090958A	Trichlorofluoromethane (CFC 11)	2.4	ug/L	1	0.24		
6/9/2022	607	2206091000A	N-Nitrosodimethylamine	0.01	µg/L	0.0099	0.005	58	
6/9/2022	METALS	2206091010A	Calcium, Total	95.7	mg/L	1	0.3		
6/9/2022	METALS	2206091010A	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
6/9/2022	METALS	2206091010A	Strontium, Total	2.46	mg/L	0.1	0.002		
6/9/2022	METALS	2206091010A	Sodium, Total	38.9	mg/L	1	0.2		
6/9/2022	METALS	2206091010A	Potassium, Total	3.4	mg/L	2	0.4		
6/9/2022	METALS	2206091010A	Magnesium, Total	59.1	mg/L	1	0.03		
6/9/2022	METALS	2206091010A	Boron, Total	0.06	mg/L	0.2	0.02		J
6/9/2022	METALS	2206091010A	Barium, Total	0.029	mg/L	0.02	0.003		
6/9/2022	METALS	2206091010A	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
6/9/2022	METALS	2206091010A	Molybdenum, Total	0.008	mg/L	0.025	0.003		J RB
6/9/2022	ANIONS	2206091012A	Alkalinity, Total as CaCO3	206	mg/L	2	1.8		
6/9/2022	ANIONS	2206091012A	Chloride	37.4	mg/L	2	0.5		
6/9/2022	ANIONS	2206091012A	Fluoride, undistilled	0.7	mg/L	0.1	0.01		
6/9/2022	ANIONS	2206091012A	Sulfate	290	mg/L	8	1.6		
6/9/2022	SM2540C	2206091013A	Total Dissolved Solids (TDS)	755	mg/L	10	9		
6/9/2022	353.2	2206091017A	Nitrate+Nitrite as Nitrogen	0.928	mg/L	0.05	0.002		
6/9/2022	6850	2206221400C	Perchlorate	0.185	ug/L	0.1	0.025		

Analytical Results for Sampling Events at ST-3-666

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/13/2022	8260	2206131420A	Tetrachloroethene (PCE)	0.34	ug/L	1	0.21		J Q
6/13/2022	8260	2206131420A	Trichloroethene (TCE)	5.8	ug/L	1	0.2		Q
6/13/2022	8260	2206131420A	Trichlorofluoromethane (CFC 11)	3.8	ug/L	1	0.24		Q
6/13/2022	8260	2206131420A	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.9	ug/L	1	0.2		A Q
6/13/2022	607	2206131422A	N-Nitrosodimethylamine	0.08	µg/L	0.0097	0.0049	42	
6/13/2022	607	2206131422A	N-Nitrodimethylamine	0.03	µg/L	0.0097	0.0049	73	
6/13/2022	607	2206131422A	Bromacil	0.01	µg/L	0.0097	0.0049	102	
6/13/2022	METALS	2206131423A	Boron, Total	0.06	mg/L	0.2	0.02		J
6/13/2022	METALS	2206131423A	Zinc, Total	0.004	mg/L	0.02	0.003		J
6/13/2022	METALS	2206131423A	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
6/13/2022	METALS	2206131423A	Strontium, Total	2.48	mg/L	0.1	0.002		
6/13/2022	METALS	2206131423A	Sodium, Total	38.3	mg/L	1	0.2		
6/13/2022	METALS	2206131423A	Potassium, Total	3.4	mg/L	2	0.4		
6/13/2022	METALS	2206131423A	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
6/13/2022	METALS	2206131423A	Manganese, Total	0.01	mg/L	0.01	0.004		J
6/13/2022	METALS	2206131423A	Magnesium, Total	60.8	mg/L	1	0.03		
6/13/2022	METALS	2206131423A	Calcium, Total	98.9	mg/L	1	0.3		
6/13/2022	METALS	2206131423A	Barium, Total	0.029	mg/L	0.02	0.003		
6/13/2022	METALS	2206131423A	Aluminum, Total	0.05	mg/L	0.1	0.03		J
6/13/2022	METALS	2206131423A	Chromium, Total	0.005	mg/L	0.01	0.002		J

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
6/8/2022	607	2206080913A	Bromacil	0.008	µg/L	0.0094	0.0047	157	J

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
5/9/2022	8260_LL	2205091410A	Chloromethane	0.3	ug/L	0.5	0.28		J RB

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
5/2/2022	NDMA_LL	2205021301Y	N-Nitrosodimethylamine	0.4	ng/L	0.48	0.4		J

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
5/2/2022	NDMA_LL	2205020931Y	N-Nitrosodimethylamine	0.84	ng/L	0.48	0.4		

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
6/14/2022	8270	2206141306B	1,4-Dioxane	4.1	ug/L	0.04	0.027		

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
6/14/2022	8260_LL	2206141332B	Silane, methoxytrimethyl-	5.1	ug/L	NA	NA		TIC
6/14/2022	8260_LL	2206141332B	Trichlorofluoromethane (CFC 11)	0.28	ug/L	0.5	0.24		J
6/14/2022	8260_LL	2206141332B	Trichloroethene (TCE)	0.27	ug/L	0.5	0.2		J
6/14/2022	8260_LL	2206141332B	Toluene	0.61	ug/L	0.5	0.2		
6/14/2022	8260_LL	2206141332B	Acetone	5.4	ug/L	5	5		
6/14/2022	8260_LL	2206141332B	1,4-Dioxane, 2,5-dimethyl-	5.2	ug/L	NA	NA		TIC
6/14/2022	8260_LL	2206141333B	Toluene	0.67	ug/L	0.5	0.2		
6/14/2022	8260_LL	2206141333B	Trichlorofluoromethane (CFC 11)	0.38	ug/L	0.5	0.24		J
6/14/2022	8260_LL	2206141333B	Trichloroethene (TCE)	0.5	ug/L	0.5	0.2		J
6/14/2022	NDMA_LL	2206141335B	N-Nitrodimethylamine	0.25	ng/L	0.49	0.2		J
6/14/2022	NDMA_LL	2206141405B	N-Nitrodimethylamine	0.26	ng/L	0.48	0.2		J
6/14/2022	8270	2206141407B	1,4-Dioxane	1.2	ug/L	0.04	0.027		

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
6/15/2022	NDMA_LL	2206151330B	N-Nitrodimethylamine	0.28	ng/L	0.48	0.2		J
6/15/2022	8270	2206151332B	1,4-Dioxane	0.61	ug/L	0.04	0.027		

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
6/15/2022	8260_LL	2206151405B	Toluene	0.27	ug/L	0.5	0.2		J

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
7/18/2022	NDMA_LL	2207181402B	N-Nitrodimethylamine	0.32	ng/L	0.47	0.2		J
7/18/2022	NDMA_LL	2207181402B	N-Nitrosodimethylamine	1.28	ng/L	0.47	0.4		FB

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
7/18/2022	8260_LL	2207181426B	Trichlorofluoromethane (CFC 11)	1.5	ug/L	0.5	0.24		
7/18/2022	8260_LL	2207181426B	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.51	ug/L	0.5	0.2		
7/18/2022	8260_LL	2207181426B	Trichloroethene (TCE)	1.6	ug/L	0.5	0.2		
7/18/2022	8260_LL	2207181426B	Toluene	0.36	ug/L	0.5	0.2		J
7/18/2022	NDMA_LL	2207181428B	N-Nitrosodimethylamine	0.79	ng/L	0.49	0.41		

Analytical Results for Sampling Events at WB-1-200

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/17/2022	8260	2205170910Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.39	ug/L	1	0.2		J
5/17/2022	8260	2205170910Y	Trichloroethene (TCE)	0.29	ug/L	1	0.2		J
5/17/2022	8260	2205170910Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	7.3	ug/L	1	0.2		
5/17/2022	8260	2205170910Y	Unknown	5.4	ug/L	NA	NA		TIC
5/17/2022	8260	2205170910Y	Dichlorofluoromethane (CFC 21)	4.2	ug/L	1	0.2		
5/17/2022	METALS	2205170935Y	Barium, Total	0.028	mg/L	0.02	0.003		
5/17/2022	METALS	2205170935Y	Strontium, Total	4.93	mg/L	0.1	0.002		
5/17/2022	METALS	2205170935Y	Sodium, Total	37.1	mg/L	1	0.2		
5/17/2022	METALS	2205170935Y	Potassium, Total	3.1	mg/L	2	0.4		
5/17/2022	METALS	2205170935Y	Zinc, Total	0.005	mg/L	0.02	0.003		J
5/17/2022	METALS	2205170935Y	Boron, Total	0.07	mg/L	0.2	0.02		J
5/17/2022	METALS	2205170935Y	Calcium, Total	144	mg/L	1	0.3		
5/17/2022	METALS	2205170935Y	Iron, Total	0.09	mg/L	0.1	0.07		J
5/17/2022	METALS	2205170935Y	Magnesium, Total	72	mg/L	1	0.03		
5/17/2022	METALS	2205170935Y	Manganese, Total	0.157	mg/L	0.01	0.004		
5/17/2022	SM2540C	2205170936Y	Total Dissolved Solids (TDS)	940	mg/L	10	9		

Analytical Results for Sampling Events at WB-1-255

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/16/2022	8260	2205161415Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	4.8	ug/L	1	0.2		
5/16/2022	8260	2205161415Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.7	ug/L	1	0.2		
5/16/2022	8260	2205161415Y	Dichlorofluoromethane (CFC 21)	2.9	ug/L	1	0.2		
5/16/2022	8260	2205161415Y	Trichlorofluoromethane (CFC 11)	1.9	ug/L	1	0.24		
5/16/2022	8260	2205161415Y	Sulfur Dioxide	43	ug/L	NA	NA		TIC
5/16/2022	8260	2205161415Y	Trichloroethene (TCE)	0.5	ug/L	1	0.2		J
5/16/2022	8260	2205161416Y	Trichloroethene (TCE)	0.44	ug/L	1	0.2		J
5/16/2022	8260	2205161416Y	Trichlorofluoromethane (CFC 11)	2	ug/L	1	0.24		
5/16/2022	8260	2205161416Y	Dichlorofluoromethane (CFC 21)	2.9	ug/L	1	0.2		
5/16/2022	8260	2205161416Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	7.7	ug/L	1	0.2		
5/16/2022	8260	2205161416Y	Sulfur Dioxide	34	ug/L	NA	NA		TIC
5/16/2022	8260	2205161416Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	5.3	ug/L	1	0.2		
5/16/2022	METALS	2205161440Y	Calcium, Total	144	mg/L	1	0.3		
5/16/2022	METALS	2205161440Y	Arsenic, Total	0.0008	mg/L	0.001	0.0004		J
5/16/2022	METALS	2205161440Y	Zinc, Total	0.003	mg/L	0.02	0.003		J
5/16/2022	METALS	2205161440Y	Vanadium, Total	0.0007	mg/L	0.05	0.0007		J
5/16/2022	METALS	2205161440Y	Strontium, Total	4.9	mg/L	0.1	0.002		
5/16/2022	METALS	2205161440Y	Sodium, Total	36.9	mg/L	1	0.2		
5/16/2022	METALS	2205161440Y	Potassium, Total	3	mg/L	2	0.4		
5/16/2022	METALS	2205161440Y	Magnesium, Total	72.1	mg/L	1	0.03		
5/16/2022	METALS	2205161440Y	Boron, Total	0.07	mg/L	0.2	0.02		J
5/16/2022	METALS	2205161440Y	Barium, Total	0.02	mg/L	0.02	0.003		
5/16/2022	METALS	2205161440Y	Molybdenum, Total	0.01	mg/L	0.025	0.003		J RB
5/16/2022	METALS	2205161441Y	Arsenic, Total	0.0004	mg/L	0.001	0.0004		J
5/16/2022	METALS	2205161441Y	Strontium, Total	4.93	mg/L	0.1	0.002		
5/16/2022	METALS	2205161441Y	Sodium, Total	37.3	mg/L	1	0.2		
5/16/2022	METALS	2205161441Y	Potassium, Total	3	mg/L	2	0.4		
5/16/2022	METALS	2205161441Y	Molybdenum, Total	0.01	mg/L	0.025	0.003		J RB
5/16/2022	METALS	2205161441Y	Magnesium, Total	73	mg/L	1	0.03		
5/16/2022	METALS	2205161441Y	Iron, Total	0.07	mg/L	0.1	0.07		J
5/16/2022	METALS	2205161441Y	Calcium, Total	146	mg/L	1	0.3		
5/16/2022	METALS	2205161441Y	Barium, Total	0.02	mg/L	0.02	0.003		
5/16/2022	METALS	2205161441Y	Boron, Total	0.07	mg/L	0.2	0.02		J

Analytical Results for Sampling Events at WB-1-330

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/16/2022	8260	2205160940Y	1,1,2-Trichloro-1,2,2-Trifluoroethane	11	ug/L	1	0.2		
5/16/2022	8260	2205160940Y	Dichlorofluoromethane (CFC 21)	0.32	ug/L	1	0.2		J
5/16/2022	8260	2205160940Y	Trichloroethene (TCE)	0.57	ug/L	1	0.2		J
5/16/2022	8260	2205160940Y	Trichlorofluoromethane (CFC 11)	3.5	ug/L	1	0.24		
5/16/2022	8260	2205160940Y	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.38	ug/L	1	0.2		J
5/16/2022	8260	2205160940Y	Unknown	5.6	ug/L	NA	NA		TIC RB
5/16/2022	607	2205160941Y	Bromacil	0.007	µg/L	0.0094	0.0047	121	J
5/16/2022	METALS	2205161005Y	Boron, Total	0.07	mg/L	0.2	0.02		J
5/16/2022	METALS	2205161005Y	Calcium, Total	145	mg/L	1	0.3		
5/16/2022	METALS	2205161005Y	Zinc, Total	0.01	mg/L	0.02	0.003		J
5/16/2022	METALS	2205161005Y	Magnesium, Total	72.6	mg/L	1	0.03		
5/16/2022	METALS	2205161005Y	Molybdenum, Total	0.012	mg/L	0.025	0.003		J RB
5/16/2022	METALS	2205161005Y	Potassium, Total	3	mg/L	2	0.4		
5/16/2022	METALS	2205161005Y	Sodium, Total	37.2	mg/L	1	0.2		
5/16/2022	METALS	2205161005Y	Strontium, Total	4.89	mg/L	0.1	0.002		
5/16/2022	METALS	2205161005Y	Thallium, Total	0.00004	mg/L	0.001	0.00004		J
5/16/2022	METALS	2205161005Y	Vanadium, Total	0.001	mg/L	0.05	0.0007		J
5/16/2022	METALS	2205161005Y	Barium, Total	0.02	mg/L	0.02	0.003		

Analytical Results for Sampling Events at WW-4-419

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/23/2022	8260_LL	2205231332C	Toluene	0.75	ug/L	0.5	0.2		
5/23/2022	NDMA_LL	2205231348C	N-Nitrodimethylamine	1.8	ng/L	0.48	0.2		
5/23/2022	NDMA_LL	2205231348C	N-Nitrosodimethylamine	4.68	ng/L	0.48	0.4		
5/23/2022	8270	2205231350C	Unknown	6.9	ug/L	NA	NA		TIC
5/23/2022	8270	2205231350C	Unknown	7.6	ug/L	NA	NA		TIC RB
5/23/2022	8270	2205231350C	Unknown	6.7	ug/L	NA	NA		TIC
5/23/2022	8270	2205231350C	Unknown	6	ug/L	NA	NA		TIC
5/23/2022	8270	2205231350C	Unknown	5	ug/L	NA	NA		TIC
5/23/2022	8270	2205231350C	Unknown	5.8	ug/L	NA	NA		TIC RB
5/23/2022	8270	2205231350C	Benzenesulfonamide, N-butyl-	52	ug/L	NA	NA		TIC
5/23/2022	METALS	2205231420C	Potassium, Total	3.7	mg/L	2	0.4		
5/23/2022	METALS	2205231420C	Barium, Total	0.025	mg/L	0.02	0.003		
5/23/2022	METALS	2205231420C	Boron, Total	0.28	mg/L	0.2	0.02		
5/23/2022	METALS	2205231420C	Calcium, Total	54.5	mg/L	1	0.3		
5/23/2022	METALS	2205231420C	Cobalt, Total	0.001	mg/L	0.05	0.0009		J
5/23/2022	METALS	2205231420C	Iron, Total	0.24	mg/L	0.1	0.07		
5/23/2022	METALS	2205231420C	Magnesium, Total	29.8	mg/L	1	0.03		
5/23/2022	METALS	2205231420C	Manganese, Total	0.25	mg/L	0.01	0.004		
5/23/2022	METALS	2205231420C	Molybdenum, Total	0.013	mg/L	0.025	0.003		J
5/23/2022	METALS	2205231420C	Sodium, Total	111	mg/L	1	0.2		
5/23/2022	METALS	2205231420C	Strontium, Total	1.85	mg/L	0.1	0.002		
5/23/2022	METALS	2205231420C	Vanadium, Total	0.01	mg/L	0.05	0.0007		J
5/23/2022	METALS	2205231420C	Zinc, Total	0.013	mg/L	0.02	0.003		J
5/23/2022	METALS	2205231420C	Arsenic, Total	0.0102	mg/L	0.001	0.0004		
5/23/2022	METALS	2205231420C	Antimony, Total	0.0014	mg/L	0.001	0.0002		
5/23/2022	SM2540C	2205231421C	Total Dissolved Solids (TDS)	654	mg/L	10	9		
5/23/2022	6850	2205231422C	Perchlorate	0.237	ug/L	0.1	0.025		
5/23/2022	ANIONS	2205231423C	Chloride	41.5	mg/L	2	0.5		
5/23/2022	ANIONS	2205231423C	Alkalinity, Total as CaCO3	162	mg/L	2	1.8		
5/23/2022	ANIONS	2205231423C	Fluoride, undistilled	0.53	mg/L	0.1	0.01		
5/23/2022	ANIONS	2205231423C	Sulfate	277	mg/L	8	1.6		
5/23/2022	353.2	2205231424C	Nitrate+Nitrite as Nitrogen	0.713	mg/L	0.05	0.002		

Analytical Results for Sampling Events at WW-4-589

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/23/2022	8260_LL	2205231342C	Unknown	5.4	ug/L	NA	NA		TIC
5/23/2022	8260_LL	2205231342C	Toluene	0.24	ug/L	0.5	0.2		J
5/23/2022	NDMA_LL	2205231415C	N-Nitrodimethylamine	0.88	ng/L	0.48	0.2		
5/23/2022	8270	2205231417C	Unknown	4.4	ug/L	NA	NA		TIC RB
5/23/2022	8270	2205231417C	Benzenesulfonamide, N-butyl-	19	ug/L	NA	NA		TIC
5/23/2022	8270	2205231417C	n-Hexadecanoic acid	4.4	ug/L	NA	NA		TIC RB
5/23/2022	METALS	2205231442C	Boron, Total	0.21	mg/L	0.2	0.02		
5/23/2022	METALS	2205231442C	Molybdenum, Total	0.012	mg/L	0.025	0.003		J
5/23/2022	METALS	2205231442C	Zinc, Total	0.126	mg/L	0.02	0.003		
5/23/2022	METALS	2205231442C	Vanadium, Total	0.014	mg/L	0.05	0.0007		J
5/23/2022	METALS	2205231442C	Strontium, Total	2.02	mg/L	0.1	0.002		
5/23/2022	METALS	2205231442C	Sodium, Total	109	mg/L	1	0.2		
5/23/2022	METALS	2205231442C	Potassium, Total	3.6	mg/L	2	0.4		
5/23/2022	METALS	2205231442C	Manganese, Total	0.007	mg/L	0.01	0.004		J
5/23/2022	METALS	2205231442C	Magnesium, Total	32.3	mg/L	1	0.03		
5/23/2022	METALS	2205231442C	Calcium, Total	57.2	mg/L	1	0.3		
5/23/2022	METALS	2205231442C	Barium, Total	0.019	mg/L	0.02	0.003		J
5/23/2022	METALS	2205231442C	Arsenic, Total	0.0028	mg/L	0.001	0.0004		
5/23/2022	METALS	2205231442C	Antimony, Total	0.0017	mg/L	0.001	0.0002		
5/23/2022	METALS	2205231442C	Copper, Total	0.006	mg/L	0.02	0.004		J
5/23/2022	ANIONS	2205231443C	Alkalinity, Total as CaCO3	161	mg/L	2	1.8		
5/23/2022	ANIONS	2205231443C	Chloride	40.1	mg/L	2	0.5		
5/23/2022	ANIONS	2205231443C	Fluoride, undistilled	0.53	mg/L	0.1	0.01		
5/23/2022	ANIONS	2205231443C	Sulfate	288	mg/L	8	1.6		
5/23/2022	SM2540C	2205231444C	Total Dissolved Solids (TDS)	688	mg/L	10	9		
5/23/2022	6850	2205231445C	Perchlorate	0.251	ug/L	0.1	0.025		
5/23/2022	353.2	2205231446C	Nitrate+Nitrite as Nitrogen	0.874	mg/L	0.05	0.002		

Analytical Results for Sampling Events at WW-4-848

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/24/2022	8260_LL	2205241028C	Toluene	0.3	ug/L	0.5	0.2		J
5/24/2022	8270	2205241055C	Unknown	9.9	ug/L	NA	NA		TIC
5/24/2022	8270	2205241055C	Unknown	5.8	ug/L	NA	NA		TIC RB
5/24/2022	8270	2205241055C	Unknown	4.2	ug/L	NA	NA		TIC
5/24/2022	METALS	2205241330C	Zinc, Total	0.06	mg/L	0.02	0.003		
5/24/2022	METALS	2205241330C	Vanadium, Total	0.018	mg/L	0.05	0.0007		J
5/24/2022	METALS	2205241330C	Sodium, Total	95.9	mg/L	1	0.2		
5/24/2022	METALS	2205241330C	Potassium, Total	3.3	mg/L	2	0.4		
5/24/2022	METALS	2205241330C	Molybdenum, Total	0.019	mg/L	0.025	0.003		J RB
5/24/2022	METALS	2205241330C	Chromium, Total	0.003	mg/L	0.01	0.002		J
5/24/2022	METALS	2205241330C	Calcium, Total	43.5	mg/L	1	0.3		
5/24/2022	METALS	2205241330C	Boron, Total	0.19	mg/L	0.2	0.02		J
5/24/2022	METALS	2205241330C	Barium, Total	0.017	mg/L	0.02	0.003		J
5/24/2022	METALS	2205241330C	Arsenic, Total	0.0036	mg/L	0.001	0.0004		
5/24/2022	METALS	2205241330C	Antimony, Total	0.0009	mg/L	0.001	0.0002		J
5/24/2022	METALS	2205241330C	Strontium, Total	1.61	mg/L	0.1	0.002		
5/24/2022	METALS	2205241330C	Magnesium, Total	26	mg/L	1	0.03		
5/24/2022	ANIONS	2205241331C	Alkalinity, Total as CaCO3	154	mg/L	2	1.8		
5/24/2022	ANIONS	2205241331C	Sulfate	212	mg/L	8	1.6		
5/24/2022	ANIONS	2205241331C	Chloride	34	mg/L	2	0.5		
5/24/2022	ANIONS	2205241331C	Fluoride, undistilled	0.6	mg/L	0.1	0.01		
5/24/2022	SM2540C	2205241332C	Total Dissolved Solids (TDS)	554	mg/L	10	9		
5/24/2022	6850	2205241333C	Perchlorate	0.221	ug/L	0.1	0.025		
5/24/2022	353.2	2205241334C	Nitrate+Nitrite as Nitrogen	0.737	mg/L	0.05	0.002		

Analytical Results for Sampling Events at WW-4-948

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/24/2022	8260_LL	2205241042C	Toluene	0.27	ug/L	0.5	0.2		J
5/24/2022	NDMA_LL	2205241045C	N-Nitrodimethylamine	0.4	ng/L	0.48	0.2		J
5/24/2022	8270	2205241308C	Benzenesulfonamide, N-butyl-	13	ug/L	NA	NA		TIC
5/24/2022	8270	2205241308C	Unknown	6.2	ug/L	NA	NA		TIC
5/24/2022	8270	2205241308C	Unknown	4.3	ug/L	NA	NA		TIC RB
5/24/2022	METALS	2205241405C	Strontium, Total	1.58	mg/L	0.1	0.002		
5/24/2022	METALS	2205241405C	Arsenic, Total	0.0036	mg/L	0.001	0.0004		
5/24/2022	METALS	2205241405C	Barium, Total	0.015	mg/L	0.02	0.003		J
5/24/2022	METALS	2205241405C	Boron, Total	0.2	mg/L	0.2	0.02		
5/24/2022	METALS	2205241405C	Calcium, Total	54	mg/L	1	0.3		
5/24/2022	METALS	2205241405C	Potassium, Total	3.8	mg/L	2	0.4		
5/24/2022	METALS	2205241405C	Chromium, Total	0.003	mg/L	0.01	0.002		J
5/24/2022	METALS	2205241405C	Magnesium, Total	25.8	mg/L	1	0.03		
5/24/2022	METALS	2205241405C	Molybdenum, Total	0.014	mg/L	0.025	0.003		J RB
5/24/2022	METALS	2205241405C	Sodium, Total	134	mg/L	1	0.2		
5/24/2022	METALS	2205241405C	Vanadium, Total	0.017	mg/L	0.05	0.0007		J
5/24/2022	METALS	2205241405C	Zinc, Total	0.057	mg/L	0.02	0.003		
5/24/2022	METALS	2205241405C	Antimony, Total	0.002	mg/L	0.001	0.0002		
5/24/2022	ANIONS	2205241406C	Chloride	47.6	mg/L	2	0.5		
5/24/2022	ANIONS	2205241406C	Fluoride, undistilled	0.5	mg/L	0.1	0.01		
5/24/2022	ANIONS	2205241406C	Alkalinity, Total as CaCO3	144	mg/L	2	1.8		
5/24/2022	ANIONS	2205241406C	Sulfate	294	mg/L	8	1.6		
5/24/2022	SM2540C	2205241407C	Total Dissolved Solids (TDS)	743	mg/L	10	9		
5/24/2022	6850	2205241408C	Perchlorate	0.57	ug/L	0.1	0.025		
5/24/2022	353.2	2205241409C	Nitrate+Nitrite as Nitrogen	2.45	mg/L	0.25	0.008		

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
7/20/2022	8260_LL	2207201400B	Unknown	17	ug/L	NA	NA		TIC
7/20/2022	8260_LL	2207201400B	Toluene	2.9	ug/L	0.5	0.2		
7/20/2022	NDMA_LL	2207201402B	N-Nitrosodimethylamine	0.58	ng/L	0.48	0.4		FB

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
7/20/2022	8260_LL	2207201430B	Toluene	2.7	ug/L	0.5	0.2		

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
7/21/2022	8260_LL	2207211400B	Toluene	13	ug/L	0.5	0.2		
7/21/2022	NDMA_LL	2207211402B	N-Nitrosodimethylamine	6.09	ng/L	0.48	0.4		
7/21/2022	NDMA_LL	2207211402B	N-Nitrodimethylamine	0.47	ng/L	0.48	0.2		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
7/21/2022	8260_LL	2207211430B	Toluene	1.5	ug/L	0.5	0.2		
7/21/2022	NDMA_LL	2207211432B	N-Nitrodimethylamine	0.23	ng/L	0.48	0.2		J
7/21/2022	NDMA_LL	2207211432B	N-Nitrosodimethylamine	2.21	ng/L	0.48	0.4		

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** **5/13/2022**

Sample	Parameter	Result	Units
2205130601	Conductivity	1082	µS/cm
2205130601	pH	7.94	NA
2205130601	Temperature	24.6	ºC
2205130601	Turbidity	0.16	NTU

Well ID **B650-EFF-1** **Event Date** **6/10/2022**

Sample	Parameter	Result	Units
2206100601	Conductivity	1064	µS/cm
2206100601	pH	7.88	NA
2206100601	Temperature	25.9	ºC
2206100601	Turbidity	0.08	NTU

Well ID **B650-EFF-1** **Event Date** **7/19/2022**

Sample	Parameter	Result	Units
2207190835	Conductivity	1159	µS/cm
2207190835	pH	8.46	NA
2207190835	Temperature	25.7	ºC
2207190835	Turbidity	0.43	NTU

Well ID **B650-INF-1** **Event Date** **5/13/2022**

Sample	Parameter	Result	Units
2205130620	Conductivity	1083	µS/cm
2205130620	pH	7.36	NA
2205130620	Temperature	24.4	ºC
2205130620	Turbidity	0.87	NTU
2205230735	Conductivity	1080	µS/cm
2205230735	pH	7.39	NA
2205230735	Temperature	24.6	ºC
2205230735	Turbidity	0.68	NTU

Well ID **B650-INF-1** **Event Date** **6/10/2022**

Sample	Parameter	Result	Units
2206100613	Conductivity	1075	µS/cm
2206100613	pH	7.21	NA
2206100613	Temperature	25.5	ºC
2206100613	Turbidity	0.76	NTU

Well ID **B650-INF-1** **Event Date** **7/19/2022**

Sample	Parameter	Result	Units
2207190850	Conductivity	1152	µS/cm
2207190850	pH	7.47	NA
2207190850	Temperature	25.4	ºC
2207190850	Turbidity	0.88	NTU

Well ID **PFE-4A** **Event Date** **7/20/2022**

Sample	Parameter	Result	Units
2207200745	Conductivity	1181	µS/cm
2207200745	pH	7.58	NA
2207200745	Temperature	26.1	ºC
2207200745	Turbidity	1.15	NTU
2208090734	Conductivity	1164	µS/cm
2208090734	pH	7.52	NA
2208090734	Temperature	25.4	ºC
2208090734	Turbidity	0.78	NTU

Well ID **PFE-5** **Event Date** **7/20/2022**

Sample	Parameter	Result	Units
2207200850	Conductivity	979	µS/cm
2207200850	pH	7.91	NA
2207200850	Temperature	26.1	ºC
2207200850	Turbidity	0.28	NTU
2208090750	Conductivity	962	µS/cm
2208090750	pH	7.88	NA
2208090750	Temperature	25.4	ºC
2208090750	Turbidity	0.2	NTU

Well ID **PFE-7** **Event Date** **7/20/2022**

Sample	Parameter	Result	Units
2207201000	Conductivity	1165	µS/cm
2207201000	pH	7.44	NA
2207201000	Temperature	25.8	ºC
2207201000	Turbidity	0.78	NTU
2208090716	Conductivity	1158	µS/cm
2208090716	pH	7.38	NA
2208090716	Temperature	25.2	ºC
2208090716	Turbidity	0.66	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
5/13/2022	METALS	2205130612	Vanadium, Total	0.006	mg/L	0.05	0.0007		J
5/13/2022	METALS	2205130612	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
5/13/2022	METALS	2205130612	Barium, Total	0.024	mg/L	0.02	0.003		
5/13/2022	METALS	2205130612	Boron, Total	0.07	mg/L	0.2	0.02		J
5/13/2022	METALS	2205130612	Calcium, Total	95.2	mg/L	1	0.3		
5/13/2022	METALS	2205130612	Magnesium, Total	59.4	mg/L	1	0.03		
5/13/2022	METALS	2205130612	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
5/13/2022	METALS	2205130612	Potassium, Total	4.6	mg/L	2	0.4		
5/13/2022	METALS	2205130612	Strontium, Total	2.52	mg/L	0.1	0.002		
5/13/2022	METALS	2205130612	Sodium, Total	55.1	mg/L	1	0.2		
5/13/2022	ANIONS	2205130613	Sulfate	302	mg/L	8	1.6		
5/13/2022	ANIONS	2205130613	Alkalinity, Total as CaCO3	199	mg/L	2	1.8		
5/13/2022	ANIONS	2205130613	Fluoride, undistilled	0.6	mg/L	0.1	0.01		
5/13/2022	ANIONS	2205130613	Chloride	41.8	mg/L	2	0.5		
5/13/2022	SM2540C	2205130614	Total Dissolved Solids (TDS)	778	mg/L	10	9		
5/13/2022	6850	2205130615	Perchlorate	0.177	ug/L	0.1	0.025		
5/13/2022	353.2	2205130616	Nitrate+Nitrite as Nitrogen	1.02	mg/L	0.05	0.002		
6/10/2022	NDMA_LL	2206100608	N-Nitrosodimethylamine	0.42	ng/L	0.48	0.4		J

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
5/13/2022	8260	2205130625	1,1,2-Trichloro-1,2,2-Trifluoroethane	24	ug/L	1	0.2		
5/13/2022	8260	2205130625	Unknown	5	ug/L	NA	NA		TIC RB
5/13/2022	8260	2205130625	Trichlorofluoromethane (CFC 11)	13	ug/L	1	0.24		
5/13/2022	8260	2205130625	Trichloroethene (TCE)	20	ug/L	1	0.2		
5/13/2022	8260	2205130625	Tetrachloroethene (PCE)	0.68	ug/L	1	0.21		J
5/13/2022	8260	2205130627	Tetrachloroethene (PCE)	0.79	ug/L	1	0.21		J
5/13/2022	8260	2205130627	Trichloroethene (TCE)	20	ug/L	1	0.2		
5/13/2022	8260	2205130627	Trichlorofluoromethane (CFC 11)	14	ug/L	1	0.24		
5/13/2022	8260	2205130627	1,1,2-Trichloro-1,2,2-Trifluoroethane	25	ug/L	1	0.2		
5/13/2022	8260	2205130627	Chloromethane	0.28	ug/L	2	0.28		J RB
5/13/2022	607	2205130629	Bromacil	0.01	µg/L	0.0096	0.0048	128	R
5/13/2022	METALS	2205130630	Zinc, Total	0.005	mg/L	0.02	0.003		J
5/13/2022	METALS	2205130630	Molybdenum, Total	0.006	mg/L	0.025	0.003		J
5/13/2022	METALS	2205130630	Magnesium, Total	59.6	mg/L	1	0.03		
5/13/2022	METALS	2205130630	Copper, Total	0.009	mg/L	0.02	0.004		J
5/13/2022	METALS	2205130630	Calcium, Total	95.5	mg/L	1	0.3		
5/13/2022	METALS	2205130630	Boron, Total	0.07	mg/L	0.2	0.02		J
5/13/2022	METALS	2205130630	Strontium, Total	2.53	mg/L	0.1	0.002		
5/13/2022	METALS	2205130630	Barium, Total	0.024	mg/L	0.02	0.003		
5/13/2022	METALS	2205130630	Potassium, Total	4.6	mg/L	2	0.4		
5/13/2022	METALS	2205130630	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
5/13/2022	METALS	2205130630	Sodium, Total	53.9	mg/L	1	0.2		
5/13/2022	METALS	2205130630	Vanadium, Total	0.005	mg/L	0.05	0.0007		J
5/13/2022	ANIONS	2205130631	Fluoride, undistilled	0.66	mg/L	0.1	0.01		
5/13/2022	ANIONS	2205130631	Chloride	42	mg/L	2	0.5		
5/13/2022	ANIONS	2205130631	Alkalinity, Total as CaCO3	199	mg/L	2	1.8		
5/13/2022	ANIONS	2205130631	Sulfate	298	mg/L	8	1.6		
5/13/2022	SM2540C	2205130632	Total Dissolved Solids (TDS)	785	mg/L	10	9		
5/13/2022	6850	2205130633	Perchlorate	0.174	ug/L	0.1	0.025		
5/13/2022	353.2	2205130634	Nitrate+Nitrite as Nitrogen	0.974	mg/L	0.05	0.002		
5/13/2022	607	2205230736	N-Nitrodimethylamine	0.04	µg/L	0.0095	0.0048	96	
5/13/2022	607	2205230736	Bromacil	0.01	µg/L	0.0095	0.0048	149	
5/13/2022	607	2205230736	N-Nitrosodimethylamine	0.05	µg/L	0.0095	0.0048	51	
6/10/2022	8260	2206100619	Trichloroethene (TCE)	19	ug/L	1	0.2		

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
6/10/2022	8260	2206100619	Trichlorofluoromethane (CFC 11)	11	ug/L	1	0.24		
6/10/2022	8260	2206100619	Tetrachloroethene (PCE)	0.81	ug/L	1	0.21		J
6/10/2022	8260	2206100619	1,1,2-Trichloro-1,2,2-Trifluoroethane	23	ug/L	1	0.2		
6/10/2022	607	2206100621	N-Nitrodimethylamine	0.04	µg/L	0.0097	0.0049	103	
6/10/2022	607	2206100621	Bromacil	0.01	µg/L	0.0097	0.0049	157	
6/10/2022	607	2206100621	N-Nitrosodimethylamine	0.07	µg/L	0.0097	0.0049	58	
7/19/2022	8260	2207190855	Trichlorofluoromethane (CFC 11)	18	ug/L	1	0.24		
7/19/2022	8260	2207190855	1,1,2-Trichloro-1,2,2-Trifluoroethane	28	ug/L	1	0.2		
7/19/2022	8260	2207190855	Tetrachloroethene (PCE)	0.77	ug/L	1	0.21		J
7/19/2022	8260	2207190855	Trichloroethene (TCE)	23	ug/L	1	0.2		
7/19/2022	607	2207190857	Bromacil	0.01	µg/L	0.0098	0.0049	109	
7/19/2022	607	2207190857	N-Nitrosodimethylamine	0.06	µg/L	0.0098	0.0049	41	
7/19/2022	607	2207190857	N-Nitrodimethylamine	0.04	µg/L	0.0098	0.0049	73	

Analytical Results for Sampling Events at PFE-4A

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/20/2022	8260	2207200750	1,1,2-Trichloro-1,2,2-Trifluoroethane	2.1	ug/L	1	0.2		
7/20/2022	8260	2207200750	Trichloroethene (TCE)	1.2	ug/L	1	0.2		
7/20/2022	8260	2207200750	Trichlorofluoromethane (CFC 11)	0.91	ug/L	1	0.24		J
7/20/2022	607	2207200752	Bromacil	0.02	µg/L	0.0095	0.0048	109	
7/20/2022	METALS	2207200753	Boron, Total	0.07	mg/L	0.2	0.02		J
7/20/2022	METALS	2207200753	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
7/20/2022	METALS	2207200753	Strontium, Total	2.37	mg/L	0.1	0.002		
7/20/2022	METALS	2207200753	Zinc, Total	0.005	mg/L	0.02	0.003		J
7/20/2022	METALS	2207200753	Sodium, Total	39.7	mg/L	1	0.2		
7/20/2022	METALS	2207200753	Potassium, Total	4.4	mg/L	2	0.4		
7/20/2022	METALS	2207200753	Molybdenum, Total	0.011	mg/L	0.025	0.003		J RB
7/20/2022	METALS	2207200753	Calcium, Total	102	mg/L	1	0.3		
7/20/2022	METALS	2207200753	Barium, Total	0.026	mg/L	0.02	0.003		
7/20/2022	METALS	2207200753	Arsenic, Total	0.0005	mg/L	0.001	0.0004		J
7/20/2022	METALS	2207200753	Magnesium, Total	61.2	mg/L	1	0.03		
7/20/2022	ANIONS	2207200754	Sulfate	325	mg/L	8	1.6		
7/20/2022	ANIONS	2207200754	Fluoride, undistilled	0.77	mg/L	0.1	0.01		
7/20/2022	ANIONS	2207200754	Chloride	44.5	mg/L	2	0.5		
7/20/2022	ANIONS	2207200754	Alkalinity, Total as CaCO3	205	mg/L	2	1.8		
7/20/2022	SM2540C	2207200755	Total Dissolved Solids (TDS)	780	mg/L	10	9		
7/20/2022	353.2	2207200757	Nitrate+Nitrite as Nitrogen	1.07	mg/L	0.05	0.002		
7/20/2022	6850	2208090736	Perchlorate	0.18	ug/L	0.1	0.025		

Analytical Results for Sampling Events at PFE-5

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/20/2022	8260	2207200855	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.23	ug/L	1	0.2		J
7/20/2022	8260	2207200855	Trichlorofluoromethane (CFC 11)	20	ug/L	1	0.24		
7/20/2022	8260	2207200855	Trichloroethene (TCE)	39	ug/L	1	0.2		
7/20/2022	8260	2207200855	Tetrachloroethene (PCE)	1.9	ug/L	1	0.21		
7/20/2022	8260	2207200855	Dichlorofluoromethane (CFC 21)	0.23	ug/L	1	0.2		J
7/20/2022	8260	2207200855	1,1,2-Trichloro-1,2,2-Trifluoroethane	16	ug/L	1	0.2		
7/20/2022	8260	2207200856	1,1,2-Trichloro-1,2,2-Trifluoroethane	17	ug/L	1	0.2		
7/20/2022	8260	2207200856	Dichlorofluoromethane (CFC 21)	0.31	ug/L	1	0.2		J
7/20/2022	8260	2207200856	Tetrachloroethene (PCE)	1.6	ug/L	1	0.21		
7/20/2022	8260	2207200856	Trichloroethene (TCE)	42	ug/L	1	0.2		
7/20/2022	8260	2207200856	Trichlorofluoromethane (CFC 11)	21	ug/L	1	0.24		
7/20/2022	8260	2207200856	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.22	ug/L	1	0.2		J
7/20/2022	607	2207200858	Bromacil	0.04	µg/L	0.0095	0.0048	109	
7/20/2022	607	2207200858	N-Nitrosodimethylamine	0.24	µg/L	0.0095	0.0048	41	
7/20/2022	607	2207200858	N-Nitrodimethylamine	0.12	µg/L	0.0095	0.0048	73	
7/20/2022	METALS	2207200859	Vanadium, Total	0.013	mg/L	0.05	0.0007		J
7/20/2022	METALS	2207200859	Barium, Total	0.026	mg/L	0.02	0.003		
7/20/2022	METALS	2207200859	Boron, Total	0.08	mg/L	0.2	0.02		J
7/20/2022	METALS	2207200859	Calcium, Total	58.7	mg/L	1	0.3		
7/20/2022	METALS	2207200859	Magnesium, Total	33.2	mg/L	1	0.03		
7/20/2022	METALS	2207200859	Molybdenum, Total	0.016	mg/L	0.025	0.003		J RB
7/20/2022	METALS	2207200859	Potassium, Total	4.5	mg/L	2	0.4		
7/20/2022	METALS	2207200859	Strontium, Total	1.77	mg/L	0.1	0.002		
7/20/2022	METALS	2207200859	Arsenic, Total	0.0018	mg/L	0.001	0.0004		
7/20/2022	METALS	2207200859	Sodium, Total	82.1	mg/L	1	0.2		
7/20/2022	METALS	2207200900	Barium, Total	0.025	mg/L	0.02	0.003		
7/20/2022	METALS	2207200900	Vanadium, Total	0.014	mg/L	0.05	0.0007		J
7/20/2022	METALS	2207200900	Strontium, Total	1.72	mg/L	0.1	0.002		
7/20/2022	METALS	2207200900	Sodium, Total	82.7	mg/L	1	0.2		
7/20/2022	METALS	2207200900	Potassium, Total	4.6	mg/L	2	0.4		
7/20/2022	METALS	2207200900	Molybdenum, Total	0.015	mg/L	0.025	0.003		J RB
7/20/2022	METALS	2207200900	Magnesium, Total	32	mg/L	1	0.03		
7/20/2022	METALS	2207200900	Chromium, Total	0.002	mg/L	0.01	0.002		J
7/20/2022	METALS	2207200900	Boron, Total	0.08	mg/L	0.2	0.02		J
7/20/2022	METALS	2207200900	Arsenic, Total	0.0018	mg/L	0.001	0.0004		
7/20/2022	METALS	2207200900	Calcium, Total	56.8	mg/L	1	0.3		

Analytical Results for Sampling Events at PFE-5

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/20/2022	ANIONS	2207200901	Sulfate	244	mg/L	8	1.6		
7/20/2022	ANIONS	2207200901	Chloride	37.9	mg/L	2	0.5		
7/20/2022	ANIONS	2207200901	Fluoride, undistilled	0.43	mg/L	0.1	0.01		
7/20/2022	ANIONS	2207200901	Alkalinity, Total as CaCO3	162	mg/L	2	1.8		
7/20/2022	SM2540C	2207200902	Total Dissolved Solids (TDS)	616	mg/L	10	9		
7/20/2022	353.2	2207200904	Nitrate+Nitrite as Nitrogen	1.38	mg/L	0.05	0.002		
7/20/2022	6850	2208090752	Perchlorate	0.196	ug/L	0.1	0.025		

Analytical Results for Sampling Events at PFE-7

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
7/20/2022	8260	2207201005	1,1,2-Trichloro-1,2,2-Trifluoroethane	4.2	ug/L	1	0.2		
7/20/2022	8260	2207201005	Trichloroethene (TCE)	4.4	ug/L	1	0.2		
7/20/2022	8260	2207201005	Trichlorofluoromethane (CFC 11)	4.2	ug/L	1	0.24		
7/20/2022	NDMA_LL	2207201008	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		
7/20/2022	NDMA_LL	2207201008	N-Nitrodimethylamine	0.56	ng/L	0.48	0.2		
7/20/2022	NDMA_LL	2207201009	N-Nitrodimethylamine	0.57	ng/L	0.48	0.2		
7/20/2022	NDMA_LL	2207201009	N-Nitrosodimethylamine	1.57	ng/L	0.48	0.4		
7/20/2022	METALS	2207201011	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
7/20/2022	METALS	2207201011	Strontium, Total	2.63	mg/L	0.1	0.002		
7/20/2022	METALS	2207201011	Calcium, Total	97.3	mg/L	1	0.3		
7/20/2022	METALS	2207201011	Sodium, Total	42.1	mg/L	1	0.2		
7/20/2022	METALS	2207201011	Potassium, Total	3.4	mg/L	2	0.4		
7/20/2022	METALS	2207201011	Magnesium, Total	61.4	mg/L	1	0.03		
7/20/2022	METALS	2207201011	Boron, Total	0.06	mg/L	0.2	0.02		J
7/20/2022	METALS	2207201011	Barium, Total	0.026	mg/L	0.02	0.003		
7/20/2022	METALS	2207201011	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
7/20/2022	METALS	2207201011	Molybdenum, Total	0.007	mg/L	0.025	0.003		J RB
7/20/2022	ANIONS	2207201012	Alkalinity, Total as CaCO3	214	mg/L	2	1.8		
7/20/2022	ANIONS	2207201012	Chloride	38.2	mg/L	2	0.5		
7/20/2022	ANIONS	2207201012	Fluoride, undistilled	0.54	mg/L	0.1	0.01		
7/20/2022	ANIONS	2207201012	Sulfate	323	mg/L	8	1.6		
7/20/2022	SM2540C	2207201013	Total Dissolved Solids (TDS)	779	mg/L	10	9		
7/20/2022	353.2	2207201015	Nitrate+Nitrite as Nitrogen	0.705	mg/L	0.05	0.002		
7/20/2022	6850	2208090718	Perchlorate	0.148	ug/L	0.1	0.025		

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 5/13/2022

Sample	Parameter	Result	Units
2205130516	Conductivity	1103	µS/cm
2205130516	pH	8.21	NA
2205130516	Temperature	22.9	ºC
2205130516	Turbidity	0.12	NTU

Well ID B655-EFF-2 Event Date 6/10/2022

Sample	Parameter	Result	Units
2206100523	Conductivity	1132	µS/cm
2206100523	pH	8.39	NA
2206100523	Temperature	26.7	ºC
2206100523	Turbidity	0.10	NTU

Well ID B655-EFF-2 Event Date 7/19/2022

Sample	Parameter	Result	Units
2207191000	Conductivity	1198	µS/cm
2207191000	pH	8.59	NA
2207191000	Temperature	27.4	ºC
2207191000	Turbidity	1.31	NTU

Well ID B655-INF-2 Event Date 5/13/2022

Sample	Parameter	Result	Units
2205130539	Conductivity	1114	µS/cm
2205130539	pH	7.13	NA
2205130539	Temperature	24.3	ºC
2205130539	Turbidity	0.15	NTU

Well ID B655-INF-2 Event Date 6/10/2022

Sample	Parameter	Result	Units
2206100535	Conductivity	1119	µS/cm
2206100535	pH	6.94	NA
2206100535	Temperature	25.7	ºC
2206100535	Turbidity	0.24	NTU

Well ID B655-INF-2 Event Date 7/19/2022

Sample	Parameter	Result	Units
2207190935	Conductivity	1219	µS/cm
2207190935	pH	7.28	NA
2207190935	Temperature	26.0	ºC
2207190935	Turbidity	0.75	NTU

Well ID	MPE-1	Event Date	5/17/2022
Sample	**Parameter**	**Result**	**Units**
2205170801	Conductivity	1260	µS/cm
2205170801	pH	7.02	NA
2205170801	Temperature	23.7	ºC
2205170801	Turbidity	0.93	NTU

Well ID	MPE-10	Event Date	5/18/2022
Sample	**Parameter**	**Result**	**Units**
2205180829	Conductivity	1181	µS/cm
2205180829	pH	7.09	NA
2205180829	Temperature	23.2	ºC
2205180829	Turbidity	0.53	NTU

Well ID	MPE-11	Event Date	5/17/2022
Sample	**Parameter**	**Result**	**Units**
2205170910	Conductivity	1009	µS/cm
2205170910	pH	7.23	NA
2205170910	Temperature	27.8	ºC
2205170910	Turbidity	1.71	NTU

Well ID	MPE-8	Event Date	5/17/2022
Sample	**Parameter**	**Result**	**Units**
2205170838	Conductivity	1230	µS/cm
2205170838	pH	7.22	NA
2205170838	Temperature	25.0	ºC
2205170838	Turbidity	1.23	NTU

Well ID	MPE-9	Event Date	6/9/2022
Sample	**Parameter**	**Result**	**Units**
2206090857	Conductivity	1226	µS/cm
2206090857	pH	7.36	NA
2206090857	Temperature	24.9	ºC
2206090857	Turbidity	0.29	NTU
2206280800	Conductivity	1218	µS/cm
2206280800	pH	7.32	NA
2206280800	Temperature	24.0	ºC
2206280800	Turbidity	0.40	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
5/13/2022	607	2205130523	Bromacil	0.008	µg/L	0.0095	0.0048	128	J R
6/10/2022	607	2206100530	Bromacil	0.007	µg/L	0.0098	0.0049	157	J
6/10/2022	NDMA_LL	2206100531	N-Nitrodimethylamine	0.23	ng/L	0.48	0.2		J
7/19/2022	607	2207191007	Bromacil	0.008	µg/L	0.0096	0.0048	109	J

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
5/13/2022	8260	2205130544	Dichlorofluoromethane (CFC 21)	1.2	ug/L	1	0.2		
5/13/2022	8260	2205130544	Tetrachloroethene (PCE)	2.6	ug/L	1	0.21		
5/13/2022	8260	2205130544	Trichloroethene (TCE)	49	ug/L	1	0.2		
5/13/2022	8260	2205130544	Trichlorofluoromethane (CFC 11)	120	ug/L	1	0.24		
5/13/2022	8260	2205130544	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.6	ug/L	1	0.2		
5/13/2022	8260	2205130544	Unknown	14	ug/L	NA	NA		TIC RB
5/13/2022	8260	2205130544	1,1,2-Trichloro-1,2,2-Trifluoroethane	230	ug/L	2.5	0.5		
5/13/2022	607	2205130546	Bromacil	0.4	µg/L	0.0095	0.0048	128	
5/13/2022	607	2205130546	N-Nitrosodimethylamine	1.89	µg/L	0.0095	0.0048	53	
5/13/2022	607	2205130546	N-Nitrodimethylamine	0.95	µg/L	0.0095	0.0048	88	
6/10/2022	8260	2206100540	Trichloroethene (TCE)	40	ug/L	1	0.2		
6/10/2022	8260	2206100540	Trichlorofluoromethane (CFC 11)	76	ug/L	1	0.24		
6/10/2022	8260	2206100540	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.5	ug/L	1	0.2		A
6/10/2022	8260	2206100540	1,1,2-Trichloro-1,2,2-Trifluoroethane	180	ug/L	1	0.2		
6/10/2022	8260	2206100540	Dichlorofluoromethane (CFC 21)	0.98	ug/L	1	0.2		J
6/10/2022	8260	2206100540	Tetrachloroethene (PCE)	2.4	ug/L	1	0.21		
6/10/2022	8260	2206100541	Trichloroethene (TCE)	41	ug/L	1	0.2		
6/10/2022	8260	2206100541	Tetrachloroethene (PCE)	1.8	ug/L	1	0.21		
6/10/2022	8260	2206100541	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.4	ug/L	1	0.2		A
6/10/2022	8260	2206100541	1,1,2-Trichloro-1,2,2-Trifluoroethane	180	ug/L	1	0.2		
6/10/2022	8260	2206100541	Dichlorofluoromethane (CFC 21)	1.1	ug/L	1	0.2		
6/10/2022	8260	2206100541	Trichlorofluoromethane (CFC 11)	79	ug/L	1	0.24		
6/10/2022	607	2206100543	N-Nitrosodimethylamine	1.78	µg/L	0.0094	0.0047	58	
6/10/2022	607	2206100543	N-Nitrodimethylamine	0.94	µg/L	0.0094	0.0047	103	
6/10/2022	607	2206100543	Bromacil	0.36	µg/L	0.0094	0.0047	157	
7/19/2022	8260	2207190940	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.6	ug/L	1	0.2		
7/19/2022	8260	2207190940	1,1,2-Trichloro-1,2,2-Trifluoroethane	230	ug/L	2	0.4		
7/19/2022	8260	2207190940	Trichlorofluoromethane (CFC 11)	110	ug/L	1	0.24		
7/19/2022	8260	2207190940	Trichloroethene (TCE)	55	ug/L	1	0.2		
7/19/2022	8260	2207190940	Tetrachloroethene (PCE)	2.5	ug/L	1	0.21		
7/19/2022	8260	2207190940	Dichlorofluoromethane (CFC 21)	1.3	ug/L	1	0.2		
7/19/2022	607	2207190942	N-Nitrodimethylamine	0.75	µg/L	0.0094	0.0047	73	
7/19/2022	607	2207190942	Bromacil	0.29	µg/L	0.0094	0.0047	109	
7/19/2022	607	2207190942	N-Nitrosodimethylamine	1.38	µg/L	0.0094	0.0047	41	

Analytical Results for Sampling Events at MPE-1

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/17/2022	8260	2205170806	1,1,2-Trichloro-1,2,2-Trifluoroethane	340	ug/L	5	1		
5/17/2022	8260	2205170806	Dichlorofluoromethane (CFC 21)	1.4	ug/L	1	0.2		
5/17/2022	8260	2205170806	Tetrachloroethene (PCE)	3.5	ug/L	1	0.21		
5/17/2022	8260	2205170806	Trichloroethene (TCE)	76	ug/L	1	0.2		
5/17/2022	8260	2205170806	Trichlorofluoromethane (CFC 11)	200	ug/L	1	0.24		
5/17/2022	8260	2205170806	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.5	ug/L	1	0.2		
5/17/2022	8260	2205170807	Trichloroethene (TCE)	73	ug/L	1	0.2		
5/17/2022	8260	2205170807	Trichlorofluoromethane (CFC 11)	190	ug/L	1	0.24		
5/17/2022	8260	2205170807	1,1,2-Trichloro-1,2,2-Trifluoroethane	320	ug/L	5	1		
5/17/2022	8260	2205170807	Dichlorofluoromethane (CFC 21)	1.3	ug/L	1	0.2		
5/17/2022	8260	2205170807	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	2.4	ug/L	1	0.2		
5/17/2022	8260	2205170807	Tetrachloroethene (PCE)	3.6	ug/L	1	0.21		
5/17/2022	607	2205170809	N-Nitrosodimethylamine	3.08	µg/L	0.0095	0.0048	47	
5/17/2022	607	2205170809	N-Nitrodimethylamine	1.62	µg/L	0.0095	0.0048	89	
5/17/2022	607	2205170809	Bromacil	0.72	µg/L	0.0095	0.0048	121	
5/17/2022	METALS	2205170810	Potassium, Total	4.2	mg/L	2	0.4		
5/17/2022	METALS	2205170810	Zinc, Total	0.003	mg/L	0.02	0.003		J
5/17/2022	METALS	2205170810	Vanadium, Total	0.0008	mg/L	0.05	0.0007		J
5/17/2022	METALS	2205170810	Sodium, Total	47.7	mg/L	1	0.2		
5/17/2022	METALS	2205170810	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
5/17/2022	METALS	2205170810	Arsenic, Total	0.0004	mg/L	0.001	0.0004		J
5/17/2022	METALS	2205170810	Calcium, Total	131	mg/L	1	0.3		
5/17/2022	METALS	2205170810	Strontium, Total	2.86	mg/L	0.1	0.002		
5/17/2022	METALS	2205170810	Boron, Total	0.12	mg/L	0.2	0.02		J
5/17/2022	METALS	2205170810	Barium, Total	0.031	mg/L	0.02	0.003		
5/17/2022	METALS	2205170810	Magnesium, Total	67.8	mg/L	1	0.03		
5/17/2022	ANIONS	2205170811	Chloride	62.2	mg/L	2	0.5		
5/17/2022	ANIONS	2205170811	Fluoride, undistilled	0.95	mg/L	0.1	0.01		
5/17/2022	ANIONS	2205170811	Alkalinity, Total as CaCO3	252	mg/L	2	1.8		
5/17/2022	ANIONS	2205170811	Sulfate	347	mg/L	8	1.6		
5/17/2022	SM2540C	2205170812	Total Dissolved Solids (TDS)	933	mg/L	10	9		
5/17/2022	6850	2205170813	Perchlorate	0.379	ug/L	0.1	0.025		
5/17/2022	353.2	2205170814	Nitrate+Nitrite as Nitrogen	3.7	mg/L	0.5	0.02		

Analytical Results for Sampling Events at MPE-10

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/18/2022	8260	2205180835	Trichloroethene (TCE)	55	ug/L	1	0.2		
5/18/2022	8260	2205180835	Trichlorofluoromethane (CFC 11)	82	ug/L	1	0.24		
5/18/2022	8260	2205180835	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.5	ug/L	1	0.2		
5/18/2022	8260	2205180835	1,1,2-Trichloro-1,2,2-Trifluoroethane	110	ug/L	1	0.2		
5/18/2022	8260	2205180835	Dichlorofluoromethane (CFC 21)	1.6	ug/L	1	0.2		
5/18/2022	8260	2205180835	Tetrachloroethene (PCE)	2.5	ug/L	1	0.21		
5/18/2022	607	2205180837	N-Nitrosodimethylamine	3.28	µg/L	0.0095	0.0048	47	
5/18/2022	607	2205180837	N-Nitrodimethylamine	1.59	µg/L	0.0095	0.0048	89	
5/18/2022	607	2205180837	Bromacil	0.38	µg/L	0.0095	0.0048	121	
5/18/2022	METALS	2205180838	Magnesium, Total	69.4	mg/L	1	0.03		
5/18/2022	METALS	2205180838	Vanadium, Total	0.001	mg/L	0.05	0.0007		J
5/18/2022	METALS	2205180838	Strontium, Total	2.68	mg/L	0.1	0.002		
5/18/2022	METALS	2205180838	Sodium, Total	43.5	mg/L	1	0.2		
5/18/2022	METALS	2205180838	Molybdenum, Total	0.008	mg/L	0.025	0.003		J RB
5/18/2022	METALS	2205180838	Calcium, Total	124	mg/L	1	0.3		
5/18/2022	METALS	2205180838	Boron, Total	0.1	mg/L	0.2	0.02		J
5/18/2022	METALS	2205180838	Barium, Total	0.03	mg/L	0.02	0.003		
5/18/2022	METALS	2205180838	Arsenic, Total	0.0009	mg/L	0.001	0.0004		J
5/18/2022	METALS	2205180838	Potassium, Total	5	mg/L	2	0.4		
5/18/2022	ANIONS	2205180839	Alkalinity, Total as CaCO3	245	mg/L	2	1.8		
5/18/2022	ANIONS	2205180839	Chloride	56.1	mg/L	2	0.5		
5/18/2022	ANIONS	2205180839	Fluoride, undistilled	0.91	mg/L	0.1	0.01		
5/18/2022	ANIONS	2205180839	Sulfate	337	mg/L	8	1.6		
5/18/2022	SM2540C	2205180840	Total Dissolved Solids (TDS)	902	mg/L	10	9		
5/18/2022	6850	2205180841	Perchlorate	0.295	ug/L	0.1	0.025		
5/18/2022	353.2	2205180842	Nitrate+Nitrite as Nitrogen	3.46	mg/L	0.25	0.008		

Analytical Results for Sampling Events at MPE-11

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/17/2022	8260	2205170916	1,1,2-Trichloro-1,2,2-Trifluoroethane	11	ug/L	1	0.2		
5/17/2022	8260	2205170916	Dichlorofluoromethane (CFC 21)	0.76	ug/L	1	0.2		J
5/17/2022	8260	2205170916	Tetrachloroethene (PCE)	0.26	ug/L	1	0.21		J
5/17/2022	8260	2205170916	Trichloroethene (TCE)	5.2	ug/L	1	0.2		
5/17/2022	8260	2205170916	Trichlorofluoromethane (CFC 11)	9.7	ug/L	1	0.24		
5/17/2022	8260	2205170916	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	0.61	ug/L	1	0.2		J
5/17/2022	607	2205170918	N-Nitrodimethylamine	0.07	µg/L	0.0096	0.0048	89	
5/17/2022	607	2205170918	Bromacil	0.009	µg/L	0.0096	0.0048	121	J
5/17/2022	607	2205170918	N-Nitrosodimethylamine	0.15	µg/L	0.0096	0.0048	47	
5/17/2022	607	2205170919	N-Nitrodimethylamine	0.07	µg/L	0.0096	0.0048	89	
5/17/2022	607	2205170919	Bromacil	0.009	µg/L	0.0096	0.0048	121	J
5/17/2022	607	2205170919	N-Nitrosodimethylamine	0.14	µg/L	0.0096	0.0048	47	
5/17/2022	METALS	2205170920	Sodium, Total	51.9	mg/L	1	0.2		
5/17/2022	METALS	2205170920	Magnesium, Total	41.9	mg/L	1	0.03		
5/17/2022	METALS	2205170920	Strontium, Total	2.39	mg/L	0.1	0.002		
5/17/2022	METALS	2205170920	Potassium, Total	6.9	mg/L	2	0.4		
5/17/2022	METALS	2205170920	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
5/17/2022	METALS	2205170920	Calcium, Total	86.6	mg/L	1	0.3		
5/17/2022	METALS	2205170920	Boron, Total	0.09	mg/L	0.2	0.02		J
5/17/2022	METALS	2205170920	Arsenic, Total	0.0016	mg/L	0.001	0.0004		
5/17/2022	METALS	2205170920	Barium, Total	0.048	mg/L	0.02	0.003		
5/17/2022	METALS	2205170920	Vanadium, Total	0.006	mg/L	0.05	0.0007		J
5/17/2022	METALS	2205170920	Chromium, Total	0.002	mg/L	0.01	0.002		J
5/17/2022	ANIONS	2205170921	Chloride	32.3	mg/L	2	0.5		
5/17/2022	ANIONS	2205170921	Fluoride, undistilled	0.49	mg/L	0.1	0.01		
5/17/2022	ANIONS	2205170921	Alkalinity, Total as CaCO3	234	mg/L	2	1.8		
5/17/2022	ANIONS	2205170921	Sulfate	216	mg/L	8	1.6		
5/17/2022	SM2540C	2205170922	Total Dissolved Solids (TDS)	663	mg/L	10	9		
5/17/2022	6850	2205170923	Perchlorate	0.198	ug/L	0.1	0.025		
5/17/2022	353.2	2205170924	Nitrate+Nitrite as Nitrogen	1.06	mg/L	0.05	0.002		

Analytical Results for Sampling Events at MPE-8

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/17/2022	8260	2205170844	Trichlorofluoromethane (CFC 11)	150	ug/L	1	0.24		
5/17/2022	8260	2205170844	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.7	ug/L	1	0.2		
5/17/2022	8260	2205170844	1,1,2-Trichloro-1,2,2-Trifluoroethane	250	ug/L	5	1		
5/17/2022	8260	2205170844	Trichloroethene (TCE)	68	ug/L	1	0.2		
5/17/2022	8260	2205170844	Dichlorofluoromethane (CFC 21)	1.3	ug/L	1	0.2		
5/17/2022	8260	2205170844	Tetrachloroethene (PCE)	2.9	ug/L	1	0.21		
5/17/2022	607	2205170846	N-Nitrosodimethylamine	2.1	µg/L	0.0098	0.0049	47	
5/17/2022	607	2205170846	N-Nitrodimethylamine	1.16	µg/L	0.0098	0.0049	89	
5/17/2022	607	2205170846	Bromacil	0.41	µg/L	0.0098	0.0049	121	
5/17/2022	METALS	2205170847	Molybdenum, Total	0.008	mg/L	0.025	0.003		J
5/17/2022	METALS	2205170847	Vanadium, Total	0.004	mg/L	0.05	0.0007		J
5/17/2022	METALS	2205170847	Thallium, Total	0.0001	mg/L	0.001	0.00004		J
5/17/2022	METALS	2205170847	Potassium, Total	5.3	mg/L	2	0.4		
5/17/2022	METALS	2205170847	Sodium, Total	42.8	mg/L	1	0.2		
5/17/2022	METALS	2205170847	Iron, Total	0.1	mg/L	0.1	0.07		J
5/17/2022	METALS	2205170847	Strontium, Total	2.62	mg/L	0.1	0.002		
5/17/2022	METALS	2205170847	Calcium, Total	129	mg/L	1	0.3		
5/17/2022	METALS	2205170847	Boron, Total	0.1	mg/L	0.2	0.02		J
5/17/2022	METALS	2205170847	Barium, Total	0.031	mg/L	0.02	0.003		
5/17/2022	METALS	2205170847	Arsenic, Total	0.0007	mg/L	0.001	0.0004		J
5/17/2022	METALS	2205170847	Magnesium, Total	66.3	mg/L	1	0.03		
5/17/2022	METALS	2205170848	Barium, Total	0.031	mg/L	0.02	0.003		
5/17/2022	METALS	2205170848	Vanadium, Total	0.003	mg/L	0.05	0.0007		J
5/17/2022	METALS	2205170848	Thallium, Total	0.0001	mg/L	0.001	0.00004		J
5/17/2022	METALS	2205170848	Boron, Total	0.1	mg/L	0.2	0.02		J
5/17/2022	METALS	2205170848	Arsenic, Total	0.0007	mg/L	0.001	0.0004		J
5/17/2022	METALS	2205170848	Magnesium, Total	66.2	mg/L	1	0.03		
5/17/2022	METALS	2205170848	Sodium, Total	42.8	mg/L	1	0.2		
5/17/2022	METALS	2205170848	Calcium, Total	129	mg/L	1	0.3		
5/17/2022	METALS	2205170848	Potassium, Total	5.3	mg/L	2	0.4		
5/17/2022	METALS	2205170848	Molybdenum, Total	0.007	mg/L	0.025	0.003		J
5/17/2022	METALS	2205170848	Strontium, Total	2.62	mg/L	0.1	0.002		
5/17/2022	ANIONS	2205170849	Chloride	58.2	mg/L	2	0.5		
5/17/2022	ANIONS	2205170849	Fluoride, undistilled	1	mg/L	0.1	0.01		
5/17/2022	ANIONS	2205170849	Alkalinity, Total as CaCO3	243	mg/L	2	1.8		
5/17/2022	ANIONS	2205170849	Sulfate	362	mg/L	8	1.6		

Analytical Results for Sampling Events at MPE-8

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
5/17/2022	SM2540C	2205170850	Total Dissolved Solids (TDS)	886	mg/L	10	9		
5/17/2022	6850	2205170851	Perchlorate	0.389	ug/L	0.1	0.025		
5/17/2022	353.2	2205170852	Nitrate+Nitrite as Nitrogen	3.16	mg/L	0.25	0.008		

Analytical Results for Sampling Events at MPE-9

Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
6/9/2022	8260	2206090901	Trichloroethene (TCE)	70	ug/L	1	0.2		
6/9/2022	8260	2206090901	Trichlorofluoromethane (CFC 11)	76	ug/L	1	0.24		
6/9/2022	8260	2206090901	1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	1.3	ug/L	1	0.2		A
6/9/2022	8260	2206090901	Tetrachloroethene (PCE)	2.8	ug/L	1	0.21		
6/9/2022	8260	2206090901	1,1,2-Trichloro-1,2,2-Trifluoroethane	170	ug/L	1	0.2		
6/9/2022	8260	2206090901	Dichlorofluoromethane (CFC 21)	1.1	ug/L	1	0.2		
6/9/2022	8260	2206090901	Toluene	0.36	ug/L	1	0.2		J
6/9/2022	607	2206090903	N-Nitrosodimethylamine	3.49	µg/L	0.0096	0.0048	58	
6/9/2022	607	2206090903	N-Nitrodimethylamine	1.76	µg/L	0.0096	0.0048	103	
6/9/2022	607	2206090903	Bromacil	0.55	µg/L	0.0096	0.0048	157	
6/9/2022	METALS	2206090904	Calcium, Total	128	mg/L	1	0.3		
6/9/2022	METALS	2206090904	Strontium, Total	2.71	mg/L	0.1	0.002		
6/9/2022	METALS	2206090904	Sodium, Total	41.3	mg/L	1	0.2		
6/9/2022	METALS	2206090904	Potassium, Total	3.8	mg/L	2	0.4		
6/9/2022	METALS	2206090904	Magnesium, Total	66.1	mg/L	1	0.03		
6/9/2022	METALS	2206090904	Boron, Total	0.1	mg/L	0.2	0.02		J
6/9/2022	METALS	2206090904	Barium, Total	0.031	mg/L	0.02	0.003		
6/9/2022	METALS	2206090904	Arsenic, Total	0.0006	mg/L	0.001	0.0004		J
6/9/2022	METALS	2206090904	Molybdenum, Total	0.01	mg/L	0.025	0.003		J RB
6/9/2022	ANIONS	2206090905	Alkalinity, Total as CaCO3	242	mg/L	2	1.8		
6/9/2022	ANIONS	2206090905	Chloride	56.1	mg/L	2	0.5		
6/9/2022	ANIONS	2206090905	Fluoride, undistilled	1.01	mg/L	0.1	0.01		
6/9/2022	ANIONS	2206090905	Sulfate	321	mg/L	8	1.6		
6/9/2022	SM2540C	2206090906	Total Dissolved Solids (TDS)	902	mg/L	10	9		
6/9/2022	353.2	2206090908	Nitrate+Nitrite as Nitrogen	3.52	mg/L	0.25	0.008		
6/9/2022	6850	2206280802	Perchlorate	0.328	ug/L	0.1	0.025		

Appendix B
Sampling Event Logbook Entries and Internal CoC Forms

PROJECT 400 · EU · 131

Continued from page

Marcus Avalue & Robert Burrows present. Weather is clear & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected from a dedicated discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2 in use.

Calibrations

DO - Cal in 100% saturated air @ 635 mm/Hg.
Conductivity - Cal using 1413 us/cm STD.
PH - Cal using Oakton Buffers (4,7,10)
Turb Meter # 21 STD - 9.13 NTU RDG - 8.93 NTU Lot # - 200445 Exp - 5/30/22

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
2205020950A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2621	ALS
——— 0952A	" (FB)	"	"	"	"

Parameters (time)	Temp (°C)	Cond (us/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 2205020945A	23.90	1352	5.34	267	7.52	3.60	142.30
2) ——— 0947A	23.95	1361	5.28	266	7.51	3.49	"
3) ——— 0949A	23.98	1363	5.25	265	7.49	3.26	"

Initial DTW - ~~142~~ 142.25'

Total Gallons Purged - 0.5 gal

Continued from page

Read and Understood By

[signature] 5/2/22 [signature] 5-3-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/2/22 Page 1 of 1

Sample Location: 400 · EV · 131			Analytical Requirement							
Pertinent Notes (if any)	# of Containers	Sample Matrix*	0260							
Sample Number										Charge Number
220502 0950A	3	A	X							XGMD
—— 0952A (FB)	3	↓	X							↓

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5/2/22 @ 1100		[signature]	5-3-22 /0915

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

Notebook No. D32 # 123(A)

PROJECT 400·GV·125 WJI ENV·0053

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 dedicated discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G.2.

Calibrations
DO: Cal in 100% saturated air @ 635 mm/Hg.
Conductivity: Cal using 1413 uS/cm STD solution.
PH - Cal using Oakton Buffers (4,7,10)
Turb Meter: #21 STD - 9.13 NTU RDG - 8.95 NTU Lot - 200445 Exp - 5/30/22

Parameters (time)	Temp(°C)	Cond (uS/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 2205030850A	21.43	1419	4.09	311	7.21	2.49	131.35'
2) ——— 0852A	21.37	1420	4.08	309	7.21	3.26	"
3) ——— 0854A	21.33	1419	4.07	307	7.21	0.96	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
2205030900A	VOA by 8260	HCl/Ice	(3) 40ml vials	262	ALS
——— 0901A	" (FB)	"	"	"	"

Initial DTW - 130.40'

IDW - 0.5 gal

Continued from page

Read and Understood By

5/3/22

5-4-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/3/22 Page 1 of 1

Sample Location: 400 · GU · 125

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260							Charge Number
2205030900A	3	1	X							VGMD
—— 0901A	3	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]	5/3/22 @ 1100		[signature]	5-4-22 / 0920

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

WSTF 381C (05/2016)

PROJECT 400·JU·150 WJI ENV·0053

Notebook No. ~~0051~~ 1A D32-123(A)

Continued from page ______

Marcus Angeles & Robert Burrows present. Weather is warm & breezy. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a dedicated discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G.2

Calibrations
DO: Cal in 100% saturated air @ 635 mm/Hg.
Conductivity: Cal using 1413 us/cm STD solution.
pH: Cal using Oakton Buffers (4,7,10)
Turb Meter - #21 STD - 9.13 NTU RDG - 8.93 NTU LOT - 200445 Exp. 5/30/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	DO	ORP	pH	Turb (NTU)	DTW (ft)
1) 220502 0920A	24.88	2085	4.86	297	7.72	8.44	147.30'
2) —— 0922A	24.90	2098	4.60	295	7.59	8.17	"
3) —— 0924A	24.93	2113	4.26	292	7.47	8.14	"

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
20502 ~~0930~~ 1430 A	VOA by 8260	HCl/Ice	(3) 40ml vials	2621	Als
—— ~~0931~~ A 2205021431A (FB) NA NO	"	"	"	"	"

Initial DTW - 146.20'

IDW - 0.5 gal

High Turb

Sample # 2205021430 A
—— 1431 A

Continued from page

Read and Understood By

[signature] Signed 5/2/22 Date

[signature] Signed 6-3-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 400.JU.150 Page 1 of 1

Sample Location: 5-2-22			Analytical Requirement							
Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260							
Sample Number										Charge Number
2205021430A	3	A	X							YGMD
1431A (FB)	3	↓	X							↓

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5/2/22 @ 1500		[signature]	5-3-22 / 0915

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

2

PROJECT 600A-001-GW

Notebook No. D32 # 1258

Continued from page ____

Tim Kondy + Al Montes present. Weather is warm, clear. Well will be purged with a deconed Bennett pump. Sampled with a deconed bailer. Carboy - G5

Initial Parameters

Time - 220505 1245 B
pH - 7.71
Temp (C) - 21.7
Cond (mS/cm) - 2.04 mS/cm
TURB (NTUs) 25.3
Total Depth 152.00 FT
DTW - 150.77 FT
3 casing vol - 3 gal
pH pre cal 7.03 - 10.05
pH post cal 7.05 - 10.07

Final

Time - 220505 1259 B
pH 7.89
Temp (C) 22.4
Cond (mS/cm) 2.16 mS/cm
TURB (NTUs) NA
pH precal 7.05 - 10.11
pH postcal 7.07 - 10.09
DTW - 151.05
Gallons purged - 7

MTR #
pH/cond - 93
TURB - 7
" Std - 48.3
" Rdg - 49.5
" Lot # - 200445
" Exp - 5-31-22

Samples

Sample #	Analytes	Preserv	Cont.	Lot #	Lab
220505 0730 B	NDMA/DNA/Bromacil/607 (EB)	Ice	(1) 1 LT Amber		SRL
— 1250 B	8260	Ice HCL	(3) 40 ml Vial		ALS
— 1251 B	" (FB)	"	"		"
— 1252 B	NDMA/DNA/Bromacil/607	Ice	(1) 1 LT Amber		SRL
— 1253 B	8270 D	Ice	(2) 1 LT Amber		ALS
— 1254 B	Total metals	Ice, HNO_3	(2) 125 ml poly		"
— 1255 B	Anions/ALK	Ice	(2) "		"
— 1256 B	TDS	"	(1) 250 ml poly		"
— 1257 B	perchlorate	"	(1) 125 ml poly		"
— 1258 B	NO_2/NO_3	Ice, H_2SO_4	(1) 250 ml poly		"

NOTE - Water was very dirty at 3 casing vol. So we pumped it dry and let recover before sampling. Pumped about 7 gal total.

EB Taken from the end of the pump.

Sample water very dirty, TURB did not read

Continued from page

Read and Understood By

Tim Kondy
Signed

5-5-2022
Date

[signature]
Signed

5-9-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5·5·22 Page 1 of 1

Sample Location: 600A001G1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 VOA	607 NDMA	8270 SVA	TOTAL METAL	ANIONS.ALK			Charge Number
2205051250B	3	A	X							
—— 1251B (FB)	3		X							
—— 0730B (EB)	1			X						
—— 1252B	1			X						
—— 1253B	2				X					
—— 1254B	2					X				
—— 1255B	2						X			

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	TDS	PERCHL	NO2NO3					Charge Number
2205051256B	1	A	X							
—— 1257B	1	A		X						
—— 1258B	1	A			X					

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	5·5·22 230 pm	[signature]	5-9-22 /0900

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

WSTF 381C (05/2016)

PROJECT 600A-002-GW-1

Notebook No. D32 # 125B

Continued from page

Tim Kundy + Al Montes present. Weather is warm, windy and partly cloudy. Well will be purged with a decond Bennett pump and sampled with a decond teflon bailer. Carboy G-5

~~Initial~~ parameters		End Parameters		Meter #			
Time	220504 0955 B	Time	220504 1020 B	pH/cond	93		
pH	7.89	pH	7.90	TURB	7		
Temp (°c)	21.5°c	Temp (°c)	21.6	" std	48.3		
cond	1385 us/cm	cond	1392	" Rdg	49.4		
TURB (NTUS)	13.24 NTU	TURB (NTUS)	115	" Lot #	200445		
DTW	174.85 FT	pH precal	7.12-10.08	" Exp.	5-31-22		
Total depth	183.00 FT	pH postcal	7.12-10.09	~~Buffer~~		Lot #	Exp
3 casing vol =	18.7 gallons	DTW FT	175.02	7-			
pH precal	7.14-10.06 21.8°c	gallons purged	21	10-			
pH post	7.12-10.08 22c						

Samples

Sample #	Analysis	Preserve	Cont.	Lot #	Lab
220504 0950 B	Metals (FB)	ice HNO3	(2) 125 ml poly		ALS
— 1011 B	8260 (FB)	ice HCL	(3) 40 ml vial		"
— 1013 B	NDMA/PAH/Bromacil/607 (FB)	ice	(1) 1 LT Amber		SRI
— 1010 B	8260	ice	(3) 40 ml vial		ALS
— 1012 B	NDMA/PAH/Bromacil/607	ice	(1) 1 LT Amber		SRI
— 1014 B	SVOA/8270 D	ice	(2) 1 LT Amber		ALS
— 1015 B	Total Metals	ice HNO3	(2) 125 ml poly		ALS
— 1016 B	Anions/ALK	ice	(2) 125 ml poly		ALS
— 1017 B	TDS	ice	(1) 250 ml poly		ALS
— 1018 B	perchlorate	ice,	(1) 125 ml poly		ALS
— 1019 B	NO2/NO3	ice H2SO4	(1) 250 ml poly		ALS

Continued from page

Read and Understood By

T Kundy — Signed — 5-4-2022 Date

Lori W Munck — Signed — 5-5-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-4-2022 Page ____ of ____

Sample Location: 600A-002-GW-1

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	8270	Total Metals				Charge Number
										XGMD
2205041010B	3	A	X							
1011B (FB)	3		X							
1012B	1			X						
1013B (FB)	1			X						
1014B	2				X					
1015B	2					X				
0950B (EB)	2					X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Anions/Alk	TDS	perchlorate	NO2/NO3				Charge Number
2205041016B	2	A	X							
1017B	1			X						
1018B	1				X					
1019B	1					X				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-4-2022		[signature]	5-5-22/0920

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

WSTF 381C (05/2016)

PROJECT 600-C-173 WJI ENV-0053

Continued from page N/A

Robert Burrows & Matt Garcia present. Weather is partly cloudy & cool. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua troll 500. Carboy 6-2 in use.

Calibrations:

DO - Cal in 100% saturated air @ 635 mm/Hg.

Conductivity - Cal using 1413 us/cm std.

pH - Cal using Oakton Buffers (4,7,10).

Turbidity meter - 7#, Std. - 48.3 (ntus), Rdg - 49.4 (ntu's), Lot# 20045, Exp - 5-31-22

Total Depth - N/A
*No probe to do this

Parameters (Time)	Temp (°C)	Cond (us/cm)	DO	pH	ORP	Turb (ntu's)	DTW (Ft)
1) 220517 0801 A	21.30	13,228	8.39	6.66	345.2	3.44	N/A
2) —— 0802 A	21.29	12,900	8.29	6.68	349.4	3.33	" "
3) —— 0803 A	21.28	13,108	8.31	6.72	358.9	3.15	" "

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
220517 0809 A	VOA by 8260	HCl/ICE	(3) 40 ml vials	2621	ALS
—— 0810 A	" " FB	" "	(3) " "	" "	" "
—— 0811 A	Nonaplen/bromacil by 507	ICE	(1) 1L Amber	0100301H	SEI
—— 0812 A	Total metals	HNO3/ICE	(2) 125 ml poly	211212	ALS
—— 0813 A	" " (FB)	" "	(2) " "	" "	" "
—— 0814 A	TDS SM 2540C	ICE	(1) 125 ml poly	N/A	" "
—— 0815 A	TKN	H2SO4/ICE	(1) 250 ml poly	210920	" "
—— 0816 A	NO_2, NO_3 by 353.2	H2SO4/ICE	(1) " "	" "	" "
—— 0817 A	Chloride	ICE	(1) " "	1116202AAO	" "

Total gallons purged - 1 gal.

Continued from page N/A

Read and Understood By

Robert Burrows 5-17-22 [signature] 5-18-22

Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-17-22 | Page 1 of 1

Sample Location: 600-C-173

Pertinent Notes (if any): TASK memo- 11163

Charge Number: X GMO

Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Bromacil NDMA/DMN/by 607	Total Metals	TDS SM 2540 C	TKN			Charge Number
2205170809A	3	A	X							
——— 0810A (FB)	3		X							
——— 0811 A	1			X						
——— 0812 A	2				X					
——— 0813 A (FB)	2				X					
——— 0814 A	1					X				X002
——— 0815A	1						X			"

Sample Location: 600-G-173

Pertinent Notes (if any): TASK memo - 11163

Charge Number: X002 ~~X GMO~~

Sample Number	# of Containers	Sample Matrix*	NO2 NO3 353.2	Chloride						Charge Number
220517O816A	1	X	X							
——— 0817A	1	X		X						

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	5-17-22 / 11:15		[signature]	5-18-22 / 0950

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

WSTF 381C (05/2016)

PROJECT B650-EFF-1

Notebook No. PFTS #10

Continued from page N/A

Frank Gallegos & Tim Moore present. Samples will be collected after a one minute purge is done on the dedicated sampling port. Carboy: Plume front:

Parameters		METER ID	Buffers	LOT #	Exp
Time	2205130601	Ph/cond - plumefront 7		4002691	6/22
Ph	7.94	Turb - Plumefront 10		4001005	6/22
Temp	24.6°c	" STD - 9.59 NTU			
Cond	1082 us/cm	" RDG - 9.58 NTU			
Turb	0.16 NTU	" LOT # - N/A			
Ph pre	7.01 - 10.00 (18.6c)	" Exp - 5/31/22			
Ph Post	7.00 - 10.00				

Samples

Sample #	Analysis	pre	Lot #	LAB	CONT
2205130607	VOA by 8260(C)	ICE & HCL	2621	ALS	(3) 40ml vial
— 0608	" (FB)	"	"	"	"
— 0609	NDMA/DMN/B2oby607	ICE	0100301H	SWRI	(1) L + amber
— 0610	LLNDMA	"	0100301H	"	"
— 0611	" (FB)	"	"	"	"
— 0612	TOTAL Metals	ICE/HNO3	N/A	ALS	(2) 125mL poly
— 0613	Anions/Alk	ICE	"	"	"
— 0614	TDS by SM2540C	"	"	"	(1) 125mL poly
— 0615	Perchlorate by 6850	"	080921-7AA0	"	(1) 250mL poly
— 0616	NO2/NO3 by 353.2	ICE/H2SO4	231115	"	"

Continued from page N/A

Signed [signature] 5-13-22

Read and Understood By [signature] 5-13-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-13-22 Page 1 of 1

Sample Location: B650-EFF-1

Pertinent Notes (if any)

Charge Number: X GMD

Sample Number	# of Containers	Sample Matrix*	VOA by 8260 (LL)	NDMA/DMN/ B10 by 607	LL NDMA	TOTAL Metals	ANIONS/ Alk			Charge Number
2205130607	3	A	X							"
— 0608 (FB)	3	A	X							"
— 0609	1	A		X						"
— 0610	1	A			X					"
— 0611 (FB)	1	A			X					"
— 0612	2	A				X				"
— 0613	2	A					X			"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	TDS	Perchlorate	NO2/NO3					Charge Number
2205130614	1	A	X							"
— 0615	1	A		X						"
— 0616	1	A			X					"

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	5-13-22 (0650)	[signature]	5-13-22 / 0920

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

PROJECT ~~PFEES~~ IS650-INF-1 (RESAMPLE)

Notebook No. PFTS #10

Continued from page N/A

Frank Gallegos & Tim Moore present. This ~~well to~~ samples will be taken from a dedicated sampling port in bldg 650 after one minute of purging is complete. Carboy" Plume front

~~Parameters~~ | Meter ID | Buffers | Lot # | Exp

Time - 2205230735	Ph/cond - Plume front	7 -	4002691	8/22
Ph - 7.39	Turb - Plume front	10 -	4001005	6/22
Temp - 24.6°C	STD - 9.59			
Cond - 1080 us/cm	RDG - 9.62			
Turb - 0.68 NTUs	LOT# N/A			
Ph Pre - 7.00/10.01 (18.00)	Exp - 5/31/22			
Ph Post - 7.01/10.02				

Sample#	Analysis	Samples ~~Pres~~	Lot #	LAB	CONT
2205230736	NDMA/DMN/Bioby 607	ICE	0100301H	SURI	(1) Chamber

Continued from page N/A

Signed [signature]

Date 5-23-22

Read and Understood By

Signed [signature] 5-23-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-23-22 Page 1 of 1

Sample Location: B650-INF-1			Analytical Requirement							
Pertinent Notes (if any)										
Sample Number	# of Containers	Sample Matrix*	NDMA/DMN 8/0 by 607							Charge Number XGMD
2205230736	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:
[signature]	5-23-22 (0800)		[signature]	5-23-22 / 0900

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

WSTF 381C (05/2016)

PROJECT B655 - EFF-2

Notebook No. PF.TST10

Continued from page N/A

Frank Gallegos & Tim Moore present. Sample will be collected after a one minute purge done on the dedicated sampling port. Cowboy "Pl

Parameters	METER ID	Buffers	LOT#	Exp
Time - 2205130516	Ph/cond - Plumbline 7		4002691	8/2
Ph - 8.21	Turb - Plumbline 10		4001005	8/2
Temp 22.9°C	" STD - 9.59 NTU			
Cond. 1103 us/cm	" RDG - 9.60 NTU			
Turb. 0.12 NTU	" LOT# - N/A			
Ph pre - 7.00 - 10.01 (19.9°C)	Exp - 5/30/22			
Ph post - 7.00 - 10.01				

Samples

Sample#	Analysis	Pres	LOT#	LAB	CONT
2205130521	VOA by 8260(LL)	ICE & HCl	2621	ACS	(7) 40mL vial
0522	" (FB)	"	"	"	"
0523	NDMA/DMN/6/0 by 607	ICE	0100301H	SWRI	(1) Lt amber
0524	LL NDMA	"	"	"	"
0525	" (FB)	"	"	"	"

TRIP BLANKS

Sample#	Analysis	Pres	LOT#	LAB	CONT
2215130455	VOA by 8260(LL)	ICE & HCl	2621	ACS	(3) 40mL vial
0456	LL NDMA	ICE	0100301H	SWRI	(1) Lt amber

Continued from page N/A

Read and Understood By

Signed 13 MAY 2022 5-13-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-13-22 Page 1 of 1

Sample Location: B655-EFF-2

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA by 8260(11)	NDMA/DMN Bro by 607	LL NDMA					Charge Number: XGMD
220513 0521	3	A	X							"
—— 0522(FB)	3	A	X							"
—— 0455(TB)	3	A	X							"
—— 0523	1	A		X						"
—— 0524	1	A			X					"
—— 0525(FB)	1	A			X					"
—— 0456(TB)	1	A			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:
[signature]	5-13-22 (0650)		[signature]	5-13-22 / 0920

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

WSTF 381C (05/2016)

Frank Gallegos & Tim Moore present. Samples will be collected after a one minute purge is done to the dedicated sampling port.
Carboy "Plumefront"

Parameters	METERED	Buffers	LOT#	EXP
Time	2205730539	Ph/cond - Plumefront 7 -	4002691	8/22
Ph	7.13	Turb - Plumefront 10 -	40001005	6/22
Temp	24.3°c	" STD	~~0~~ 9.59 NTU	
cond	1164 us/cm	" RDG	9.61 NTU	
Turb	0.15 NTU	" LOT#	N/A	
Ph pre	7.00-10.00 (20.1°c)	" Exp	5/30/22	
Ph post	7.00-10.00			

Samples

Sample#	Analysis	Pres	LOT#	LAB	CONT
2205730544	VOA by 8260	ice; Hcl	2621	ALS	(5) 40ml vial
— 0545	" (FB)	"	"	"	"
— 0546	NDMA/DMN/Bro by 607	ICE	0100301H5WR1		(1) L+ amber

Read and Understood By

Signed	Date	Signed	Date
[signature]	13 MAY 2022	[signature]	5-13-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-13-22 Page 1 of 1

Sample Location: B655-INF-2			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA by 8260	NDMA+DMN B10 by 607						X GMD / Charge Number
2205130544	3	A	X							"
— 0545(FB)	3	A	X							"
— 0546	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:
[signature]	5-13-22 (0650)		[signature]	5-13-22 / 0920

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

WSTF 381C (05/2016)

PROJECT BIM.2.630

Notebook No. 032 # 123 (A)

Continued from page

Marcus Avalos + Matt Garcia present. Weather is breezy + warm. This well will be purged + sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using an In-Situ Aqua Troll 500. Carboy G-5

Calibrations
DO - Cal in 100% saturated air @ 635 mm/Hg.
Conductivity - Cal using 1413 uS/cm STD.
PH - Cal using Oakton Buffers (4,7,10)
Turbidity Meter - #7 STD - 48.3 NTU RDG - 47.1 NTU Lot - 200445 Exp 5/30/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	DO	ORP	PH	Turb (NTU)	DTW
1) 2205090940 A	19.90	913	4.45	347	7.35	49.7	N/A
2) ——— 0942 A	19.95	911	4.95	354	7.32	77.3	=
3) ——— 0944 A	20.09	915	4.29	358	7.30	81.0	=

Trip Blank Samples

Sample #	Analysis	Preserve	Container	lot	lab
2205090730A	VOA by 8260	HCl/Ice	(3) 40 ml vials	Als	2621
——— 0731A	Low Level NDMA	Ice	(1) 1L Amber	SRI	0100301H

Samples

Sample #	Analysis	Preserve	Container	lot	lab
2205090950A	VOA by 8260	HCl/Ice	(3) 40 ml vials	Als	2621
——— 0951A	= (FB)	=	=	=	=
——— 0952A	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI
——— 0953A	= (Dup)	=	=	=	=
——— 0954A	= (FB)	=	=	=	=

Blind Controls

Sample #	Analysis	Preserve	Container	lot	lab
2205091100A	Low Level NDMA	Ice	(1) 1L Amber	NA	SRI

SAMPLE # 22MM141A
ANALYSIS NDMA 0.01 ug/L

Total Gallons Purged - 1.75 gal

* High Turbidity

Continued from page

Read and Understood By

[signature] Signed 5/9/22 Date [signature] Signed 5-10-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/9/22 | Page 1 of 1

Sample Location: BIM-2-630

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	LL NDMA						Charge Number
2205090730A (TB)	3	A	X							XGMD
0731A (TB)	1			X						
0950A	3		X							
0951A (FB)	3		X							
0952A	1			X						
0953A (Dup)	1			X						
0954A (FB)	1			X						

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	LL NDMA							Charge Number
2205091100A (BC)	1	A								XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
~~220509~~ MJG	5/9/22 @ 1105		[signature]	5-10-22 / 0930

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

WSTF 381C (05/2016)

PROJECT BLM-8-418 ENV-0053

Notebook No. D32 # 124 C
Continued from page ________

Dan Halvorsen & Tony Torrez present. Weather is partly cloudy and cool. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge hose. Water quality parameters will be monitored using an In-Situ Aqua-Troll 500. Carboy 63 in use.

Calibrations:
DO Sensor: In 100% Saturated air
pH Sensor: Using In-Situ 4,7,10 Buffers
Conductivity: Using In-Situ STD. Solution
Turbidity: using In-Situ STD.

Initial DTW: 335.55 ft
Final " = 335.71
IDW: 2 gal.

Trip Blanks

Sample #	Analysis	Preservative	Container	LOT	LAB
220503 0645 C	VOC by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
—— 0646 C	NDMA LL	Ice	(1) 1L Amber	103501	SRE

Parameters (Time)	Temp	COND	DO	pH	ORP	TURB	DTW (ft.)
220503 0845 C	21.03	1036	4.92	7.24	316.8	0.60	335.71
—— 0847 C	21.08	1039	4.89	7.24	321.3	0.61	335.71
—— 0849 C	20.97	1036	4.92	7.25	325.1	0.58	335.71

SAMPLES

Sample #	Analysis	Preservative	Container	LOT	LAB
220503 0855 C	VOC by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
—— 0856 C	" " (FB)	"	"	"	"
—— 0857 C	NDMA/DMN Bromacil by LOT	Ice	(1) 1L Amber	103501	SRE
—— 0858 C	NDMA LL	"	"	"	"
—— 0859 C	" " (MS)	"	"	"	"
—— 0900 C	" " (MSD)	"	"	"	"
—— 0901 C	Total Metals	Ice/HNO3	(2) 125 ml Poly	N/A	ALS
—— 0902 C	NDMA LL (FB)	Ice			

Continued from page

Read and Understood By

Signed [signature] Date 5-3-2022
Signed [signature] Date 5-4-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-3-2022 Page 1 of 1

Sample Location: Blm-8-418

Analytical Requirement

Pertinent Notes (if any)

Sample Number		# of Containers	Sample Matrix*	VOA	607	NDMA 4					Charge Number: XGMD
2205030645c	TB	3	A	X							
0855 c		3		X							
0856 c	FB	3		X							
0857 c		1			X						
0646 c	TB	1				X					
0858 c		1				X					
0859 c	(MS)	1				X					

Sample Location:

Analytical Requirement

Pertinent Notes (if any)

Sample Number		# of Containers	Sample Matrix*	NDMA 4	Metals						Charge Number
2205030900c	(MSD)	1	A	X							
0901 c		2			X						
0902 c	FB	1		X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-3-2022 1100		[signature]	5-4-22 / 0920

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

WSTF 381C (05/2016)

PROJECT BIM.17.493 WJI ENV.0053

Notebook No. 032 #123(A)

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 new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G.2.

Calibrations
DO. Cal in 100% saturated air @ 635 mm/Hg.
Conductivity. Cal using 1413 uS/cm STD.
PH. Cal using Oakton Buffers (4,7,10)
Turb Meter - #21 STD - 9.13 NTU RDG. 8.95 NTU Lot. 200445 Exp. 5/30/22

Parameters (time)	Temp (C)	Cond (uS/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 220503 1350A	21.19	1133	5.21	257	7.33	13.6	N/A
2) ——— 1352A	21.27	1134	5.17	258	7.30	12.2	"
3) ——— 1354A	21.21	1147	5.12	258	7.30	10.8	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
220503 1400A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2G21	Als
——— 1401A	"	"	"	"	"
——— 1402A	607/Bromacil	Ice	(1) L Amber	0100301H	SRI

Initial DTW - N/A

IDW - 2.75 gal

Continued from page

Signed

5/3/22
Date

Read and Understood By

Signed

5-4-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: BIM.17.443 Page 1 of 1

Sample Location:			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	607/Bromacil						Charge Number
220503 1400A	3	A	X							XGMO
1401A (FB)	3	↓	X							↓
1402A	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]	5/3/22 @ 1500		[signature]	5-4-22 / 0920

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

PROJECT BLM-22-520 WJE ENV-0053

Continued from page N/A

Robert Burrows & Matt Garcia present. Weather is clear & warm & windy. This well will be purged & sampled a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Cafbag-G-2 in use.

Calibrations

DO - Cal in 100% saturated air @ 635 mm/Hg. Total Depth - N/A

Conductivity - Cal using 1413 us/cm/std. * No probe to do this.

pH - Cal using Oakton Buffers (4,7,10)

Turbidity meter # 7, std - 48.3 (ntus), Rdg - 51.0 (ntus) Lot# - 200445 Exp - 5/31/22

Parameters (time)	Temp(°c)	Cond(us/cm)	DO	ORP	pH	Turb(ntus)	DTW ft
1) 220516 0940 A	21.52	952.62	56.56	418.8	6.79	~~2.65~~ 3.58 RB	N/A
2) ——— 0941 A	32.43	962.47	62.98	420.9	6.80	RB ~~X~~ 2.43	" "
3) ——— 0943 A	21.45	943.39	51.45	422.5	6.83	~~1.35~~ 2.81 RB	" "

Samples Trip Blanks

Sample #	Analysis	Preservative	Container	Lot #	Lab
2205160735 A	VOA by 8260LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0736 A	Low level NDMA	ICE	(1) 1L Amber	0100301H	SRI

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
2205160945A	VOA by 8260LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0946A	" " (FB)	" "	(3) " "	" "	" "
——— 0947A	Low Level NDMA	ICE	(1) 1L Amber	0100301H	SRI
——— 0948A	" " (FB)	" "	(1) " "	" "	" "
——— 0951A	NDMA/DMN/Bromide by 607	" "	(1) " "	" "	" "
——— 0953A	Total metals	HNO3/ICE	(2) 125 ml poly	21-12-12	ALS

Total - 2 gals

Continued from page N/A

Read and Understood By

Robert Burrows — 5-16-22

Signed — Date

[signature] — 5-17-22

Signed — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-16-22 Page 1 of 1

Sample Location: BLM-22-570			Analytical Requirement							
Pertinent Notes (if any): Task memo - 11156	# of Containers	Sample Matrix*	Voa by 8260 LL	Low Level NDMA	Bromide	NDMA/DMH/by 607	Total Metals			Charge Number: X GMD
Sample Number										
2205160735A (TB)	3	A	X							↓
0736A (TB)	1	↓		X						
0945A	3		X							
0946A (FB)	3		X							
0947A	1			X						
0948A (FB)	1			X						
0951A	1				X					

Sample Location: BLM-22-570			Analytical Requirement							
Pertinent Notes (if any): Task Memo - 11156	# of Containers	Sample Matrix*	Total Metals							Charge Number: X GMD
Sample Number										
2205160953A	2	A	X							X

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Benavides	5-16-22/11:10		[signature]	5-17-22/0920

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

PROJECT BIM·24·565 WJI ENV·0053

Marcus Avalos & Robert Burrows present. Weather is cloudy & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2.

Calibrations
DO- Cal in 100% saturated air @ 635 mm/Hg.
Conductivity- Cal using 1413 us/cm STD.
PH- Cal using Oakton Buffers (4,7,10)
Turb Meter #21 STD - 9.13 NTU 1RDG - 8.90NTU Lot - 200445 Exp - 5/30/22

Trip Blanks

Sample #	Analysis	Preserve	Container	lot	lab
2205040730A	VOA by 8260LL	HCl/Ice	(3) 40ml vials	2621	Als
—— 0731A	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI

Parameters (time)	Temp(°C)	Cond(us/cm)	DO	ORP	PH	Turb(NTU)	DTW(ft)
1) 2205040930A	21.55	1054	3.25	118	10.50	1.73	
2) —— 0932A	21.52	1070	3.11	122	10.63	1.24	
3) —— 0934A	21.60	1067	2.67	120	10.67	1.06	

Samples

Sample#	Analysis	Preserve	Container	lot	lab
2205040940A	VOA by 8260LL	HCl/Ice	(3) 40ml vials	2621	Als
—— 0941A	" (FB)	"	"	"	"
—— 0942A	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI
—— 0943A	" (FB)	"	"	"	"
—— 0944A	Total Metals	HNO3/Ice	(2) 125ml poly	211212	Als
—— 0945A	" (Dup)	"	"	"	"

TOW - 0.5 gal

Continued from page

Read and Understood By

[signature] Signed 5/4/22 Date [signature] Signed 5-5-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/4/22 | Page 1 of 1

Sample Location: BIM · 24 · 565

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	T. Metals					Charge Number
2205040730A (TB)	3	A	X							XGMD
0731A (TB)	1			X						
0940A	3		X							
0941A (FB)	3		X							
0942A	1			X						
0943A (FB)	1			X						
0944A	2				X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	T. Metals							Charge Number
2205040945A (Rp)	2	A	X							XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5/4/22 @ 1100		[signature]	5-5-22 /0920

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

PROJECT BIM.26.404 WJI ENV.0053

Notebook No. D32 #123(A)

Continued from page

Marcus Avalos & Robert Burrows present. Weather is breezy & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2

Calibrations
DO - Cal in 100% saturated air @ 635 mm/Hg.
Conductivity - Cal using 1413 uS/cm STD solution
pH - Cal using Oakton Buffers (4,7,10)
Turb Meter #21 STD - 9.13 NTU RDG - 8.90 NTU Lot 200445 Exp. 5/30/22

Parameters (time)	Temp(°C)	Cond (uS/cm)	DO	ORP	PH	Turb	DTW (ft)
1) 2205041400A	21.40	1001	5.16	266	7.47	1.02	N/A
2) ——— 1402A	21.69	1003	5.10	267	7.37	1.32	"
3) ——— 1404A	21.53	1004	5.06	263	7.26	1.04	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
2205041410A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2621	ALS
——— 1411A	" (FB)	"	"	"	"
——— 1412A	607/Bromacil	Ice	(1) 1L Amber	010030 1H	JRL
——— 1413A	" (Dup)	"	"	"	"
——— 1414A	Total Metals	HNO3/Ice	(2) 125 ml poly	211212	ALS

IDW - 1.25 gal

Continued from page

Signed 5/4/22 Date

Read and Understood By

Signed 5-5-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/4/22 Page 1 of 1

Sample Location: BIM-2G-404

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	607	T. Metals					Charge Number
2205041410 A	3	A	X							XGMD
1411A (FB)	3		X							
1412 A	1			X						
1413 A (Dup)	1			X						
1414 A	~~4~~ 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]	5/4/22 @ 1500		[signature]	5-5-22 /0920

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

WSTF 381C (05/2016)

PROJECT Bzm-32-543 FLUTe ENV-0020

Notebook No. D32 #122(B)

Continued from page ________

Dan Halvorsen & Tony Torrez present. Weather is Clear, Cool and Windy. This We[ll] will be purged and sampled using a FLUTe system. Samples will be collected usin[g] a dedicated Teflon hose. Purge pressure set at 281 psi and sample pressure at 252 psi. Bubbler set at 3 psi and stable at 8 psi. Minimum of 4 gallons purged prio[r] to sampling. 15 minute recovery between purges. Carboy G 5 in use.

Pre-Sample Parameters

PH	= 8.29	8.33	8.28
Temp	= 25.4	25.3	25.4
Cond	= 1081	1085	1084
Turb	- 0.72	0.68	0.69

Meter ID

PH/Cond = 93

Turb = 7

" STD = 48.3

" RPG = 48.6

" LOT - 200445

" Exp : 5/22

Initial Parameters		Final Parameters
Time	= 2205021405 B	2205021450 B
PH	= 8.40	8.37
Temp	= 25.4 °C	25.5
Cond	= 1084 uS/cm	1081
Turb	- 0.69 NTUs	0.73
PHPre	= 7.01 - 10.03 (24.6 °C)	7.00 - 10.00
PHPost	= 7.00 - 10.01	7.00 - 10.01

Samples

Sample #	Analysis	Preserv.	Container	LOT	LAB
220502 1407 B	VOA by 8260	Ice/HCl	(3) 40 ml Vial		ALS
—— 1408 B	" " (FB)	"	"		"
—— 1409 B	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber		SRL
—— 1426 B	NDMA LL	"	"		"
—— 1427 B	" " (FB)	"	"		"
—— 1440 B	SVOA by 8270 D	"	(2) "		ALS
—— 1441 B	Anions / Alk	"	(2) 125 ml Poly		"
—— 1442 B	TDS by SM2540 C	"	(1) 250 ml Poly		"
—— 1443 B	Perchlorate by 6850	"	(1) 125 ml Poly		"
—— 1444 B	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly		"

Continued from page

Signed [signature] Date 5.2.2022

Read and Understood By [signature] 5-3-22

Signed

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5·2·2022

Page ______ of ______

Sample Location: BLM-32-543

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	VOA	LOT	NDMA LL	5VOA ~~Anions/ALK~~	Anions/ALK TDS			Charge Number
2205021407 B	3	A	✓							
——1408 B FB	3		✓							
——1409 B	1			✓						
——1426 B ~~FB~~	1				✓					
——1427 B FB	1				✓					
——1440 B	2					✓				
——1441 B	2						✓			

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO2/NO3	TDS					Charge Number
2205021443 B	1	A	✓							
——1444 B	1			✓						
——1442 B	1				✓					

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-2-22 1500		[signature]	5-3-22 / 0915

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

WSTF 381C (05/2016)

PROJECT BLM-32-571 FLUTe ENV-0020

Dan Halvorsen & Tony Torrez present. Weather is clear and windy. This well will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated Teflon discharge hose. Purge pressure set at 281 psi and sample pressure at 252 psi. Bubbler set at 3psi and stable at 8 psi. minimum of 4 gallons purged prior to sampling. 15 minute recovery between purges. Carboy 65 in use.

Pre-Sample Parameters

~~Flow~~

PH	= 7.73	7.76	7.74
Temp	= 23.6	23.7	23.7
Cond	= 1089	1093	1091
Turb	= 0.91	0.94	0.92

Meter ID

PH / Cond	= 93
Turb	= 7
" STD	= 483
" RDG	= 48.6
" Lot	= 200445
" Exp	= 5/22

Initial Parameters		Final Parameters
Time	= 2205021315 B	2205021328 B
PH	= 7.75	7.72
Temp	= 23.7 °C	23.8
Cond	= 1092	1090
Turb	= 0.94 ntus	0.91
PH Pre	= 7.00-10.01 (24.7 °C)	7.00-10.02
PH Post	= 7.01-10.01	7.01-10.01

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
2205021317 B	VOA by 8260	ice/HCl	(3) 40 ml vial		ALS
——1318 B	" " (FB)	"	"		"
——1319 B	NDMA LL	ice	(1) 1L amber		SRL
——1320 B	" " (FB)	"	"		"

Read and Understood By

Signed [signature] Date 5-2-2022 Signed [signature] Date 5-3-23

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-2-2022 Page ______ of ______

Sample Location: BLM-32-571

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOC	NDMA LL					Charge Number
2205021317 B	3	A	✓						
1318B FB	3		✓						
1319B	1			✓					
1320 B FB	1			✓					

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]	5-2-2022 1500		[signature]	5-3-22 /0915

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

WSTF 381C (05/2016)

PROJECT BLM-32-632 FLUTe ENV-0020

Notebook No. D32 #122 B

Continued from page

Dan Halvorsen & Tony Torrez present. Weather is clear and windy. This well will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated Teflon discharge hose. Purge pressure set at 281 psi and sample pressure at 252 psi. Bubbler set at 3psi and stable at 8 psi. Minimum of 4 gallons purged prior to sampling. Carboy 6 5 in use.

Pre-Sample Parameters

PH	= 7.69	7.70	7.68
TEMP	= 23.2	23.1	23.0
COND	= 1090	1094	1092
TURB	= 0.73	0.72	0.68

Meter I.D

PU/COND = 93
TURB = 7
STD = 48.3
RDG = 48.6
LOT = 200445
EXP = 5/22

Initial Parameters		Final Parameters
Time	= 220502/1345 B	220502/1358 B
PH	= 7.67	7.42
TEMP	= 23.1°C	23.2
COND	= 1092 us/cm	1095
TURB	= 0.69 NTUs	0.73
PH Pre	= 7.02-10.01 (24.8°C)	7.00-10.01
PH Post	= 7.00-10.02	7.00-10.00

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	LAB
220502/1347 B	VOC by 8260	ICE/HCl	(3) 40 ml vial		ALS
—1348 B	" " (FB)	"	"		"
—1349 B	NDMA LL	ICE	(1) L Amber		SRTI
—1350 B	" " (FB)	"	"		"

Continued from page

Signed 5-2-2022 Date

Read and Understood By

Signed 5-3-23 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-2-2022 Page ______ of ______

Sample Location: BLM-32-632

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOC	NOMOA					Charge Number
									XGMD
22050213417 B	3	A	X						
1348 B FB	3		X						
1349 B	1			X					
1350 B FD	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]	5-2-2022 1500		[signature]	5-3-22 / 0915

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

WSTF 381C (05/2016)

PROJECT BLM-36-350 WJI ENV-0020

Notebook No. D64#129(Y)

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & windy. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks – Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205041030Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

Initial Parameters	Final	Meter ID
Time – 2205041105Y	Time – 2205041443Y	pH/cond – 92
PH – 8.14	PH – 7.94	Turb – 20
Temp – 24.2°c	Temp – 25.3°c	" std – 5.87
Cond – 1284 us/cm	Cond – 1292 us/cm	" rdg – 5.94
Turb – 1.41 NTU's	Turb – 1.10 NTU's	" lot – 210966
pH pre – 7.06/10.04 (19.7°c)	pH pre – 7.02/9.98 (25.6°c)	" Exp – 5/31/22
pH post – 7.04/10.00	pH post – 7.03/10.01	
DTW – 572.70 ft.	DTW – 572.70 ft.	
Atmos – 12.50 psia	Atmos – 12.52 psia	
	IDW – 1 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205041320Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——1321Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——1345Y	" (Dupl.)	"	"	"	"
——1410Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
——1411Y	Anions/Alk.	ice	"	N/A	"
——1440Y	TDS by SM2540C	"	(1) 250ml poly	111620-2AAO	"
——1441Y	Perchlorate by 6850	"	(1) 125ml poly	N/A	"
——1442Y	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-09-20	"

Runs	1)	2)	3)	4)	5)
	12.57	12.57	12.58	12.57	12.58
	32.61	33.00	32.95	32.91	32.89
	32.62	32.96	32.90	32.94	32.92
	12.60	12.62	12.60	12.58	12.61

Continued from page

Craig Del Ferraro 5/4/22
Signed Date

Read and Understood By

[signature] 5-5-22
Signed

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/4/22 Page 1 of 1

Sample Location: BLM-36-350

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	Anions/A/K	TDS			Charge Number
2205041030Y (EB)	3	A	✓							XGMD
1320Y	3	A	✓							"
1321Y	1	A		✓						"
1345Y (Dupl.)	1	A		✓						"
1410Y	2	A			✓					"
1411Y	2	A				✓				"
1440Y	1	A					✓			"

Sample Location: BLM-36-350

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO_2/NO_3						Charge Number
2205041441Y	1	A	✓							XGMD
1442Y	1	A		✓						"

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Del Ferro	5/4/22 / 1510hrs.	[signature]	5-5-22 / 0920

* 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 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

30 Min Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205030800Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

Initial Parameters	Final	Meter ID
Time - 2205030840Y	Time - 2205030941Y	pH/Cond - 92
PH - 8.21	PH - 8.15	Turb - 20
Temp - 24.4°C	Temp - 24.2°C	" std - 5.87
Cond - 1149 us/cm	Cond - 1162 us/cm	" rdg - 5.90
Turb - 2.16 NTU's	Turb - 1.71 NTU's	" lot - 210966
pH pre - 7.13/10.09 (17.5°C)	pH pre - 7.10/10.07 (18.1°C)	" Exp - 5/31/22
pH post - 7.13/10.07	pH post - 7.12/10.06	
DTW - 572.33 ft.	DTW - 572.42 ft.	
Atmos - 12.44 psia	Atmos - 12.43 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205030910Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
— 0911Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRL
— 0940Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS

Runs

1)	2)	3)
~~33~~ 32.67 (ce)	32.64	32.62
101.50	101.71	101.72
101.46	101.67	101.68
32.64	32.68	32.57

Continued from page

Craig Del Ferraro 5/3/22
Signed Date

Read and Understood By
[signature] 5-4-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/3/22 Page 1 of 1

Sample Location: BLM-36-610

Sample Number (Pertinent Notes (if any))	# of Containers	Sample Matrix*	8260	607	Total Metals					Charge Number
22050308004 (EB)	3	A	✓							XGMD
—— 09104	3	A	✓							"
—— 09114	1	A		✓						"
—— 09404	2	A			✓					"

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fierro	5/3/22 1115hrs.		[signature]	5-4-22 / 0920

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

WSTF 381C (05/2016)

PROJECT BLM-36-800 WJI ENV-0020

Bob Tufts & Craig Del Ferraro present. Weather is cloudy & cool. this zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205040750Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

Initial Parameters	Final	Meter ID
Time - 2205040845Y	Time - 2205040950Y	pH/Cond - 92
PH - 8.17	PH - 8.09	Turb - 20
Temp - 25.3°c	Temp - 25.7°c	" std - 5.87
Cond - 1087us/cm	Cond - 1075us/cm	" rdg - 5.94
Turb - 1.55 NTU's	Turb - 1.03 NTU's	" lot - 210966
pH pre - 7.13/10.06 (17.9°c)	pH pre - 7.10/10.05 (18.6°c)	" Exp - 5/31/22
pH post - 7.11/10.08	pH post - 7.11/10.05	
DTW - 572.57 ft.	DTW - 572.70 ft.	
Atmos - 12.44 psia	Atmos - 12.48 psia	
	IDW - 1 gal	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205040920Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 0921Y	607/Bromacil	ice	(1) 1L Amber	010030IH	SRI
——— 0922Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS

Runs	1)	2)	3)
	115.32	115.22	115.15
	173.56	173.59	173.62
	173.53	173.51	173.58
	115.30	115.20	115.18

Read and Understood By

Craig Del Ferraro 5/4/22 (Signed, Date)

Lori W. Munch 5-5-22 (Signed, Date)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/4/22 Page 1 of 1

Sample Location: BLM-36-800

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals				Charge Number
2205040750Y (EB)	3	A	✓						XGMD
——— 0920Y	3	A	✓						"
——— 0921Y	1	A		✓					"
——— 0922Y	2	A			✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fierro	5/4/22 / 1120 hrs		[signature]	5-5-22 / 0920

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

WSTF 381C (05/2016)

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & breezy. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205031020Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

Initial Parameters	Final	Meter ID
Time - 2205031105Y	Time - 2205031411Y	pH/cond - 92
PH - 8.07	PH - 7.91	Turb - 20
Temp - 26.0°C	Temp - 25.7°C	" Std - 5.87
Cond - 1035 us/cm	Cond - 1039 us/cm	" rdg - 5.90
Turb - 15.6 NTU's	Turb - 13.3 NTU's	" lot - 210966
pH pre - 7.05/10.02 (25.0°c)	pH pre - 7.03/9.95 (27.4°c)	" Exp - 5/31/22
pH post - 7.05/10.03	pH post - 7.04/9.98	
DTW - 572.42 Ft.	DTW - 572.57 Ft	
Atmos - 12.47 psia	Atmos - 12.51 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205031325Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 1326Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SEI
——— 1410Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS

Runs			
	1) 141.29	2) 141.17	3) 141.13
	137.62	137.56	137.59
	137.55	137.52	137.56
	141.29	141.19	141.10

Continued from page

Craig Del Ferraro 5/3/22
Signed Date

Read and Understood By
Lori W Munch 5-4-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/3/22 Page 1 of 1

Sample Location: BLM-36-860

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals				Charge Number
2205031020Y (EB)	3	A	✓						XGMD
——— 1325Y	3	A	✓						"
——— 1326Y	1	A		✓					"
——— 1410Y	2	A			✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig DeFeria	5/3/22 / 1450hrs.	[signature]	5-4-22 / 0920

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

PROJECT BLM-38-480 WJI ENV-0020

Notebook No. D64#129(Y)

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is clear, cool, & breezy. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe#4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy Gl

Sample	Analysis	Preservative	Container	Lot	Lab
2205090825Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——0826Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2205090910Y	Time - 2205091111Y	pH/Cond - 92
PH - 8.29	PH - 8.15	Turb - 20
Temp - 22.3°c	Temp - 22.1°c	" std - 5.87
Cond - 944us/cm	Cond - 954us/cm	" rdg - 5.96
Turb - 0.81 NTU's	Turb - 0.70 NTU's	" lot - 210966
pH pre - 7.09/10.13 (17.5°c)	pH pre - 7.05/10.08 (20.5°c)	" Exp - 5/31/22
pH post - 7.06/10.13	pH post - 7.02/10.06	
DTW - 402.65 Ft.	DTW - 402.77 Ft.	
Atmos - 12.46 psia	Atmos - 12.49 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205090945Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——0946Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——1015Y	* " (MS) *	"	"	"	"
——1045Y	Low Level NDMA	"	"	"	"
——1110Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS

Runs	1)	2)	3)	4)	5)
	50.15	50.10	50.07	50.04	49.98
	39.93	39.86	39.72	39.74	39.74
	39.90	39.81	39.68	39.76	39.70
	50.15	50.12	50.05	50.04	49.96

Continued from page

Craig Del Ferraro 5/9/22
Signed Date

Read and Understood By

Lori W Munch 5-10-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/9/22 Page 1 of 1

Sample Location: BLM-38-480

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA	Total Metals				Charge Number
2205090825Y (EB)	3	A	✓							XGMD
——— 0826Y (EB)	1	A			✓					u
——— 0945Y	3	A	✓							u
——— 0946Y	1	A		✓						u
——— 1015Y (MS)	1	A		✓						u
——— 1045Y	1	A			✓					u
——— 1110Y	2	A				✓				u

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 Ferro	5/9/22 / 1130hrs.		[signature]	5-10-22 / 0930

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

WSTF 381C (05/2016)

PROJECT BLM-38-620 WJI ENV-0020

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 #4955. Surface checks performed on probe prior to sampl

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2205050855Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0856Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

30 Min Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205051000Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1001Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2205051035Y	Time - 2205051421Y	pH/Cond - 92
PH - 8.07	PH - 7.95	Turb - 20
Temp - 23.1°C	Temp - 23.7°C	" std - 5.87
Cond - 1002us/cm	Cond - 1017us/cm	" rdg - 5.92
Turb - 1.44 NTU's	Turb - 1.36 NTU's	" lot - 210966
pH pre - 7.06/10.10 (20.7°C)	pH pre - 6.99/10.02 (28.0°C)	" Exp - 5/31/22
pH post - 7.04/10.11	pH post - 6.97/9.98	
DTW - 402.50ft.	DTW - 402.65ft.	
Atmos - 12.53psia	Atmos - 12.51 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108656	2/23
10	4103981	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205051320Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1321Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——— 1350Y	Low Level NDMA	"	"	"	"
——— 1351Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
——— 1420Y	*" (MS)*	"	"	"	"

Runs				
Runs	1) 111.42	2) 111.35	3) 111.30	4) 111.19
	87.11	87.04	87.16	87.05
	87.13	87.00	87.12	87.03
	111.43	111.34	111.31	111.21

Continued from page

Craig Del Ferraro — Signed — 5/5/22 — Date

Read and Understood By

[signature] — Signed — 5-9-22 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/5/22 Page 1 of 1

Sample Location: BLM-38-620

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA				Charge Number
2205050855Y (TB)	3	A	✓						XGMD
——0856Y (TB)	1	A			✓				"
——1000Y (EB)	3	A	✓						"
——1001Y (EB)	1	A			✓				"
——1320Y	3	A	✓						"
——1321Y	1	A		✓					"
——1350Y	1	A			✓				"

Sample Location: BLM-38-620

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Total Metals						Charge Number
2205051351Y	2	A	✓						XGMD
——1420Y (MS)	2	A	✓						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	5/5/22 1450hrs		[signature]	5-9-22 / 0900

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

WSTF 381C (05/2016)

Dan Halvorsen & Tony Torrez present. Weather is cloudy, hot and windy. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge hose. Water quality parameters will be monitored using an In-Situ Aqua-Troll 500. Carboy G3 in use.

Calibrations:
DO Sensor = In 100% Saturated Air
pH Sensor = Using In-Situ 4,7,10 Buffers
Conductivity = Using In-Situ STD. Solution.
Turbidity = Using In-Situ STD.

Initial DTW = 236.45 ft.
Final " = 236.60
IDW = 1 gal.

Parameters (Time)	Temp	Cond	DO	pH	ORP	Turb	DTW (ft.)
220503 1350 c	22.54	828.64	4.40	7.78	225.2	1.09	236.60
——— 1352 c	22.47	821.56	4.41	7.75	228.2	1.08	236.60
——— 1354 c	22.74	827.90	4.43	7.77	232.7	1.15	236.60

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
220503 ~~1304~~ 1405 c	VOA by 8260	Ice/HCl	(3) 40 ml Vial	2621	ALS
——— 1406 c	" " (FB)	"	"	"	"
——— 1407 c	Bromacil by 607 NPMA/DMN	Ice	(1) 1L amber	103501	SRL
——— 1408 c	Total metals	Ice/HNO3	(2) 125 ml Poly		ALS

Continued from page

Read and Understood By

Signed	Date	Signed	Date
[signature]	5-3-2022	Lori W Munch	5-4-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-3-2022 Page 1 of 1

Sample Location: BW-5-296

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: VOA	607	metals					Charge Number: XGMD
2205031405 C	3	A	X							
1406 C FB	3	/	X							
1407 C	1	/		X						
1408 C	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]	5-3-2022 1500	[signature]	5-4-22 / 0920

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

WSTF 381C (05/2016)

PROJECT MPE-1

Notebook No. PFTS#10

Continued from page N/A

Frank Gallegos & T.M Moore present. This well will be purged for one minute then sampled from a dedicated sampling port. Colboy "Plume front".

~~Initial~~ Parameters		METER ID		Buffers	LOT#	Exp
Time	220517 0801	ph/cond	Plume front 7		4002691	8/22
ph	7.02	Turb	Plume front 10		4001905	8/22
Temp	23.7°c	"	STD	9.59 NTU		
cond	1260 us/cm	"	RDG	9.57 NTU		
Turb	0.93 NTU	"	LOT#	N/A		
Ph pre	7.01 - 10.00 (22.7°c)		Exp	5/31/22		
Ph post	7.01 - 10.00					

Samples

Sample#	Analysis	Pres	LOT#	LAB	CONT
220517 0806	VOA by 8260	ICE & HCl	2621	ALS	(3) 40 ml vial
— 0807	" (Dup)	"	"	"	"
— 0808	" (FB)	"	"	"	"
— 0809	NDMA/omn/Bio by 607	ICE	01003014	SWRI	(1) LT amber
— 0810	Total metals	ICE/HNO3	N/A	ALS	(2) 125 ml poly
— 0811	Anions/Alk	ICE	"	"	"
— 0812	TDS	"	0509-2AAO	"	(1) 125 ml poly
— 0813	Perchlorate	"	N/A	"	"
— 0814	NO2/NO3 by 353.2	ICE/H2SO4	231115	"	"

Continued from page N/A

Signed [signature] Date 5-17-22

Read and Understood By

Signed [signature] Date 5-17-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-17-22 Page 1 of 1

Sample Location: MPE-1

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA by 8260	NDMA/DMN B/o by 607	Total Metals	Anions/Alk	TDS			Charge Number X GMD
220517 0806	3	A	X							"
——— 0807 (Dup)	3	A	X							"
——— 0808 (FB)	3	A	X							"
——— 0809	1	A		X						"
——— 0810	2	A			X					"
——— 0811	2	A				X				"
——— 0812	1	A					X			"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO2/NO3						Charge Number X GMD
220517 0813	1	A	X							"
——— 0814	1	A		X						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-17-22 (0945)		[signature]	5-18-22 / 0950

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

WSTF 381C (05/2016)

PROJECT MPE-8

Frank Gallegos & Tim Moore present. This well will be purged for one minute prior to sampling from a dedicated sampling port. Carboy "Plme front".

Parameters	Meter ID	Buffers	LOT#	Exp
Time 2205170838	Ph/cond-Plmefront	7 -	4GO2E91	8/22
Ph - 7.22	Turb-Plmefront	10 -	4001005	6/22
Temp - 25.0°C	" STD - 9.59 NTU			
Cond 1230 µS/cm	" RDG - 9.57 NTU			
Turb - 1.23 NTU	" LOT# -			
Ph pre - 7.00-10.00 (23.0°C)	" Exp - 5/30/22			
Ph post - 7.00-10.00				

Samples

Sample#	Analysis	Pres	LOT#	LAB	CONT
2205170844	VOA by 8260	ICE & HCl	Z6E1	ALS	(3) 40 ml Vial
— 0845	" (FB)	"	"	"	"
— 0846	NDMA/DMN/8270 by ...	ICE	0100301HSWR1		(1) L+ amber
— 0847	TOTAL Metals	ICE/HNO3	N/A	ALS	(2) 125 ml poly
— 0848	" (Dup)	"	"	"	"
— 0849	Anions/Alk	ICE	"	"	"
— 0850	TDS	"	0809-2AAO	"	(1) 125 ml poly
— 0851	Perchlorate	"	N/A	"	(1) 250 ml poly
	~~TDS~~	~~"~~		~~"~~	~~1~~
— 0852	NO2/NO3	ICE/H2SO4	Z31115	"	(1) 250 ml poly

Continued from page N/A

Read and Understood By

[signature] Signed 17 MAY 2022 Date [signature] Signed 5-17-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-17-22 Page 1 of 1

Sample Location: MPE-8			Analytical Requirement							
Pertinent Notes (if any)										
Sample Number	# of Containers	Sample Matrix*	VOA by 8260	NDMA/DMN/ Br0 by 607	TOTAL metals	ANIONS/ Alk	TDS			Charge Number X GMD
220517 0844	3	A	X							"
— 0845 (FB)	3	A	X							"
— 0846	1	A		X						"
— 0847	2	A			X					"
— 0848 (Dup)	2	A			X					"
— 0849	2	A				X				"
— 0850	1	A					X			"

Sample Location:			Analytical Requirement							
Pertinent Notes (if any)										
Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO2/NO3						Charge Number X GMD
220517 0851	1	A	X							"
— 0852	1	A		X						"

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	5-17-22 (0940)	[signature]	5-18-22 / 0950

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

WSTF 381C (05/2016)

PROJECT MPE-10

Frank Gallegos & Tim Moore present. This well will Be pulsed for one minute prior to sampling from a dedicated sampling port. Carboy "Plmeflont"

Parameters	METERED	Buffers	LOT#	EXP
Time - 220518 0829	Ph/cond - Plmeflont	7 -	4002691	8/22
Ph 7.09	Turb - Plmeflont	10 -	4001005	6/22
Temp 23.2°C	" STD 9.59 NTU			
Cond 1181 us/cm	" RDG 9.58 NTU			
Turb 0.53 NTU	" LOT # N/A			
Phpre 7.00 - 10.00 (27.1°c)	" EXP 5/31/2022			
Ph POST				

Sample

Sample#	Analysis	Pre	LOT#	LAB	CONT
220518 0835	VOA by 8260	ICE: 4cl	2621	ALS	(3) 40ml vial
—— 0836	" (FB)	"	"	"	"
—— 0837	NDMA/DMN/B rob by 607	ICE	01003 01H5	WRI	(1) Lt amber
—— 0838	TOTAL Metals	ICE/HNO3	N/A	ALS	(2) 125 mL poly
—— 0839	ANIONS/AIK	ICE	"	"	"
—— 0840	TDS by SM2540C	ICE	0809-2AAO	"	(1) 125 mL poly
—— 0841	Perchlorate by 6850	"	N/A	"	"
—— 0842	NO2/NO3 by 353.2	ICE/H2SO4	231115	"	"

Continued from page N/A

Read and Understood By

[signature] Signed 18 May 2022 Date [signature] Signed 5-18-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-18-22 Page 1 of 1

Sample Location: MPE-10

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA by 8260	WD MA/AMD Bio by 6?	Total Metals	Anions/ Alk	TDS	Perchlorate		Charge Number XGMD
2205180835	3	A	X							"
— 0836 (FB)	3	A	X							"
— 0837	1	A		X						"
— 0838	2	A			X					"
— 0839	2	A				X				"
— 0840	1	A					X			"
— 0841	1	A						X		"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	NO2/NO3							Charge Number XGMD
2205180842	1	A	X							"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-18-22 (0845)		[signature]	5-19-22 / 0900

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

WSTF 381C (05/2016)

PROJECT MPE-11

Notebook No. PFTS #10

Continued from page N/A

Frank Gallegos & Tim Moore present present. This well will be pulsed for one minute prior to sampling from a dedicated sampling port. Calboy "plume front"

Parameters		METER ID	Buffers	LOT#	EXP
Time	220517 0910	Ph/Cond - Plume front 7 -		4002691	8/22
Ph	7.23	Turb - Plume front 10 -		4001 0005	6/22
Temp	27.8c	" STD - 9.59 NTU			
Cond	1009 uS/cm	" RDG - 9.61 NTU			
Turb	1.71 NTU	" LOT# N/A			
Ph Pre	7.01-10.00 (29.1c)	" Exp - 5/30/2022			
Ph Post - 7.01-10.00					

Samples

Sample #	Analysis	Pre	LOT#	LAB	CONT
220517 0916	VOA by 8260	ICE & HCL	2621	ALS	(3) 40 mL Vial
— 0917	" (FB)	"	"	"	"
— 0918	NDMA/DMN/EOB by 607	ICE	010038 1HSWRI		(1) 1L amber
— 0919	" (Dup)	"	"	"	"
— 0920	Total Metals	ICE/HNO3	N/A	ALS	(2) 125 mL poly
— 0921	Anions/Alk	ICE	"	"	"
— 0922	TDS	"	0807-2AAD		(1) 125 mL poly
— 0923	Perchlorate	"	N/A	"	(1) 250 mL poly
— 0924	NO2/NO3	ICE/H2SO4	23115	"	"

Continued from page N/A

Read and Understood By

[signature] Signed 17 May 2022 Date

[signature] Signed 5-17-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-17-22 Page 1 of 1

Sample Location: MPE-11

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA by 8260	NDMA/DMN/Dio by 607	TOTAL metals	Anions/A/IC	TDS			Charge Number
										X GMD
2205170916	3	A	X							"
—— 0917 (FB)	3	A	X							"
—— 0918	1	A		X						"
—— 0919 (DUP)	1	A		X						"
—— 0920	2	A			X					"
—— 0921	2	A				X				"
—— 0922	1	A					X			"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Perchlorate	NO2/NO3						Charge Number
										X GMD
2205170923	1	A	X							"
—— 0924	1	A		X						"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-17-22 (0940)		[signature]	5-18-22 / 0950

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

WSTF 381C (05/2016)

ROJECT NASA-4 WJI ENV-0013

Continued from page N/A

Robert Burrows & Matt Garcia present. weather is Cloudy & Cool. This zone will be purged & sampled using a dedicated bladder pump & Teflon Hose. Well will be purged until water clears up. 6-2 carboy in use.

Total Depth - ~~[illegible]~~ 171.16 ft.
Initial DTW - 137.0 ft
3 case Volume - 17.89
purge Rate - 0.40 gals/min.
Start purge - 0850 HR./12:44 HR.
Stop purge - 11:15 HR./
total gallons purged - 20.0 gals.

meter ID
PH/Cond - 93#
Turb # - 7#
" " Std - 48.3 (ntus)
" " Rdg - 46.5 (ntus)
" " Lot# - 200445
" " Exp - 5/31/22

Initial Parameters
Time - 220518 1245 A
PH - 8.66
Temp - 24.7 (°c)
Cond - 1382 (us/cm)
PH PRE - 6.90/9.72 (36.5 °c)
PH Post - 6.94/9.58
DTW - 137.20 ft.
Turb - 24.8 (ntus)

Final Parameters
Time - 220518 1311 A
PH - 8.22
Temp - 25.6 (°c)
Cond - 1358 (us/cm)
PH PRE - 7.05/9.69 (38.3 °c)
PH Post - 7.01/9.62
Turb - 19.5 (ntus)

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
220518 1256 A	VOAs by 8260	HCl/ICE	(3) 40 mil vials	2621	ALS
—— 1257 A	" " (Dup)	" "	(3) " "	" "	" "
—— 1258 A	" " (FB)	" "	(3) " "	" "	" "
—— 1259 A	NDMA/DMN/Bromacil by 607	ICE	(1) 1L Amber	010030H	SRE
—— 1300 A	Total metals	HNO3/ICE	(2) 125 mil poly	211212	ALS
—— 1301 A	" " (FB)	" "	(2) " "	" "	" "
—— 1302 A	Perchlorate by 6850	ICE/1/3 H.S.	(1) " "		" "
—— 1303 A	TDS by SM2540 C	ICE	(1) 250 mil poly	1116202AAO	" "
—— 1304 A	" " (FB)	" "	(1) " "	" "	" "
—— 1305 A	TKN	H2SO4/ICE	(1) 250 mil poly	210920	" "
—— 1306 A	" " (FB)	" "	(1) " "	" "	" "
—— 1307 A	NO2, NO3 by 353.2	" "	(1) " "	" "	" "
—— 1308 A	" " (FB)	" "	(1) " "	" "	" "

Continued from page 92

Read and Understood By

Robert Burrows 5-18-22
Signed Date

[signature] 5-18-22
Signed Date

ROJECT NASA-4 WJI ENV-0013

Notebook No. D-32 # 123(A)

Continued from page 91

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
220518/1309A	Chloride	ICE	(1) 250 ml poly	1116202AAO	ALS
——— 1310A	Chloride (FB)	" "	(1) " "	" "	" "

Continued from page 91

Read and Understood By

Robert Burrows 5-18-22
Signed Date

Lori [illegible] 5-19-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-18-22 Page 1 of 2

Sample Location: NASA-4

Pertinent Notes (if any): TASK Memo - 11164

Charge Number: X6MD

Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Bromide / NDMA/DMA/By 607	Total Metals	Perchlorate by 6850			Charge Number
220518 1256A	3	A	X						↓
—— 1257A (Dup)	3	↓	X						
—— 1258A (FB)	3		X						
—— 1259A	1			X					
—— 1300A	2				X				
—— 1301A (FB)	2				X				
—— 1302A		↓				X			↓

Sample Location: NASA-4

Pertinent Notes (if any): TASK Memo - 11164

Charge Number: X002 ~~X6MD~~

Sample Number	# of Containers	Sample Matrix*	TDS SM 2540C	TKN	NO2/NO3 by 353.2	Chloride			Charge Number
220518 1303A	1	A	X						↓
—— 1304A (FB)	1	↓	X						
—— 1305A	1			X					
—— 1306A (FB)	1			X					
—— 1307A	1				X				
—— 1308A (FB)	1				X				
—— 1309A	1	↓				X			↓

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	5-18-22/		[signature]	5-19-22 /0900

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

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-18-22

Page 2 of 2

Sample Location: NASA-4

Pertinent Notes (if any): TASK Memo-11164 / Sample Number	# of Containers	Sample Matrix*	Chlorate							Charge Number: X002
220518 1310A (FB)	1	A	X							X

Analytical Requirement

Sample Location:

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

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	5-18-22 /		[signature]	5-19-22 / 0906

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

PROJECT PL-7-480 WJI ENV-0020

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & breezy. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
220510 1300y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1301y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters		Final		Meter ID	
Time	220510 1410y	Time	220513 0940y	pH/Cond	92
PH	8.21	PH	7.51	Turb	20
Temp	22.7°C	Temp	19.9°C	" std	5.87
Cond	1050 us/cm	Cond	1152 us/cm	" rdg	5.98
Turb	0.95 NTU's	Turb	0.82 NTU	" lot	210966
pH pre	7.02/9.97 (28.3°C)	pH pre	7.01/10.00 (20.3°C)	" Exp	5/31/22
pH post	6.99/9.95	pH post	7.03/10.02		
DTW	482.55 Ft.	DTW	483.65'		
Atmos	12.55 psia	Atmos	12.57 psia		
		IDW	1/4 gal		

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220510 1505y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1506y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
220511 1400y	Low Level NDMA	"	"	"	"
220512 1055y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
——— 1300y	Anions/Alk.	ice	"	N/A	"
——— 1350y	TDS by SM2540C	"	(1) 250ml poly	111620-2AA0	"
220513 0835y	Perchlorate by 6850	"	(1) 125ml poly	N/A	"
——— 0836y	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-09-20	"

Runs	1)	2)	3)	4)	5)	6)
	15.79	15.86	15.82	15.81	15.81	15.78
	12.80	12.83	12.84	12.85	12.89	12.94
	12.85	12.82	12.84	12.90	12.92	12.92
	15.88	15.89	15.83	15.82	15.82	15.80

Continued ~~from~~ on page 40

Signed 5/13/22 Date

Read and Understood By

Signed 5-13-22 Date

PROJECT PL-7-480 WJI ENV-0020

Notebook No. D64 #129 (Y)

Continued from page 39

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
22051107301Y	VOA by 8260LL	ice / HCL	(3) 40ml vials	2621	ALS
——— 07311Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Runs

7) 15.74	8) 15.72	9) 15.71	10) 15.72	11) 15.73	12) 15.73
12.94	12.82	12.90	13.01	13.02	12.91
12.88	12.89	12.91	12.93	12.96	12.96
15.69	15.76	15.70	15.74	15.71	15.72

13) 15.72	14*) 15.68	15) 15.57	16) 15.60	17) 15.58	18) 15.55
12.93	12.98	12.95	12.98	12.95	12.97
12.96	12.74	12.97	12.98	12.97	12.95
15.75	15.58	15.65	15.59	15.61	15.60

* M. Avalos & M. Garcia replaced C. Del Ferraro & B. Tufts 5/13/22

Continued from page

Signed [signature] Date 5/13/22

Read and Understood By

Signed [signature] Date 5-13-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/10/22

Sample Location: PL-7-480

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA					Charge Number
220510 1300Y (EB)	3	A	✓							XGMD
1301Y (EB)	1	A			✓					"
1505Y	3	A	✓							"
1506Y	1	A		✓						"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	5/10/22 1520hrs.		[signature]	5-11-22 / 0900

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

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/11/22 Page 2 of 3

Sample Location: PL-7-480

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL ~~LL NDMA~~	LL NDMA						Charge Number
2205110730Y (TB)	3	A	✓							XGMD
——0731Y (TB)	1	A		✓						"
——1400Y	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 Ferro	5/11/22 1510hrs.		[signature]	5-12-22 / 0900

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

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/12/22 Page 3 of 4

Sample Location: PL-7-480

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Total Metals	Anions/Alk	TDS					Charge Number
2205121055Y	2	A	✓							XGMD
——— 1300Y	2	A		✓						"
——— 1350Y	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 W Feino	5/12/22 / 1500hrs.		[signature]	5-13-22 / 0920

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

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/13/22

Sample Location: P1·7·480

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Perchlorate 6850	NO2, NO3					Charge Number
2205130835	1	A	X						XGMD
0836	1	"		X					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5/13/22		[signature]	5-16-22 / 0850

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

Notebook No. D64#129(y)

PROJECT PL-7-560 WJI ENV-0020

Continued from page ________

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 #4955. Surface checks performed on probe prior to sampling.

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
220510 0720y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0721y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
220510 0755y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0756y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2205100840y	Time - 2205101041y	pH/Cond - 92
PH - 8.23	PH - 8.11	Turb - 20
Temp - 23.3°c	Temp - 23.9°c	" std - 5.87
Cond - 1015us/cm	Cond - 1004us/cm	" rdg - 5.98
Turb - 3.73 NTU's	Turb - 1.92 NTU's	" lot - 210966
pH pre - 7.08/10.04 (19.4°c)	pH pre - 7.01/9.98 (24.9°c)	" Exp - 5/31/22
pH post - 7.09/10.02	pH post - 7.03/9.98	
DTW - 482.42 ft.	DTW - 482.55 ft.	
Atmos - 12.53 psia	Atmos - 12.54 psia	
	IDW - 1/2 gals.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220510 0910y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0911y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——— 0940y	Low Level NDMA	"	"	"	"
——— 1010y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
——— 1011y	Anions/Alk.	ice	"	N/A	"
——— 1012y	TDS by SM2540C	"	(1) 250ml poly	111620-2AA0	"
——— 1013y	Perchlorate by 6850	"	(1) 125ml poly	N/A	"

Continued ~~from~~ on page 38

Read and Understood By

Craig Del Ferraro 5/10/22 — Signed, Date

[signature] 5-11-22 — Signed, Date

PROJECT PL-7-560 WJI ENV-0020

Notebook No. D64 #129(Y)

Continued from page 37

Sample	Analysis	Preservative	Container	Lot	Lab
2205101040Y	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-08-20	ALS

Runs	1)	2)	3)	4)	5)
	50.70	50.68	50.67	50.64	50.61
	47.21	47.27	47.23	47.24	47.24
	47.17	47.23	47.23	47.26	47.23
	50.69	50.68	50.68	50.63	50.62

Continued from page

Craig Del Ferro 5/10/22
Signed Date

Read and Understood By

[signature] 5-11-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/10/22 — Page 1 of 1

Sample Location: PL-7-560

Pertinent Notes (if any):

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA					Charge Number
22051007 20Y (TB)	3	A	✓							XGMO
——— 0721Y (TB)	1	A			✓					"
——— 0755Y (EB)	3	A	✓							"
——— 0756Y (EB)	1	A			✓					"
——— 0910Y	3	A	✓							"
——— 0911Y	1	A		✓						"
——— 0940Y	1	A			✓					"

Sample Location: PL-7-560

Pertinent Notes (if any):

Sample Number	# of Containers	Sample Matrix*	Total Metals	Anions/Alk.	TDS	Perchlorate	NO_2/NO_3			Charge Number
220510 1010Y	2	A	✓							XGMO
——— 1011Y	2	A		✓						"
——— 1012Y	1	A			✓					"
——— 1013Y	1	A				✓				"
——— 1040Y	1	A					✓			"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	5/10/22/1120hrs.		[signature]	5-11-22 /0846

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

WSTF 381C (05/2016)

Robert Burrows & Matt Garcia present. Weather is cloudy & cool. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy C-2 in use.

Calibrations:
DO - Cal in 100% Saturated air @ 638 mm/Hg.
Conductivity - Cal using 1413 us/cm std.
PH - Cal using Oakton Buffers (4,7,10.)
Turbidity meter 7#, std-43.3 (ntu's), Rdg- (ntu's), Lot#-200445, Exp-5/31/22

Parameters (time)	Temp (°C)	Cond (us/cm)	DO	pH	ORP	Turb (ntu's)	DTW (ft)
1) 220519 0939A	2.35	1,037.0	435.4	7.24	435.4	0.77	N/A
2) ——— 0940A	21.20	1,031.0	42.32	7.27	435.5	0.83	N/A
3) ——— 0941A	21.06	1,024.2	39.86	7.23	435.0	0.82	N/A

Trip Blanks

Sample #	Analysis	Preservative	Container	Lot #	Lab
220519 0703A	VOA by 8260	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0704A	Low Level NDMA	ICE	(1) 1L Amber	010030lH	SRI

Samples

Sample #	Analysis	Preservative	Containers	Lot #	Lab
220519 0947A	VOA by 8260	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0948A	" " (Dup)	" "	(3) " "	" "	" "
——— 0949A	" " (FB)	" "	(3) " "	" "	" "
——— 0950A	Low Level NDMA	ICE	(1) 1L Amber	010030lH	SRI
——— 0952A	" " (Dup)	" "	(1) " "	" "	" "
——— 0954A	" " (FB)	" "	(1) " "	" "	" "

Transducer Reading:

Initial	Final
22.97 °C	23.12 (°C)
9.88 psi	9.89 (psi)
22.78 ft.	22.81 (ft.)

Total gallons purged - 2 gal.

Continued from page N/A

Robert Burrows 5-19-22
Signed Date

Read and Understood By
[signature] 5-23-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-19-22 Page 1 of 1

Sample Location: PL-12-570

Pertinent Notes (if any): TASK Memo - 11144

Charge Number: XGMD

Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Low Level NDMA						Charge Number
220519 0703 A (TB)	3	A	X							
0704A (TB)	1			X						
0947A	3		X							
0948A (Dup)	3		X							
0949A (FB)	3		X							
0950A	1			X						
0952 A (Dup)	1			X						

Sample Location: PL-12-570

Pertinent Notes (if any): TASK Memo - 11144

Charge Number: XGMD

Sample Number	# of Containers	Sample Matrix*	Low Level NDMA							Charge Number
2205190954A	1	A	X							X

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	5-19-22 / 10:20		[signature]	5-19-22 / 1030

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

WSTF 381C (05/2016)

PROJECT P1.12.800 WJI ENV.0053

Notebook No. D32 # 123(A)

Continued from page

Marcus Avalos & Robert Burrows present. Weather is breezy & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G.2.

Calibrations
DO - Cal in 100% saturated air @ 635 mm/Hg.
Conductivity - Cal using 1413 uS/cm STD.
PH - Cal using Oakton Buffers (4, 7, 10)
Turbidity Meter - #21 STD - 9.13 NTU RDG - 8.93 NTU Lot - 200445 Exp. 5/30/22

Parameters (time)	Temp (°C)	Cond (us/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 2205051035A	20.65	1013	3.49	408	7.15	0.93	
2) —— 1037A	20.69	1012	3.32	408	7.16	0.81	
3) —— 1039A	20.73	1013	3.28	408	7.18	0.78	

Samples

Sample #	Analysis	Preserve	Container	Lot	Lab
2205051040A	VOA by 8260	HCl / Ice	(3) 40 ml vials	2621	ALS
—— 1041A	" (FB)	"	"	"	"
—— 1042A	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI
—— 1043A	" (Dup)	"	"	"	"
—— 1044A	" (FB)	"	"	"	"

	Initial	Final
Transducer Reading -	23.10 °C	23.09 °C
	9.86 psi	9.84 psi
	22.75 ft	22.72 ft

* Freshly painted bollards & can still smell paint.

Total Gallons Purged - 2.5 gal

Continued from page

Signed [signature] Date 5/5/22

Read and Understood By

Signed [signature] Date 5-9-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/5/22 Page 1 of 1

Sample Location: Pl.12.800

Sample Number	# of Containers	Sample Matrix*	8260	LL NDMA						Charge Number
2205051040A	3	A	X							XGMD
1041A (FB)	3	↓	X							↓
1042A	1			X						
1043A (Dup)	1			X						
1044A (FB)	1			X						

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Pertinent Notes (if any)

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5/5/22 @ 1115		[signature]	5-9-22 / 1900 HRS

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

PROJECT ST-1-473

Notebook No. D32 # 123(A)

Continued from page

Marcus Avalos & Matt Garcia present. Weather is hot + breezy. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-5

Calibrations

DO: Cal in 100% saturated air @ 635 mm/Hg.

Conductivity: Cal using 1413 uS/cm STD.

pH: Cal using Oakton Buffers (4,7,10)

Turbidity Meter # #7 STD: 48.3 NTU RDG: 53.8 NTU lot: 200445 Exp: 5/31/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	DO	ORP	pH	Turb (NTU)	DTW (ft)
1) 220512 1430A	25.00	1,138	4.01	388	7.26	9.82	
2) —— 1432A	25.09	1,134	3.57	374	7.27	3.94	
3) —— 1434A	25.02	1,138	3.54	399	7.27	5.16	

Samples

Sample #	Analysis	Preserve	Container	lot	lab
220512 1440A	VOA by 8260	HCl/Ice	(3) 40 ml vials		ALS
—— 1441A	" (FB)	"	"	"	"
—— 1442A	607/Bromacil	Ice	(1) 1L Amber	0100301H	SRI
—— 1443A	Total Metals	HNO3/Ice	(2) 125 ml poly	211212	ALS

Total Gallons Purged: 1.5 gal

Continued from page

Signed [signature] Date 5/12/22

Read and Understood By

Signed [signature] Date 5-13-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/12/22 Page ______ of ______

Sample Location: ST-1-473

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	T. Metals					Charge Number
220512 1440A	3	A	X							VGMO
1441A (FB)	3		X							
1442A	1			X						
1443A	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]	5/12/22 @ 1520		[signature]	5-13-22 / 0920

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

WSTF 381C (05/2016)

PROJECT ST-1-541 WSI ENV-0053

Notebook No. D-32#123(A)

Continued from page N/A

Robert Burrows & Matt Garcia present. Weather is partly cloudy & windy - Hot. This Well will be purged & samples using a dedicated bladder pump. Samples will be collected using a new Teflon discharge tube, water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2 in use. R&B

Calibrations:

DO - Cal in 100% saturated air @ 635 mm/Hg.
Conductivity - Cal using 1413 us/cm std.
PH - Cal using OAKTON Buffers (4,7,10).
Turbidity Meter - #7, std-48.3(ntu's), Rdg-51.0(ntu's), Lot#-200445, Exp-5-31-22

Total Depth - N/A
* No probe to do this!

Parameters (Time)	Temp (C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (ft)
1) 220516 1419A	21.93	1,160.3	4.08	7.07	457.9	0.95	N/A
2) — 1421A	21.54	1,161.9	5.40	7.18	464.8	0.80	N/A
3) — 1423A	21.94	1,167.0	4.28	7.20	468.1	1.00	N/A

Samples

Sample #	Analysis	Preservative	Container	Lot#	Lab
220516 1426A	VOA by 8260	HCl/ICE	(3) 40 ml vials	2621	ALS
— 1427A	" " (FB)	" "	(3) " "	" "	" "
— 1429A	NDMA/DMN/Benzene by 607	ICE	(1) 1L Amber	0160301H	SRI
— 1432A	" " (D)	" "	(1) " "	" "	" "

Total gallons purged - 1½ gals.

Continued from page N/A

Read and Understood By

Robert Burrows
Signed

5-16-22
Date

[signature]
Signed

5-17-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-16-22

Sample Location: ST-1-541

Pertinent Notes (if any): Task Memo - 11154

Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Bromacil / NDMA/DPNA by 607						Charge Number
220516 1426A	3	A	X							XGMD
—— 1427A (FB)	3	↓	X							↓
—— 1429A	1	↓		X						↓
—— 1432A (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:
Robert Burrows	5-16-22 / 2:50		[signature]	5-17-22 / 0920

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

WSTF 381C (05/2016)

PROJECT ST-1-630

Marcus Avalos & Matt Garcia present. Weather is cloudy & breezy. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a Aqua Troll 500. Carboy G-5

Calibrations:
DO - Cal in 100% saturated air @ 635 mm/Hg.
Conductivity - Cal using 1413 uS/cm STD.
PH - Cal using Oakton Buffers (4,7,10)
Turbidity Meter - #7 STD - 48.3 RDG - 53.8 Lot - 200445 Exp 5/30/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 2205121005A	20.58	1,008	3.49	351	7.33	3.56	N/A
2) —— 1008A	20.62	1,011	4.06	355	7.31	3.04	N/A
3) —— 1012A	20.75	1,008	4.20	363	7.34	3.37	N/A

Samples

Sample #	Analysis	Preserve	Container	lot	lab
2205121015A	VOA by 8260	HCl/Ice	(3) 40ml vials	2621	ALS
—— 1016A	: (FB)	:	:	:	:
—— 1017A	607/Bromacil	Ice	(1) 1L Amber	0100301H	SRI
—— 1018A	Total Metals	HNO3/Ice	(2) 125ml poly	211212	ALS

Blind Controls

Sample #	Analysis	Preserve	Container	lot	lab
2205121100A	VOA by 8260	HCl/Ice	(3) 40ml vials	SAMPLE # 22MM142A ANALYSIS	ALS
—— 1101A	607/Bromacil	Ice	(1) 1L Amber	SAMPLE # 22MM142B ANALYSIS	SRI
—— 1102A	Total Metals	HNO3/Ice	(2) 125ml poly	SAMPLE # 22MM142C ANALYSIS	ALS

Total Gallons Purged - 2 gal

Continued from page

Read and Understood By

[signature] 5/12/22 [signature] 5-13-22
Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: ~~ST-1-630~~ 5/12/22 Page 1 of 1

Sample Location: ST-1-630

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607/1310	T. Metals					Charge Number
2205121015A	3	A	X							XGMD
1016A (FB)	3		X							
1017A	1			X						
1018A	1				X					
1100A (BC)	3		X							
1101A (BC)	1			X						
1102A (BC)	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]	5/12/22 @ 1110		[signature]	5-13-22 / 0920

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

WSTF 381C (05/2016)

PROJECT ST.4.589 WJI EW.0053

Notebook No. D32 # 123 A

Continued from page

Marcus Avalos & Matt Garcia present. Weather is windy & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy Co.S.

Calibrations
DO- Cal in 100% saturated air @ 635 mm/Hg.
Conductivity- Cal using 1413 uS/cm STD.
PH- Cal using Oakton Buffers (4,7,10)
Turbidity Meter- #21 STD- 48.3 NTU RDG- 47.1 NTU Lot: 200445 Exp: 5/30/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 220509 1400 A	21.37	746	1.79	316	8.30	1.36	N/A
2) ——— 1402 A	21.41	752	1.70	318	8.27	1.32	"
3) ——— 1404 A	21.35	739	1.82	319	8.25	1.44	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
220509 1410A	VOA by 8260LL	HCl/Ice	(3) 40ml vials	2621	ALS
——— 1411 A	" (MS)	"	"	"	"
——— 1412 A	" (FB)	"	"	"	"
——— 1413A	Low Level NDMA	Ice	(1) 1L Amber	01003011H	SRI
——— 1414A	" (FB)	"	"	"	"

Total Gallons Purged: 1.75 gal

Continued from page

Signed [signature]
Date 5/9/22

Read and Understood By
[signature]
5-10-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/9/22 Page 1 of 1

Sample Location: ST-4-589			Analytical Requirement							
Pertinent Notes (if any)										
Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
220509141OA	3	A	X							XGMD
1411A (MS)	3		X							
1412A (FB)	3		X							
1413A	1			X						
1414A (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]	5/9/22 @ 1500		[signature]	5-10-22 / 0930

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

WSTF 381C (05/2016)

0

ROJECT ST-5-485 WJI ENV-0020

Notebook No. D64#129(Y)

Continued from page ______

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & windy. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. en. in use Probe #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205021010Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1011Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2205021055Y	Time - 2205021325Y	pH/cond - 92
PH - 8.32	PH - 8.39	Turb - 20
Temp - 23.8°C	Temp - 23.6°C	" std - 5.87
Cond - 1029 us/cm	Cond - 1020 us/cm	" rdg - 5.91
Turb - 1.97 NTU's	Turb - 1.23 NTU's	" lot - 200445
pH pre - 7.08/10.04 (24.0°C)	pH pre - 7.02/9.97 (28.3°C)	" Exp - 5/31/22
pH post - 7.10/10.04	pH post - 7.04/9.96	
DTW - 476.13 Ft.	DTW - 476.19 Ft.	Buffers Lot Exp
Atmos - 12.57 psia	Atmos - 12.56 psia	7 2108G56 2/23
	IDW - 1/2 gal.	10 4103G81 9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205021300Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1301Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Runs

1)	2)	3)
21.15	21.13	21.09
40.13	40.31	40.35
40.10	40.33	40.38
21.14	21.16	21.15

Continued from page

Read and Understood By

Craig Del Ferraro — Signed 5/2/22 — Date

[signature] — Signed 5-3-22 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/2/22 Page 1 of 1

Sample Location: ~~BLM~~ ST-5-485

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2205021010Y (EB)	3	A	✓							XGMD
1011Y (EB)	1	A		✓						"
1300Y	3	A	✓							"
1301Y	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 DelTerno	5/2/22/1400hrs.		[signature]	5-3-22 /0915

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

WSTF 381C (05/2016)

PROJECT ST-5-655 WJI ENV-0020

Notebook No. D64#129(y) 29

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is clear & cool. this zone will be sampled using 5 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2205020740Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0741Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

30 Min Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205020815Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0816Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2205020900Y	Time - 2205020932Y	pH/Cond - 92
PH - 8.51	PH - 8.38	Turb - 20
Temp - 22.8°C	Temp - 23.0°C	" Std - 5.87
Cond - 866 us/cm	Cond - 859 us/cm	" rdg - 5.91
Turb - 4.57 NTU's	Turb - 3.51 NTU's	" lot - 200445
pH pre - 7.10/10.07 (18.5°c)	pH pre - 7.09/10.06 (23.3°c)	" Exp - 5/31/22
pH post - 7.12/10.05	pH post - 7.10/10.05	
DTW - 475.96 Ft.	DTW - 476.13 Ft.	
Atmos - 12.53 psia	Atmos - 12.53 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205020930Y	VOA by 8260LL	ice/HCl	(3) 40ml vials	2621	ALS
——— 0931Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Runs 1) 95.31 2) 95.25
113.89 113.92
113.91 113.93
95.27 95.21

Continued from page

Read and Understood By

Craig Del Ferraro 5/2/22 Lori W [illegible] 5-3-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/2/22

Sample Location: ST-5-655

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2205020740Y (TB)	3	A	✓							XGMD
——— 0741Y (TB)	1	A		✓						"
——— 0815Y (EB)	3	A	✓							"
——— 0816Y (EB)	1	A		✓						"
——— 0930Y	3	A	✓							"
——— 0931Y	1	A		✓						"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	5/2/22 1120hrs		[signature]	5-3-22 / 0915

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

ROJECT WB-1-200 WJI ENV-0020

3ob Tufts & Craig Del Ferraro present. Weather is clear, warm, & smoky. This zone will be sampled using 5 triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

Trip Blanks-Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2205170715Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

30 Min. Equipment Blanks- Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205170810Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 0811Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	"

Initial Parameters	Final	Meter ID
Time - 2205170845Y	Time - ~~2205171026Y~~	pH/cond - 92
PH - 8.05	PH - 8.12	Turb - 20
Temp - 21.4°C	Temp - 21.9°C	" std - 5.87
Cond - 1125 us/cm	Cond - 1113 us/cm	" rdg - 5.98
Turb - 3.71 NTU's	Turb - 2.53 NTU's	" lot - 210966
pH pre - 7.06/10.09 (19.2°c)	pH pre - 7.02/10.04 (23.3°c)	" Exp - 5/31/22
pH post - 7.08/10.06	pH post - 7.02/10.05	
DTW - 187.77 ft.	DTW - 187.86 ft.	
Atmos - 12.41 psia	Atmos - 12.44 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205170910Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 0911Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——— 0935Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
——— 0936Y	TDS by SM2540C	ice	(1) 250ml poly	N/A	"
——— 1000Y	TKN	ice/H_2SO_4	"	21-04-20	"
——— 1001Y	NO_2/NO_3 by 353.2	"	"	"	"
——— 1025Y	Chloride	ice	"	N/A	"

Runs 1) 21.72 23.94 23.95 21.76 2) 21.71 24.01 23.96 21.80 3) 21.70 23.98 24.03 21.74 4) 21.65 24.00 24.00 21.69 5) 21.67 23.97 23.97 21.70

Continued from page

Read and Understood By

Craig Del Ferraro 5/17/22 [signature] 5-18-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/17/22 Page 1 of 1

Sample Location: WB-1-200

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	TDS				Charge Number
2205170715Y (TB)	3	A	✓							X9MD
—— 0810Y (EB)	3	A	✓							"
—— 0811Y (EB)	2	A			✓					"
—— 0910Y	3	A	✓							"
—— 0911Y	1	A		✓						"
—— 0935Y	2	A			✓					"
—— 0936Y	1	A				✓				X002

Sample Location: WB-1-200

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	TKN	NO_2/NO_3	Chloride					Charge Number
2205171000Y	1	A	✓							X002
—— 1001Y	1	A		✓						"
—— 1025Y	1	A			✓					"

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Del Femo	5/17/22/1115 hrs.	[signature]	5-18-22 / 0950

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

WSTF 381C (05/2016)

:OJECT WB-1-255 WJI ENV-0020

Notebook No. D64#129(y)
Continued from page

ob Tufts & Craig Del Ferraro present. Weather is clear, warm, & windy. his zone will be sampled using 5 triple rinsed, stainless steel sample tubes. n. in use. Probe#4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

ample	Analysis	Preservative	Container	Lot	Lab
220516 1320y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

nitial Parameters	Final	Meter ID
ime - 220516 1355y	Time - 220516 1442y	pH/cond - 92
H - 7.97	PH - 8.05	Turb - 20
emp - 23.8°C	Temp - 24.1°C	" std - 5.87
ond - 1192 us/cm	Cond - 1203 us/cm	" rdg - 5.92
urb - 4.25 NTU's	Turb - 2.92 NTU's	" lot - 210966
pre - 7.01/9.96 (29.8°C)	pH pre - 6.98/9.92 (32.1°C)	" Exp - 5/31/22
H post - 7.03/9.95	pH post - 6.95/9.92	
TW - 187.69 ft.	DTW - 187.77 ft.	Buffers Lot Exp
tmos - 12.44 psia	Atmos - 12.45 psia	7 2108G56 2/23
	IDW - 1 gal.	10 4103G81 9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220516 1415y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
—— 1416y	" (Dupl.)	"	"	"	"
—— 1417y	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
—— 1440y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
—— 1441y	" (Dupl.)	"	"	"	"

* Samples were a bit aerated.

Runs	1) 45.70	2) 45.71	3) 45.67
	53.76	53.73	53.74
	53.74	53.75	53.77
	45.75	45.75	45.69

Continued from page

Read and Understood By

Craig Del Ferraro (Signed) 5/16/22 (Date)

[signature] (Signed) 5-17-22 (Date)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/16/22 Page 1 of 1

Sample Location: WB-1-255

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals					Charge Number
2205161320Y (EB)	3	A	✓							XGMD
——— 1415Y	3	A	✓							"
——— 1416Y (Dupl.)	3	A	✓							"
——— 1417Y	1	A		✓						"
——— 1440Y	2	A			✓					"
——— 1441Y (Dupl.)	2	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 DelFerro	5/16/22/1510 hrs.		[signature]	5-17-22 / 0920

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

WSTF 381C (05/2016)

PROJECT WB-1-330 WJI ENV-0020

Bob Tufts & Craig Del Ferraro present. Weather is clear, warm, & breezy. This zone will be sampled using 5 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G1

Sample	Analysis	Preservative	Container	Lot	Lab
2205160830Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS

Initial Parameters	Final	Meter ID
Time - 2205160910Y	Time - 2205161006Y	pH/cond - 92
PH - 8.08	PH - 7.94	Turb - 20
Temp - 23.2°C	Temp - 23.6°C	" std - 5.87
Cond - 1160 us/cm	Cond - 1145 us/cm	" rdg - 5.92
Turb - 3.31 NTU's	Turb - 2.40 NTU's	" lot - 210966
pH pre - 7.06/10.02 (19.9°C)	pH pre - 7.05/10.03 (21.3°C)	" Exp - 5/31/22
pH post - 7.07/10.02	pH post - 7.04/10.00	
DTW - 187.60 ft.	DTW - 187.69 ft.	
Atmos - 12.40 psia	Atmos - 12.39 psia	
	IDW - 1 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2205160940Y	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 0941Y	607/Bromacil	ice	(1) 1L Amber	0100301H	SET
——— 1005Y	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS

* Samples were very aerated.

Runs

1)	2)	3)
77.93	77.89	77.83
85.62	85.66	85.66
85.66	85.71	85.66
77.97	77.95	77.86

Continued from page

Craig Del Ferraro 5/16/22
Signed Date

Read and Understood By
[signature] 5-17-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5/16/22 | Page 1 of 1

Sample Location: WB-1-330

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals				Charge Number
2205160830Y (EB)	3	A	✓						XGMD
—— 0940Y	3	A	✓						"
—— 0941Y	1	A		✓					"
—— 1005Y	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 Del Fero	5/16/22 / 1115hrs.		[signature]	5-17-22 / 0920

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

PROJECT WW-4-419 FLUTe ENV-2020

Notebook No. D32 # 124 C

Continued from page

Dan Halvorsen, Marcus Avalos & Robert Burrows present. Weather is clear and warm. This zone will be purged and sampled using a FLUTe System. Samples will be collected using a dedicated discharge hose. Purge pressure set at 225 psi and sample pressure at 203 psi. Bubbler flowmeter set at 3 psi and stable at 6 p[si]. minimum of 4 gallons will be purged prior to sampling. 15 minute recovery between sampling events. CarDog G2 in use.

Pre-Sample Parameters

PH = 8.74	8.72	
Temp = 22.3	23.1	
Cond = 1060	1057	
TURB = 5.27	3.79	

Meter ID

PH/Cond = 93

TURB = 7

" STD = 48.3

" ROG = 48.6

" LOT = 200445

" Exp - 5/22

Transducer

PSI : 52.17

Temp = 24.55

Depth - 120.34

Parameters

Time = 220523/1330 C

PH = 8.46

Temp = 24.6

Cond = 1039

Turb = 2.34

PHPre = 6.99-10.02

PHPost = 6.98-10.01

EDW = 5 gal

Trip Blanks

Sample #	Analysis	Preserve	Container	LoT	LAB
2205230645 C	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
—0646 C	NDMA LL	Ice	(1) 1L Amber	100501	SRI

SAMPLES

Sample #	Analysis	Preserve	Container	LoT	LAB
220523/1332 C	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
—1333 C	" " (FB)	"	"	"	"
—1334 C	NDMA/DMN Bromacil by 607				
—1348 C	NDMA LL	Ice	(1) 1L Amber	100501	SRI
—1349 C	" " (FB)	"	"	"	"
—1350 C	SVOA by 8270 D	"	"	"	"
—1420 C	Total metals	Ice/HNO3	(2) " / (2) 125 ml Poly	N/A	ALS

Continued from page

Read and Understood By

Signed 5-23-2022 Date

Signed 5-24-22

PROJECT WW-M-419 (Cont)

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
205231421C	TDS by SM 2540 C	Ice	(1) 125 ml Poly	N/A	ALS
—1422C	Perchlorate by 6850	"	(1) "	"	"
—1424C	NO_2/NO_3 by 353.2	Ice/H_2SO_4	(1) 250 ml Poly	"	"
—1423C	Anions/Alk	Ice	(2) 125 ml Poly	"	"

Continued from page

Signed

5-23-2022
Date

Read and Understood By

Signed

5-24-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-23-2022 Page ______ of ______

Sample Location: WW-4-419

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	VOA	LOI	NDMA LL	SVOA				Charge Number: XGMD
22052306-45C TB	3	A	3							
—1332C	3		3							
—1333C FB	3		3							
—1334C	1			✓						
—1348C	1				✓					
—1349C FB	1				✓					
—1350C	2					✓				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	NDMA LL	metals	anions/ALK	TDS	Perchlorate	NO2/NO3		Charge Number
22052306-46C TB ~~FB~~	1	A	X							
—1420C	2			✓						
—1423C	2				✓					
—1422C	1					~~X~~	X			
—14~~23~~21C	1					X	~~X~~			
—1424C	1							✓		

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-23-2022 1510		[signature]	5-24-22 / 0900

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

WSTF 381C (05/2016)

PROJECT WW-4-589 FLUTe ENV-0020

Notebook No. D32 #124 C

Continued from page ________

Dan Halvorsen, Marcus Avelos & Robert Burrows present. Weather is clear and warm. This zone will be purged and sampled using a Flute system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 225 psi and sample pressure at 203 psi. Bubbler flowmeter set at 3 psi and stable at 6 psi. Minimum of 4 gallons purged prior to sampling. 15 minute recovery between sampling events. Carboy G2 in use.

Pre-Sample Parameters

PH = 7.98	7.95
Temp = 22.1	22.5
Cond = 1128	1132
Turb = 4.29	3.78

Meter #0

PH/Cond = 93
Turb = 7
" STD = 48.3
" Obs = 48.6
" Lot = 200445
" Exp = 5/22

Transducer

PSI = 52.55
Temp = 24.85
Depth = 121.23

Parameters

Time = 220523134?C
PH = 8.55
Temp = 25.4
Cond = 1130
Turb = 1.85
pH Pre = 7.09 - 9.90 (38.7°C)
pH Post = 7.06 - 10.00

DW = 8 gal

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	LAB
220523/1342 C	VOCs by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
— 1343 C	" " (FB)	"	"	"	"
— 1344 C	NDMA/NDMA Bromacil by 607	Ice	(1) 1L Amber	100501	SRT
— 1415 C	NDMA LL	"	"	"	"
— 1416 C	" " (FB)	"	"	"	"
— 1417 C	SVOCs by 8270D	"	(2) "	N/A	ALS
— 1442 C	Total metals	Ice/HNO3	(2) 125 ml Poly	"	"
— 1443 C	Anions/Alk	Ice	"	"	"
— 1444 C	TDS by SM2540C	"	(1) "	"	"
— 1445 C	Perchlorate by 6850	"	(1) "	"	"
— 1446 C	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

Continued from page

Signed [signature] Date 5-23-2022

Read and Understood By

Signed [signature] Date 5-24-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-23-2022 Page ______ of ______

Sample Location: WW-4-589

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	VOA	COD	NDMA LL	SVOC	Metals			Charge Number
										XGMD
2205231342c	3	A	X							
1343c FB	3		X							
1344c	1			X						
1415c	1				X					
1416c FB	1				X					
1417c	2					X				
1442c	2						X			

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Anions/alk	TDS	Perchlorate	NO2/NO3				Charge Number
2205231443c	2	A	X							
~~1444~~ 1444c	1			X						
1445c	1				X					
1446c	1					X				

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-23-2022 1510		[signature]	5-24-22 / 0900

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

WSTF 381C (05/2016)

Dan Halvorsen, Marcus Avalos + Robert Burrows present. Weather is cloudy and cool. This zone will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 225 psi and sample pressure at 203 psi. Bubbler flowmeter set at 3 psi and stable at 4 psi. minimum of 4 gallons purged prior to sampling. 15 minute recovery between purges. Carboy G2 in use.

Pre-Sample Parameters

pH = 8.32 8.77

Temp = 21.8 21.8

Cond = 954 937

Turb = 1.08 1.02

Transducer

PSI = 53.10

Temp = 24.56

Depth = 122.50

Meter ID

PH/Cond = 93

Turb = 7

" STD = 48.3

" ADG = 48.4

" LOT = 200445

" EXP = 5/22

Parameters

Time = 220524/1025C

pH = 8.65

Temp = 23.2

Cond = 950

Turb = 0.97

pH Pre = 7.01-10.02

pH Post = 7.00-10.01

Trip Blanks

Sample #	Analysis	Preserve	Container	LOT	LAB
220524064 5C	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
— 0646C	NDMA LL	Ice	(1) 1L Amber	103501	SRI

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
2205241028C	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621 ~~103501~~	ALS
— 1029C	" " (FB)	"	"	"	"
— 1030C	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber	103501	SRI
— 1035C	NDMA LL	"	"	"	"
— 1036C	" " (FB)	"	"	"	"
— 1055C	SVOA by 8270 D	"	(2) "	N/A	ALS
— 1330C	Total metals	Ice/HNO3	(2) 125 ml Poly	"	"
— 1331C	Anions/Alk	Ice	(2) "	"	"

Continued from page

Read and Understood By

[signature] 5-24-2022 Signed Date

[signature] 5-25-22 Signed Date

:OJECT WW. H - 848 (Cont.)

Notebook No. D32 #124 c

Continued from page

SAMPLES

mple #	Analysis	Preserve	Container	L T	LAB
220524 1332 C	TDS by SM2540C	Ice	(1) 125 ml Poly	N | A	ALS
— 1333C	Perchlorate by 6850	"	"	"	"
— 1334C	NO2 / NO3 by 353.2	Ice / H_2SO_4	(1) 250 ml Poly	"	"

IDW: 5 gal.

Continued from page

Read and Understood By

Signed 5-24-2022 Date

Signed 5-25-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5-24-2022 | Page ______ of ______

Sample Location: WW-4-848

Pertinent Notes (if any)

Analytical Requirement

Sample Number		# of Containers	Sample Matrix*	VOC	607	NDMA LL					Charge Number
2205240645C	TB	6	A	3							X Grd
1028C		6		3							
1029C	FB	6		3							
1030C		1			6						
0646C	TB	1				X					
1035C		1				X					
1036C	FB	1				X					

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	SVOC	metals	Anions/AIX	TDS	Perchlorate	NO2/NO3		Charge Number
2205241055C	2	A	X							
1330C	2			X						
1331C	2				X					
1332C	1					X				
1333C	1						X			
1334C	1							X		

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5-24-2022 1500		[signature]	5-25-22 / 0900

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

WSTF 381C (05/2016)

PROJECT WW-4-948

Dan Halvorsen, Marcus Avalos & Robert Burrows present. Weather is cloudy and cool. This zone will be purged and sampled using a Flute System. Samples will be collected using a dedicated discharge hose. Purge pressure set at 225 psi and sample pressure at 203 psi. Bubbler flowmeter set at 3 psi and stable at 6 psi. Minimum of 4 gallons purged prior to sampling. 15 minute recovery between purges. Carboy G2 in use.

Pre-Sample Parameters

PH	= 7.97	7.96
Temp	= 21.4	21.7
Cond	= 1190	1197
Turb	= 0.79	0.71

Transducer

Psi = 53.71
Temp = 24.55
Depth = 123.91

Meter ID

PH/Cond = 93
Turb = 7
" SSD = 48.3
" RDG = 48.4
" Lot = 200445
" Exp = 5/22

Parameters

Time = 220524 1038C
PH = 8.71
Temp = 22.7
Cond = 1199
Turb = 1.09
PH Pre = 7.01 - 10.02
PH Post = 7.01 - 10.01

≈ DW - 5 gal

SAMPLES

Sample ID	Analysis	Preserve	Container	Lot	Lab
2205241042C	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial	2621	ALS
——1043C	" " (FB)	"	"	"	"
——1044C	NDMA/DMN Bromacil by 607	Ice	(1) 1L Amber	107581	SRI
——1045C	NDMA LL	"	"	"	"
——1046C	" " (FB)	"	"	"	"
——1308C	SVOA by 8270 D	"	(2) "	N/A	ALS
——1405C	Total Metals	Ice/HNO3	(2) 125 ml Poly	"	"
——1406C	Anions/ALK	Ice	(2) "	"	"
——1407C	TDS by SM2540C	"	(1) "	"	"
——1408C	Perchlorate by 6850	"	(1) "	"	"
——1409C	NO2/NO3 by 353.2	Ice/H2SO4	(1) 250 ml Poly	"	"

Read and Understood By

Signed [signature] Date 5-24-2022 Signed [signature] Date 5-25-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 5·24·2022 Page ______ of ______

Sample Location: WW-4-948

Pertinent Notes (if any)

Charge Number: XBMD

Sample Number	# of Containers	Sample Matrix*	VOA	607	NDMA LL	SVOA	metals		
220524/1042c	3	A	X						
1043c FB	3		X						
1044c	1			X					
1045c	1				X				
1046c FB	1				X				
1308c	2					X			
1405c	2						X		

Sample Location:

Pertinent Notes (if any)

Charge Number:

Sample Number	# of Containers	Sample Matrix*	Anions/ALK	TDS	Perchlorate	NO2/NO3			
2205241406c	2	A	X						
1407c	1			X					
1408c	1				X				
1409c	1					X			

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	5·24·2022 1500			

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

WSTF 381C (05/2016)

PROJECT 100-E-261 ReSample ENV-0053

Notebook No. D32 # 124 C

Continued from page ________

Dan Halvorsen & Bob Tufts present. Weather is cloudy and cool. This well will be a Resample event. Parameters will be monitored using an In-Situ Aqua Troll 500

Calibrations:

All sensors calibrated using In-Situ solutions.

Parameters (Time)	Temp	Cond	DO	pH	ORP	Turb
220624 0900 C	~~7.31~~ 21.11	1229	3.12	7.31	320	2.88
—— 0902 C	21.12	1228	3.08	7.30	316	2.21
—— 0904 C	21.10	1230	3.08	7.32	3.11	2.42

Sample

Sample #	Analysis	Preserve	Container	Lot	Lab
220624 0910 C	Perchlorate	Ice	(1) 125 ml Poly	N/A	ALS

IOV = 1 1/4 gal.

Continued from page

Signed: [signature] Date: 6-24-2022

Read and Understood By

Signed: [signature] Date: 6-24-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-24-2022 Page 1 of 1

Sample Location: 100-E-261			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Perchlorate							XGMD Charge Number
220624 0910 C	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:
[signature]	6-24-2022 0915		[signature]	6-27-22 / 0915

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

WSTF 381C (05/2016)

PROJECT B 650-EFF-1

Notebook No. PFTS #18 **69**

Continued from page ____

Frank Gallegos & Tim Moore present.
The samples will Be taken from a Dedicated sampling port after purging for one minute "Calboy" "Plumefront"

Parameters	Meter ID	Buffers	Lot#	Exp
Time-2206100601	Ph/cond-Plumefront 7-		21098656	7/23
Ph 7.88	Turb-Plumefront/0-		41103681	9/22
Temp 25.9°c	" STD-9.64			
Cond 1064 us/cm	" RDG 9.65NTU			
Turb 0.08NTU	" LOT# N/A			
Phpre 7.00-10.00 (23.0°c)	" EXP-~~N/A~~ 6/30/22			
PhPOST-7.00-10.00				

Samples

Sample#	Analysis Req		Lot#	LAB	Cont
2206100605	VOA by 8260C(L)	ICE & HCL	2621	A(S)	(3) 40ml Vial
— 0606	" (FB)	"	"	"	"
— 0607	NDMA/DMN/BLOby607	ICE	0100301H	SWRL	(1) 1L amber
— 0608	LLNDMA	"	"	"	"
— 0609	" (FB)	"	"	"	"

Continued from page N/A

Read and Understood By

[signature] **Signed** 10 Jun 2022 **Date** [signature] **Signed** 6-10-22 **Date**

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-10-22 Page 1 of 1

Sample Location: B650-EFF-1

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
2206100605	3	A		X						XGMD
0606 (FB)	3	A		X						XGMD
0607	1	A			X					XGMD
0608	1	A				X				XGMD
0609 (FB)	1	A				X				XGMD

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	PERCHLORATE 6850	NO_2/NO_3 353.2						Charge Number
										XGMD

Pertinent Notes (if any)

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	6-10-22 (0640)	[signature]	6-10-22 / 0915

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

PROJECT B650-INF-1

Notebook No. PFTS

Continued from page N/A

Frank Gallegos & Tim Moore present.
The samples will be taken from a dedicated sampling port that is purged for one minute. Carboy "Plumefront"

Parameters		Meter ID	Buffers	Lot #	Exp
Time	220610 0613	PH/cond Plumefront	7	2108G56	4/22
PH	7.21	Turb-Plumefront	10	4103G81	9/22
Temp	25.5°C	" STD - 9.64			
Cond	1075 us/cm	" RDG 9.69 NTU			
Turb	0.76 NTU	" Lot # N/A			
PH pre	7.00-10.00 (24.9°c)	" Exp - 6/30/22			
PH post					

Samples

Sample #	Analysis	Pres	Lot #	LAB	Cont
2206100619	VOA by 8260	Ice & HCl	2621	ALS	(3) 40 ml vials
— 0620	" (FB)	"	"	"	"
— 0621	NDMA/DMN by 607	ICE	0100301H	SWRI	(1) Liter amber

Continued from page N/A

Read and Understood By

[signature] 10 June 2022 [signature] 6-10-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-10-22 Page 1 of 1

Sample Location: 3650-INF-1

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	VOA 8260	LL-VOA 8260	NDMA/DMN/BROMACIL 607	LOW LEVEL NDMA	TOTAL METALS	ANIONS/ALK	TDS SM2540C	Charge Number
										XGMD
2206100619	3	A	X							"
0620 (FB)	3	A	X							"
0621	1	A			X					"

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	PERCHLORATE 6850	NO_2/NO_3 353.2						Charge Number
										XGMD

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	6-10-22 (0640)	[signature]	6-10-22 / 0915

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

WSTF 381C (05/2016)

PROJECT B655-EFF-2

Notebook No. PFTS #10 **71**

Continued from page N/A

Frank Gallegos & Tim Moore present. The samples will be taken from a dedicated sampling port that has been purged for one minute. Carboy "Plumefront"

Parameters	Meter ID	Buffers	LOT #	EXP
Time-2206100523	Ph/cond-plumefront 7		2108656	2/23
Ph 8.39	Turb-Plumefront/0		4103681	4/22
Temp 26.7°c	"STD-9.64			
Cond 1132 us/cm	"RDG 9.69 NTU			
Turb 0.10 NTU	"LOT # N/A			
Ph Pre 7.01-10.00 (22.5c)	"Exp-~~NA~~ 6/30/22			
Ph Post-7.00-10.00				

Samples

Sample #	Analysis	Pres.	LOT #	LAB	CONT #
2206100528	VOA by 8260 (LL)	ICE; HCl	2621	ALS	(3) 40 mL Vial
— 0529	" (FB)	"	"	"	"
— 0530	NDMA/DMN/B1 by 607	ICE	0100301H	SWRI	(1) L-amber
— 0531	LL NDMA	"	"	"	"
— 0532	" (FB)	"	"	"	"

Continued from page N/A

Read and Understood By

Signed: [signature] Date: 10 June 2022

Signed: [signature] Date: 6-10-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-10-22

Sample Location: B655-EFF-2

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	VOA 8260	LL-VOA 8260	NDMA/DMN/BROMACIL 607	LOW LEVEL NDMA	TOTAL METALS	ANIONS/ALK	TDS SM2540C	Charge Number XGMD
22061000528	3	A		X						"
— 0529 (FB)	3	A		X						"
— 0530	1	A			X					"
— 0531	1	A				X				"
— 0532 (FB)	1	A				X				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	PERCHLORATE 314.0	NO_2/NO_3 353.2						Charge Number XGMD

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	6-10-22 (0640)	[signature]	6-10-22 / 0915

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

PROJECT B655-INF-2

Notebook No. PFTS
Continued from page N/A

Frank Gallegos & Tim Moore present. The samples will be taken from a dedicated sampling port that will be purged for one minute. Carboy "Pinefront"

Parameters		Metered	Buffers	Lot #	Exp
Time - 2206100535		Ph/Cond - Plumefront	7	2108656	2/23
Ph	6.94	Turb - Plumefront	10	4103681	9/22
Temp	25.7°C	"STD - 9.64			
Cond	1119 us/cm	"RDG 9.67			
Turb	0.24 NTU	"Lot # N/A			
Ph Pre	7.01 - 10.00 (24.4c)	"Exp - ~~N/A~~ 6/30/22			
Ph Post	- 7.00 - 10.00				

Samples

Sample #	Analysis	Pres	Lot #	Lab	Cont
2206100540	VOA by 8260	ICE & HCl	2621	ALS	(3) 40 mL vial
— 0541	" (Dup)	"	"	"	"
— 0542	" (FB)	"	"	"	"
— 0543	NDMA/DMN/NBD by 607	ICE	01003014	SwRI	(1) L amber

Continued from page N/A

Read and Understood By

Signed: [signature] Date: 10 June 2022

Signed: [signature] Date: 6-10-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-10-22

Page 1 of 1

Sample Location: B650-INF-1

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 XGMD
2206100619	3	A	X							"
—— 0620 (FB)	3	A	X							"
—— 0621	1	A			X					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	PERCHLORATE 6850	NO_2/NO_3 353.2						Charge Number XGMD

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	6-10-22 (0640)	[signature]	6-10-22 / 0915

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

PROJECT BLM-7-509 WOI ENV-0053

Robert Burrows & AL Montes present. Weather is clear & warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2 in use.

Calibrations:
DO - Cal in 100% saturated air @ mm/Hg. Total DTW - 495.28 (ft)
Conductivity - Cal using 1413 us/cm std. Final DTW - 495.28 (ft)
PH - Cal using Oakton Buffers (4,7,10).
Turbidity meter - #6, std - 9.21 (ntu's), Rdg - 2.76 (ntu's), Lot# - 210966, Exp - 6/30/22

Parameters (Time)	Temp (°c)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (ft)
1) 220606 1403 A	24.08	1487.1	6.30	7.83	171.5	3.58	495.28
2) —— 1404 A	24.75	1500.6	6.72	7.83	171.3	3.64	" "
3) —— 1405 A	24.95	1,506.3	6.46	7.84	171.1	3.48	" "

Samples

Sample #	Analysis	Preservative	Containers	Lot #	Lab
220606 1408 A	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2621	ALS
—— 1409 A	" " (FB)	" "	(3) " "	" "	" "
—— 1410 A	Low Level NDMA	Ice	(1) L Amber	0100301H	SRE
—— 1412 A	" " (MS)	" "	(1) " "	" "	" "
—— 1414 A	" " (MSD)	" "	(1) " "	" "	" "
—— 1416 A	" " (FB)	" "	(1) " "	" "	" "

Total gallons purged - 1 1/2 gals.

Continued from page N/A

Read and Understood By

Robert Burrows 6-6-22
Signed Date

[signature] 6-7-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-6-22 Page 1 of 1

Sample Location: BLM-7-509

Pertinent Notes (if any) TASK-memo-11173 Sample Number	# of Containers	Sample Matrix*	VOA by 8260 LL	Low level NDMA					Charge Number XGMD
220606 1408 A	3	A	X						↓
1409 A (FB)	3	↓	X						
1410 A	1			X					
1412 A (MS)	1			X					
1414 A (MSD)	1			X					
1416 A (FB) ~~RB~~ RB	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:
Robert Burnett	6-6-22/ 2:56		[signature]	6-7-22 / 0900

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

WSTF 381C (05/2016)

ROJECT BLm 27.270 Resample ENV-0053

Dan Halvorsen & Bob Tufts present. Weather is partly cloudy and cool. This well will be resampled using an In-Situ Aqua-Troll 500.

Calibrations:
Using All ~~Eat~~ In-Situ Calibration Solutions:

Parameters (Time)	Temp	Cond	DO	PH	ORP	Turb
2206230921A	21.49	981	5.44	7.65	310	1.96
—0923A	21.51	998	5.60	7.63	311	1.92
—0925A	21.48	975	5.66	7.62	312	1.92

SAMPLE

Sample #	Analysis	Preserve	Container	Lot	LAB
2206230930A	Perchlorate	Ice	(1) 125 ml Poly	N/A	ALS

IOW = 1 1/4 gallon

Continued from page

Signed | 6-23-2023 Date | Read and Understood By | Signed | 6-24-23 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6·23·2022

Sample Location: BLM-27-270

Pertinent Notes (if any): Resample

Charge Number: XGMD

Sample Number	# of Containers	Sample Matrix*	Perchlorate							Charge Number
2206230930A	1	A	Y							

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	6·23·2022 1045		[signature]	6-24-22 / 0830

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

WSTF 381C (05/2016)

PROJECT BLM-42-569 WJI ENV-0053

Notebook No. D32 #124(c)

Continued from page ______

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This well will be purged using a dedicated bladder pump. ~~D~~ 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 @ 641 mm/Hg.

Conductivity - calibrated using 1413 us/cm std solution.

PH-calibrated using ~~Fisher~~ Oakton buffers (7-10)

Turbidity meter #8 std - 60.46 rdg - 60.96 lot - 210966 Exp - 6/30/22

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2206130655C	VOA by 8260 LL	~~ice~~ HCL	(3) 40ml vials	2621	ALS
——— 0656C	Low Level NDMA	ice	(1) 1L Amber	010030 1H	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	PH	ORP	DO	Turb (NTU's)	DTW (ft.)
1) 220613 0825C	20.72	0.602	7.30	117	2.82	1.59	48.96
2) ——— 0828C	20.77	0.596	7.26	114	2.61	1.41	48.96
3) ——— 0831C	20.82	0.594	7.24	113	2.40	1.21	48.96 (see below)

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206130835C	VOA by 8260 LL	ice / HCL	(3) 40ml vials	2621	ALS
——— 0836C	" (FB)	"	"	"	"
——— 0837C	Low Level NDMA	ice	(1) 1L Amber	010030 1H	SRI
——— 0838C	" (FB)	"	"	"	"

Initial Packer pressure 37 psi.

Final Packer pressure 37 psi.

Initial DTW (transducer reading) 48.96 ft.

Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferraro 6/13/22 Signed Date

[signature] 6-14-22 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/13/22 Page 1 of 1

Sample Location: BLM-42-569

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2206130655C (TB)	3	A	✓							XGMD
—0656C (TB)	1	A		✓						"
—0835C	3	A	✓							"
—0836C (FB)	3	A	✓							"
—0837C	1	A		✓						"
—0838C (FB)	1	A		✓						"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	6/13/22/1115hrs.		[signature]	6-14-22 /0900

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

PROJECT BLM-42-709 WJI ENV-0053

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is cloudy & 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 61 in use.

Calibrations
DO - calibrated in saturated air @ 641mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #8 std - 60.46 rdg - 60.96 lot - 210966 Exp - 6/30/22

Parameters (time)	temp (°C)	Cond (ms/cm)	PH	ORP	DO	Turb (NTU's)	DTW (ft.)
1) 2206131000C	~~0.615~~ ce 21.17	0.615	7.61	121	3.38	2.50	49.01
2) ——— 1003C	~~0.622~~ ce 21.25	0.622	7.62	122	3.28	2.35	49.01
3) ——— 1006C	~~0.618~~ ce 21.31	0.618	7.65	122	3.16	2.11	49.01 (see below)

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206131015C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1016C	" (FB)	"	"	"	"
——— 1017C	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——— 1018C	" (FB)	"	"	"	"

* Initial packer pressure ~ 37psi.

Initial DTW (transducer reading) 49.01ft.

* Final packer pressure ~ 37psi.

Total gallons purged — 2.5

Continued from page

Craig Del Ferraro 6/13/22
Signed Date

Read and Understood By
[signature] 6-14.22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/13/22 Page 1 of 1

Sample Location: BLM-42-709

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
220613 1015C	3	A	✓							XGMD
1016C (FB)	3	A	✓							"
1017 C	1	A		✓						"
1018C (FB)	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 DelFerro	6/13/22 / ~~1115hrs.~~ CD 1500hrs.		[signature]	6-14-22 / 0900

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

WSTF 381C (05/2016)

PROJECT BW-7-211 WJI ENV-~~0000~~ 0053

Notebook No. ~~D64 #32~~ D32 #124(c)

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.

Calibrations

DO - calibrated in saturated air @ 641mm/Hg.

Conductivity - calibrated using 1413us/cm std. solution.

PH - calibrated using Oakton buffers 7, 10.

Turbidity meter #8 std - 60.46 rdg - 61.22 lot - 210966 Exp - 6/30/22

Parameters (time)	temp (°c)	cond (ms/cm)	ORP	PH	DO	Turb (NTU's)	DTW (ft.)
1) 220615 0955C	22.13	0.972	44	7.95	5.01	0.41	196.43
2) ——— 0958C	22.21	0.978	44	7.97	5.24	0.45	196.43
3) ——— 1001C	22.29	0.981	42	8.01	5.35	0.38	196.43

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206151005C	VOA by 8260	ice / HCL	(3) 40ml vials	2621	ALS
——— 1006C	" (Dupl.)	"	"	"	"
——— 1007C	" (FB)	"	"	"	"
——— 1008C	607/Bromacil	ice	(1) 1L Amber	010030IH	SRI
——— 1009C	Total Metals	ice / HNO_3	(2) 125ml poly's	21-12-12	ALS

Initial DTW - 196.40ft. Total gallons purged - 1

Continued from page

Read and Understood By

Craig Del Ferraro 6/15/22
Signed Date

[signature] 6-16-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/15/22

Sample Location: BW-7-211

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals				Charge Number
2206151005C	3	A	✓						XGMO
—— 1006C (Dupl.)	3	A	✓						"
—— 1007C (FB)	3	A	✓						"
—— 1008C	1	A		✓					"
—— 1009C	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 Del Fierro	6/15/22 / 1110 hrs.	[signature]	6-16-22 / 0900

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

WSTF 381C (05/2016)

ROJECT MPE-9 Resample

Notebook No. PFTS#10
Continued from page N/A

Frank Gallegos & Tim Moore present. Samples will Be taken from a dedicated sampling port after it is purged for one minute.

Parameters	Meter ID	Buffers	LOT#	Exp
Time=2206280800	Ph/cond - Plmotiony	7	2108656	2/23
Ph - 7.32	Turb - Plmotiony	10	4103681	9/22
Temp - 24.0 °C	STD - 9.64			
cond - 1218 us/cm	RDG - 9.60			
Turb - 0.40 NTUs	LOT# N/A			
Ph pre - 7.04/10.02 (23.9°) Exp 6/30/22				
Ph POST - 7.03/10.02				

Samples

Sample#	Analysis	Pres	LOT#	LAB	cont
2206280802	Perchlorate	ICE	N/A	ALS	(1) 125ml poly

Continued from page N/A

Read and Understood By

Signed 6-28-22 Date Signed 6-28-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-28-22 Page 1 of 1

Sample Location: MPE-9			Analytical Requirement							
Pertinent Notes (if any)										
Sample Number	# of Containers	Sample Matrix*	Perchlorate							Charge Number XGMD
2206280802	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:
[signature]	6-28-22 (0815)		[signature]	6-28-22 / 0830

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

PROJECT PL-2-504 WJI ENV-0053

Notebook No. D32#124(c)
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.

Calibrations
DO - calibrated in saturated air @ 642 mm/Hg.
Conductivity - calibrated using 1413us/cm std. solution.
PH - calibrated using Oakton buffers (7-10).
Turbidity meter #8 std-60.46 rdg-61.10 lot-210966 Exp-6/30/22

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 2206140855C	21.09	0.956	5.13	123	7.85	0.62	478.68
2) ——— 0858C	21.18	0.949	4.92	123	7.87	0.55	478.68
3) ——— 0901C	21.27	0.946	4.70	121	7.88	0.52	478.68

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206140910C	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 0911C	" (FB)	"	"	"	"
——— 0912C	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——— 0913C	Total Metals	ice/HNO_3	(2) 125ml poly's	21-12-12	ALS
——— 0914C	" (Dupl.)	"	"	"	"

Initial DTW - 478.55ft. Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferraro 6/14/22
Signed Date

[signature] 6-15-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/14/22

Sample Location: PL-2-504

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals					Charge Number
2206140910C	3	A	✓							XGMD
——0911C (FB)	3	A	✓							"
——0912C	1	A		✓						"
——0913C	2	A			✓					"
——0914C (Dupl.)	2	A			✓					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	6/14/22/1100hrs.		[signature]	6-15-22 /0845

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

PROJECT PL-4-464 WJI ENV-0053

Bob Tufts & Craig Del Ferraro present. Weather is clear, hot, & 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 Gl 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 - 60.46 rdg - 61.10 lot - 210966 Exp - 6/30/22

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2206141250C	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
—— 1251C	Low Level NDMA	ice	(1) 1L Amber	~~01030~~ CO 0100301H	SRI

Initial Parameters	temp (°C)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 2206141335C	22.65	0.996	6.02	37	8.04	0.49	450.62
2) —— 1338C	22.71	0.999	5.68	37	7.98	0.44	450.62
3) —— 1341C	22.79	1.005	5.30	37	7.95	0.38	450.62

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206141345C	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
—— ~~1348C~~ CO 1346C	" (FB)	"	"	"	"
—— 1347C	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
—— 1348C	" (FB)	"	"	"	"

Initial DTW - 450.28 ft. Total gallons purged - 1.5

Read and Understood By

Craig Del Ferraro 6/14/22 Signed Date

[signature] 6-15-22 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/14/22

Sample Location: PL-4-464

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	LL NDMA					Charge Number
2206141250C (TB)	3	A	✓						XGMD
—— 1251C (TB)	1	A		✓					"
—— 1345C	3	A	✓						"
—— 1346C (FB)	3	A	✓						"
—— 1347C	1	A		✓					"
—— 1348C (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 Ferro	6/14/22 / 1500 hrs.		[signature]	6-15-22 / 0845

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

WSTF 381C (05/2016)

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 #4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G5

Sample	Analysis	Preservative	Container	Lot	Lab
2206071415y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1416y	Low Level NDMA	ice	(1) 1L Amber	010030IH	SRI

Initial Parameters	Final	Meter ID
Time - 2206071445y	Time - 2206080925y	pH/Cond - 93
PH - 8.01	PH - 7.90	Turb - 7
Temp - 25.7°C	Temp - 24.6°C	" std - 45.53
Cond - 1146us/cm	Cond - 1155us/cm	" rdg - 45.90
Turb - 1.56 NTU's	Turb - 1.37 NTU's	" lot - 210966
pH pre - 6.95/9.92 (33.0°c)	pH pre - 7.06/10.03 (24.7°c)	" Exp - 6/30/22
pH post - 6.93/9.91	pH post - 7.08/10.04	
DTW - 441.25ft.	DTW - 441.34ft.	
Atmos - 12.55psia	Atmos - 12.57psia	
	IDW - 1/2 gals.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206080825y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0826y	Low Level NDMA	ice	(1) 1L Amber	010030IH	SRI
——— 0900y	1,4 Dioxane by 8270D	"	(1) 250ml amber	90121-06	ALS

Runs	1)	2)	3)	4)
	22.54	22.59	22.56	22.54
	22.47	22.45	22.47	22.48
	22.43	22.45	22.48	22.50
	22.58	22.62	22.60	22.50

Continued from page

Read and Understood By

Craig Del Ferraro (Signed) 6/8/22 (Date)

[signature] (Signed) 6-8-22 (Date)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/7/21 Page 1 of 2

Sample Location: PL-8-455			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2206071415Y (EB)	3	A	✓							XGMD
——1416Y (EB)	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 DelFerro	6/7/22/1500hrs.		[signature]	6-8-22 / 0845

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

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/8/22 Page 2 of 2

Sample Location: PL-8-455

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	Dioxane				Charge Number
22060808254	3	A	✓						XGMD
——08264	1	A		✓					"
——09004	1	A			✓				"

Analytical Requirement

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeFeo	6/8/22 1100hrs.		[signature]	6-9-22/0900

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

WSTF 381C (05/2016)

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm. This zone will be sampled using 5 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe # 4955. Surface checks performed on probe prior to sampling.

30 Min Equipment Blanks - Carboy #5

Sample	Analysis	Preservative	Container	Lot	Lab
2206070900Y	VOA by 8260 LL	ice / HCL	(3) 40ml vials	2621	ALS
——— 0901Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2206070945Y	Time - 2206071325Y	pH/Cond - 93
PH - 8.41	PH - 8.30	Turb - 7
Temp - 25.2°c	Temp - 24.8°c	" std - 45.53
Cond - 1102 us/cm	Cond - 1093 us/cm	" rdg - 45.90
Turb - 1.49 NTU's	Turb - 1.19 NTU's	" lot - 210966
pH pre - 7.05/10.09 (22.0°c)	pH pre - 6.98/10.02 (29.2°c)	" Exp - 6/30/22
pH post - 7.03/10.09	pH post - 6.99/9.97	
DTW - 441.13 ft.	DTW - 441.25 ft.	
Atmos - 12.66 psia	Atmos - 12.62 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206071010Y	VOA by 8260 LL	ice / HCL	(3) 40ml vials	2621	ALS
——— 1011Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——— 1045Y	" (Dupl.)	"	"	"	"
——— 1046Y	1,4 Dioxane by 8270D	"	(1) 250ml amber	~~00838~~ CD 90121-06	ALS

Runs			
1) 88.12	2) 88.10	3) 88.05	4) 88.02
87.46	87.44	87.45	87.47
87.44	87.46	87.46	87.44
88.16	88.10	88.02	87.99

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 6/7/22 Date

Lori W Munch — Signed — 6-8-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/7/22 | Page 1 of 1

Sample Location: PL-8-605

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	Dioxane					Charge Number
2206070900Y (EB)	3	A	✓							XGMD
—— 0901Y (EB)	1	A		✓						"
—— 1010Y	3	A	✓							"
—— 1011Y	1	A		✓						"
—— 1045Y (Dupl.)	1	A		✓						"
—— 1046Y	1	A			✓					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	6/7/22 / 1500hrs.		[signature]	6-8-22 / 0845

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

PROJECT PL.11470

Notebook No. D32 #125 (8)

Continued from page

Marcus Avalos & Tony Torrez present. The weather is clear & hot. This zone will be purged & sampled using a flute sampling system. Samples collected from a dedicated discharge tube. Purge pressure set @ 222psi & sample pressure set @ 205psi. 15 min recovery time between purges. Bubbler set @ 3psi & stable @ ~~8~~ 8psi. Carboy 6-2. Transducer battery is dead.

PARAMETERS

220607	1400B
pH	7.87
Temp	26.6°C
Cond	1255 µs/cm
Turb	0.24
pH pre	6.96/9.90 (428°c)
pH post	6.96/9.91

METER ID'S
pH/cond #91
Turb # 21
Std = 9.42
Rdg = 9.40
Lot # 200445
Exp 7/22

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	LOT #	CONT	Lab
220607 1401B	8260LL	ice/Hcl	~~100301~~	(3) 40ml vial's	ACS
— 1402B	" (FB)	"	"	"	"
— 1403B	LLNDMA	ice	100301	(1) 1LT Amber	SRI
— 1404B	" (FB)	"	"	"	"
— 1405B	SVOASIM	"	N/A	(1) 250ml amber	A/S

Continued from page

Read and Understood By

Signed: [signature] Date: 6.7.22

Signed: [signature] Date: 6-8-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-7-22 Page ______ of ______

Sample Location: PL-11-470

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260CL	LCNDMA	500A5,MS				Charge Number
Pertinent Notes (if any)									XGMD
22060714O1B	3	A	X						
14O2B (FB)	3		X						
14O3B	1			X					
14O4B (FB)	1			X					
14O5B	1				X				

Sample Location:

Analytical Requirement

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [signature]	6-7-22/1500		[signature]	6-8-22 / 0845

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

MARCUS AVALOS & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & HOT. THIS ZONE will be purged & sampled using A FLUTE SYSTEM. SAMPLES COLLECTED FROM A dedicated TEFLON TUBE. Purge PRESSURE SET @ 227psi & SAMPLE PRESSURE SET @ 207psi. Bubbler SET @ 3psi & STABLE @ 8psi, Carboy 6.2. Transducer didn't CONNECT. 15 min RECOVERY TIME BETWEEN purges.

PARAMETERS	
220608 1315B	
pH	8.13
Temp	24.8°c
CunD	1198
Turb	0.37
pH pre	7.02/10.01 (41.0°c)
pH post	7.01/10.03

METER ID'S
pH/cond #91
Turb # 21
1' STD = 9.42
1' Rdg = 9.40
1' LOT # 200445
" Exp = 7/22

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	~~# LOT #~~ CONT	LAB
220608 1316B	8260LL	ICE/HCl	(3) 40ml vials	ALS
— 1317B	" (FB)	"	"	"
— 1318B	LLNDMA	ICE	(1) 1L amber	SRI
— 1319B	" (FB)	"	"	"
— 1320B	SVOASim	"	(1) 250ml Amber	ALS

Continued from page

Signed: [signature] Date: 6-8-22
Read and Understood By
Signed: [signature] Date: 6-9-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6·8·22 Page ____ of ____

Sample Location: ~~6·8~~ P1-11-530

Analytical Requirement

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260LL	LCNDMA	SUDASim					Charge Number
										XGMD
220608 1316B	3	A	X							
—— 1317B (FB)	3		X							
—— 1318B	1			X						
—— 1319B (FB)	1			X						
—— 1320B	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-[signature]	6·8·22 / 1500		[signature]	6-9-22 / 0900

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

WSTF 381C (05/2016)

PROJECT Pl-11-710

Notebook No. D32#125(B)

Continued from page

Marcus Avalos & Tony Torrez present. The weather is clear & Hot. This zone will be sampled & purged using a Flute sampling system. Samples collected from a Dedicated Teflon discharge Tube. Purge pressure set @ 227 & sample pressure set @ 207 psi. 15 mins Recovery between purges. Carboy 6.2. Transducer didn't work.

Parameters		Meter ID's
220608 1335B		pH/Cond # 91
pH	7.38	Turb # 21
Temp	23.9°c	" Std = 9.42
Cond	1273 µs/cm	" rdg = 9.40
Turb	0.60	" Lot# = 200445
pH pre	7.01/10.03 (41.0)	" Exp = 7/22
pH post	7.02/10.03	

Samples

Sample #	Analysis	Preserv	Cont	Lab
220608 1336B	8260LL	ice/HCl	(3) 40ml vials	ALS
— 1337B	" (FB)	"	"	"
— 1338B	LLNDMA	ice	(1) 1LT Amber	SRS
— 1339B	" (FB)	"	"	"
— 1340B	SVOA Sim	"	(1) 250ml Amber	ALS
— 1341B	" (Dup)	"	"	"

Continued from page

Read and Understood By

[signature] 6-8-22
Signed Date

[signature] 6-9-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6.8.22 | Page ______ of ______

Sample Location: Pl-1H 710

Pertinent Notes (if any)

Analytical Requirement: 8260LL, LLNDMA, 300ASm

Charge Number: X6MA

Sample Number	# of Containers	Sample Matrix*	8260LL	LLNDMA	300ASm					Charge Number
220608 1336B	3	A	X							
— 1337B (FB)	3		X							
— 1338B	1			X						
— 1339B (FB)	1			X						
— 1340B	1				X					
— 1341B (Dup)	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:
T-[signature]	6.8.22/1500		[signature]	6-9-22 / 0900

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

WSTF 381C (05/2016)

PROJECT PL-11-820

MARCUS AVALOS & TONY TORREZ PRESENT. THE WEATHER IS HAZY & HOT. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. SAMPLES COLLECTED FROM A DEDICATED TEFLON DISCHARGE TUBE. PURGE PRESSURE SET @ 227 psi & SAMPLE PRESSURE SET @ 205 psi. 15 MIN RECOVERY BETWEEN PURGES. CARBOY 6.2. TRANSDUCER DIDN'T WORK.

PARAMETERS

220609 1330B

pH	8.48
Temp	26.3°c
COND	1143
TURB	0.69
pH PRE	7.02/10.01 (38.9)
pH POST	7.01/10.03

METER ID'S

pH/COND #91

TURB #21

" STD = 9.42

" Rdg = 9.35

" LOT# 200448

" EXP 7/22

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	CONT	LAB
220609 1331B	8260LL	ICE/HCl	(3) 40ml VIALS	ALS
— 1332B	" (FB)	"	"	"
— 1333B	LLNDMA	ICE	(1) 1LT AMBER	SRI
— 1334B	" (FB)	"	"	"
— 1335B	" (DUP)	"	"	"

Continued from page

Read and Understood By

Signed ________ 6/10/22 Date

Signed ________ 6-10-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-9-22 Page ______ of ______

Sample Location: Pl-11-820

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260cl	clndma						Charge Number
										XGMA
220609 1331B	3	A	X							
— 1332B (FB)	3		X							
— 1333B	1		~~X~~	X						
— 1334B (FB)	1			X						
— 1335B (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:
T-[signature]	6-9-22 / 1500		[signature]	6-10-22 / 0915

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

PROJECT Pl-11-980

Notebook No.

Continued from page

Marcus Avalos & Tony Torres present. The weather is Hazy & Hot This zone will be purged & sampled using a FLUTE sampling system. Samples collected from a dedicated Teflon discharge tube. Purge pressure set @ 227 psi & sample pressure set @ 207 psi 15 mins recovery between purges. Carboy 6-2 Transducer Reading 33.37 psi Temp 24.26°c Depth 76.98 FT

PARAMETERS		METER ID's	
220609 1350B		pH/Cond #91	
pH	8.46	Turb# 21	
Temp	24.5°c	" STD	9.42 NTU's
Cond	1049 us/cm	" Rdg	9.35 NTU's
Turb	0.35 NTUs	" Lot#	20045
pH pre	7.03/10.02 (38.9°c)	" Exp	7/22
pH post	7.02/10.02		

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	CONT	LAB
220609 1351B	8260LL	Ice/HCl	(3) 40ml vials	ALS
—— 1352B	" (FB)	"	"	"
—— 1353B	LLNDMA	Ice	(1) 1Lt Amber	SRI
—— 1354B	" (FB	"	"	"

Continued from page

Read and Understood By

[signature] 6-9-22 Signed Date

[signature] 6-10-22 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6·9·22 | Page ____ of ____

Sample Location: PI-11-980

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260LL	LLNDMA						Charge Number: XGMD
220609 1351B	3	A	X							
— 1352B (FB)	3		X							
— 1353B	1			X						
— 1354B (FB	1			X						

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time
T. [signature]	6·9·22/1500		[signature]	6-10-22 / 0915

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

WSTF 381C (05/2016)

PROJECT ST-3-486 WJI ENV-0053

Notebook No. D-32#126(A)

Continued from page N/A

Robert Burrows & AL Montes present, Weather is Partly Cloudy & Warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge Tube. Water quality parameters will be monitored using a In-situ Aqua Troll 500. Carboy G-3 in use

Calibrations:

DO- Cal in 100% saturated air @ 635 mm ~~Hg~~ Hg. RB

Total-DTW - 462.68

Conductivity- Cal using 1413 us/cm std.

Final DTW - 469.92

PH - Cal using Oakton Buffers (4,7,10).

Turbidity meter - 6#, Std.-9.21 (ntu's), Rdg - 2.42 (ntu's), Lot# 210966, Exp - 6-30-22

Parameter (Time)	Temp (°C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (Ft)
1) 220608 1417 A	22.35	965.31	64.22	6.89	231.8	0.96	462.92
2) —— 1418 A	22.45	960.16	64.46	6.88	232.6	1.16	" "
3) —— 1419 A	22.22	961.25	64.68	6.87	237.3	0.81	" "

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
220608 1421A	VOA by 8260	HCl/ICE	(3) 40 ml Vials	2621	ALS
—— 1422A	" " (EB)	" "	(3) " "	" "	" "
—— 1423A	NDMA/OMN/Bromacil 6X607	ICE	(1) 1L Amber	0100301H	SRI
—— 1420A	Total metals	HNO3/ICE	(2) 125 ml poly	211212	ALS

Total gallons purged - 1 1/2 gals

Continued from page N/A

Read and Understood By

Robert Burrows 6-8-22

[signature] 6-9-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-8-486 Page 1 of 1

Sample Location: ST-3-486			Analytical Requirement								
Pertinent Notes (if any): TASK MEMO - 11189											Charge Number: XGMD
Sample Number	# of Containers	Sample Matrix*	VOA by 8260	NDMA/DMN/Bromcil by 687	Total Metals						
22060 8 1421 A	3	A	X								↓
1422 A (FB)	3	↓	X								
1423 A	1			X							
1425 A	2				X						

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	6/8/22 / 1506		[signature]	6-9-22 / 0900

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

PROJECT ST-3-586 WJI ENV-0053

Continued from page

Robert Burrows & Craig Del Ferraro present. Weather is 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 an In-Situ Aqua Troll 500. *This is a resample event.

Calibrations.
DO - calibrated in 100% saturated air @ 635 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (4,7,10).
Turbidity meter #8 std-60.46 rdg-61.08 lot-210966 Exp-6/30/22

Parameters (time)	temp (°C)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 220622 1350C	21.90	1.027	6.32	288.2	7.10	0.58	461.53
2) ——— 1353C	21.98	1.018	5.79	289.6	7.13	0.51	461.53
3) ——— 1356C	22.15	1.015	5.42	289.3	7.14	0.45	461.53

Resample Event

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206221400C	perchlorate by 6850	ice	(1) 125ml poly	N/A	ALS

Initial DTW - 461.48ft. Total gallons purged - 2

Continued from page

Read and Understood By

Craig Del Ferraro 6/22/22 [signature] 6-23-22

Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/22/22 Page 1 of 1

Sample Location: ST-3-586

Pertinent Notes (if any): Resample Event

Sample Number	# of Containers	Sample Matrix*	Perchlorate							Charge Number
2206221400C	1	A	✓							XGMD

Analytical Requirement

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fermo	6/22/22/ 1425hrs.		[signature]	6-23-22 /0915

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

WSTF 381C (05/2016)

PROJECT ST·3·666 WSI ENV·0053

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 new Teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2 in use.

Calibrations
DO · Cal in 100% saturated air @ 643 mm/Hg.
Conductivity · Cal using 1413 uS/cm STD solution.
PH · Cal using Oakton Buffers (4,7,10)
Turb Meter · A21 STD · 9.42 NTU RDG · 9.28 NTU Lot · 210966 Exp · 6/30/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	DO	PH	ORP	Turb (NTU)	DTW (ft)
1) 2206131410A	21.83	1236	6.91	7.10	264	2.90	461.76'
2) —— 1412A	21.78	1234	6.96	7.09	269	1.90	"
3) —— 1414A	21.87	1240	6.90	7.09	270	1.64	"

Samples

Sample #	Analysis	Preserve	Container	lot	lab
2206131420A	VOA by 8260	HCl/Ice	(3) 40 ml vials	2621	ALS
—— 1421A	" (FB)	"	"	"	"
—— 1422A	607/Bromacil	Ice	(1) 1L Amber	0100301H	SRI
—— 1423A	Total Metals	HNO3/Ice	(2) 125 ml poly	211212	ALS

Blind Controls

Sample #	Analysis	Preserve	Container	lot	lab
2206141344A	VOA by 8260	HCl/Ice	(3) 40 ml vials	CLIENT/SOURCE 22MM144A SITE NAME 10 ug/L Freon-113	ALS
—— 1345A	607/Bromacil	Ice	(1) 1L Amber	CLIENT/SOURCE 22MM144B SITE NAME 0.5 ug/L NDMA, Bromacil	SRI
—— 1346A	Total Metals	HNO3/Ice	(2) 125 ml poly	CLIENT/SOURCE 22MM144C SITE NAME 0.03 mg/L Cr	ALS

Initial DTW · 461.50'

Total Gallons Purged · 2 gal

Continued from page

Signed [signature] Date 6/14/22

Read and Understood By

Signed [signature] Date 6-14-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/13/22 Page 1 of 1

Sample Location: ST. 3. 666

Sample Number	# of Containers	Sample Matrix*	8260	607/Bro	T. Metals				Charge Number
Pertinent Notes (if any)									
220613 1420A	3	A	X						XGMD
1421A (FB)	3		X						
1422A	1			X					
1423A	2				X				

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	6/13/22 @ 1500		[signature]	6-14-22 / 0900

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

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/14/22 Page 1 of 1

Sample Location: ST-3-666

Sample Number	# of Containers	Sample Matrix*	8260	607/Bro	T. Metals					Charge Number
2206141344A (BC)	3	A	X							XaMo
— 1345A (BC)	1	↓		X						↓
— 1346A (BC)	2	↓			X					↓

Pertinent Notes (if any):

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Pertinent Notes (if any):

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	6/14/22 @ 1415		[signature]	6-15-22 / 0845

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

WSTF 381C (05/2016)

PROJECT ST-4-481 WSI ENV-0053

Continued from page N/A

Robert Burrows & AL Montes present. Weather is Partly Cloudy & Warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-3 in use.

Calibrations

DO - Cal in 100% Saturated air @ 635 mm/Hg. Total DTW - 459.08 Ft.

Conductivity - Cal using 1413 us/cm std. Final DTW - 459.08 Ft.

PH - Cal using Oakton Buffers (4,7,10).

Turbidity meter - 6#, std - 9.21 (ntu's), Rdg - 2.76 (ntu's), Lot# - 210966, Exp - 6-30-22

Parameters (Time)	Temp (°C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (Ft)
1) 220608 0900 A	23.09	1,020.9	65.37	7.09	295.9	5.60	459.08
2) ——— 0901 A	23.21	994.77	65.47	7.09	294.3	5.45	" "
3) ——— 0902 A	22.52	1,016.7	65.59	7.08	295.5	6.40	" "

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
220608 0908 A	VOA by 8260 LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0909 A	" " (EB)	" "	(3) " "	" "	" "
——— 0910 A	Low level NDMA	ICE	(1) 1L Amber	01003014	SRI
——— 0912 A	(EB)	" "	(1) " "	" "	" "
——— 0913 A	NDMA/DMN / bromacil by 607	" "	(1) " "	" "	" "

Trip Blanks

Sample #	Analysis	Preservative	Container	Lot #	Lab
220608 0655 A	VOA by 8260 LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0656 A	Low level NDMA	ICE	(1) 1L Amber		SRI

Total gallons purged - 1 1/2 gals.

Continued from page N/A

Read and Understood By

Robert Burrows 6-8-22 [signature] 6-9-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-8-22 Page 1 of 1

Sample Location: ST-4-481

Pertinent Notes (if any): Task-memo/1187

Sample Number	# of Containers	Sample Matrix*	VOA by 8260 LL	Low Level NDMA	NDMA/DMA/by 607 Bromacil					Charge Number
2206080655 A (TB)	3	A	X							XGMO
0656 A (TB)	1			X						
0908 A	3		X							
0909 A (FB)	3		X							
0910 A	1			X						
0912 A (FB)	1			X						
0913 A	1				X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	6-8-22/11:15		Jon W Munch	6-9-22 /0900

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

PROJECT ST-4-690 WJI ENV-0053

Notebook No. D-32# 123(Q)

Continued from page N/A

Robert Burrows & AL Montes present, Weather is Partly cloudy & warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G- In use

Calibrations:

DO - Cal in 100% saturated air @ 635 mm/Hg.

Conductivity - Cal using 1413 us/cm std.

PH - Cal using Oakton Buffers (4,7,10).

Turbidity meter - 6#, std - 9.21 (ntu's), Rdg - 2.76 (ntu's), Lot# - 210966, Exp - 6-30-22

Total - DTW - 458.06 (Ft)

Final - DTW - 458.20 (Ft)

Trip Blanks

Sample #	Analysis	Preservative	Container	Lot #	Lab
2206070900 A	VOA by 8260 LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0901 A	Low Level NDMA	ICE	(1) 1L Amber	0100301H	SRI

Parameters (Time)	Temp (C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (Ft)
1) 2206071304 A	32.51	842.30	45.70	7.61	183.6	3.19	458.20
2) ——— 1305 A	28.40	929.96	47.04	8.02	168.4	2.30	" "
3) ——— 1306 A	30.35	917.68	46.58	7.78	191.3	2.20	" "

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
2206071313 A	VOA by 8260 LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 1314 A	" " (MS)	" "	(3) " "	" "	" "
——— 1315 A	" " (FB)	" "	(3) " "	" "	" "
——— 1316 A	Low Level NDMA	ICE	(1) 1L Amber	0100301H	SRI
——— 1318 A	" " (FB)	" "	(1) " "	" "	" "

Continued from page N/A

Read and Understood By

Robert Burrows 6-7-22 — Signed, Date

[signature] 6-8-22 — Signed, Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-7-22 Page 7 of 1

Sample Location: ST-4-690

Pertinent Notes (if any): TASK Memo - 11188

Charge Number: XGMD

Sample Number		# of Containers	Sample Matrix*	Voaby 8260LL	Low Level NDMA						Charge Number
220607 0900A	(TB)	3	A	X							
0901A	(TB)	1			X						
1313A		3		X							
1314A	(MS)	3		X							
1315A	(FB)	3		X							
1316A		1			X						
1318A	(FB)				X						

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	6-7-22 / 303		[signature]	6-8-22 / 0845

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

WSTF 381C (05/2016)

Dan Halvorsen & Tony Torrez present. Weather is clear and warm. This zone will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 228 psi, sample pressure set at 207 psi. Bubbler flowmeter set at 3 psi and stable at 7 psi. 15 minute recovery between purges. CarDog G in use.

Pre-Sample Parameters	Transducer	Meter ID
pH = 7.26	Psi = 31.10	pH/Cond = 92
Temp = 22.8	Temp = 24.25	Turb = 6
Cond = 1230	Depth: 71.73	STD = 2.91
Turb = 0.55		RDG = 2.71
		Lot = 200445
		Exp = 6/22

Parameters
Time = 220614/1300B
pH = 7.14
Temp = 22.9°C
Cond = 1227 us/cm
Turb = 0.50 NTU's
NPre = 6.95-9.96 (39.4°C)
N Post = 6.97-9.99

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
220614/1302B	VOC by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
—1303B	" " (FB)	"	"		"
—1304B	NDMA LL	Ice	(1) 1L Amber		SRL
—1305B	" " FB	"	"		"
—1306B	1,4-Dioxane	"	(1) 250 ml Amber		ALS

Continued from page

Read and Understood By

Signed [signature] Date 6-14-2022 Signed [signature] Date 6-15-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-14-2022 Page 1 of ____

Sample Location: ST-6-528			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA 4	NDMA 25	SIMS					XGMO / Charge Number
220614 1302 B	3	A	X							
1303 B FB	3		X							
1304 B	1			X						
1305 B FB	1			X						
1306 B	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]	6-14-2022 1445		[signature]	6-15-22 / 0845

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

PROJECT ST-6-568 FLUTe ENV-0020

Notebook No. 032 #125 B

Continued from page ____

Dan Halvorsen & Tony Torrez present. Weather is clear and warm. This zone will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 228 psi and sample pressure at 207 psi. Bubbler Flowmeter set at 3 psi and stable at 7 psi. 15 minute recovery between purges. Carboy G in use.

Pre-Sample Parameters

pH = 8.17
Temp = 26.7
Cond = 1171
Turb = 1.21

Transducer

N/A

Meter ID

PH/COND = 92
TURB = 6
STD = ~~[illegible]~~ 3.91
RDG = ~~[illegible]~~ 2.71
LOT = 200445
EXP = 6/22

Parameters

Time = 220614 1330 B
pH = 8.10
Temp = 26.8°C
Cond = 1165 uS/cm
Turb = 1.07 NTU's
PAPre = 6.96-9.98 (34.6°C)
PAPost = 6.97-9.99

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
220614 1332 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
—— 1333 B	" " (Dup)	"	"		"
—— 1334 B	" " (FB)	"	"		"
—— 1335 B	NDMA LL	Ice	(1) 1L Amber		SRL
—— 1405 B	" " (Dup)	"	"		"
—— 1406 B	" " (FB)	"	"		"
—— 1407 B	1,4-Dioxane	"	(1) 250 ml Amber		ALS
—— 1408 B	" " (FB)	"	"		"

Blind Control

Sample #	Analysis	Preserve	Container	Lot	Lab
220614 1410 B	NDMA LL	Ice	(1) 1L Amber	22MM143A	SRL

Continued from page

Read and Understood By

[signature] Signed — Date 6.14.2022

[signature] Signed — Date 6-16-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-14-2022 Page 1 of ____

Sample Location: ST-6 568

Pertinent Notes (if any)

Charge Number: XGMP

Sample Number		# of Containers	Sample Matrix*	VOA TT	VOMA TT	~~Si~~					Charge Number
220614 1332 B		3	A	X							
1333 B	DUP	3		X							
1334 B	FB	3		X							
1335 B		1			X						
1405 B	DUP	1			X						
1406 B	FB	1			X						
~~1407~~ 1410 B	BC	1			X						

Sample Location:

Pertinent Notes (if any)

Sample Number		# of Containers	Sample Matrix*	Si	~~VOMA~~						Charge Number
220614 1407 B		1	A	X							
1408 B	FB	1		X	~~X~~						

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	6-14-2022 1445	[signature]	6-16-22 / 0845

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

WSTF 381C (05/2016)

PROJECT ST-6-678 FLUTe ENV-0020

Dan Halvorsen & Tony Torrez present. Weather is clear and warm. This Zone will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 228 psi and sample pressure at 207 psi. Bubbler flowmeter set at 3 psi and stable at 7 psi. 15 minute recovery between purges. Carboy G3 in use.

Pre-Sample Parameters	Transducer	Meter ID
PH = 8.30	N/A	PH/COND = 92
Temp = 22.8		TURB = 6
COND = 1014		STD = 2.91
TURB = 0.41		RDG = 2.71
		LOT = 200445
		EXP = 6/22

Parameters

Time = 2206151325 B
PH = 8.34
Temp = 22.9°C
COND = 1011 us/cm
TURB = 0.30 ntu's
PH Pre = 6.96-9.90 (40.9°C)
PH Post = 6.97-9.82

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
2206151328 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
—1329 B	" " (FB)	"	"		"
—1330 B	NDMA LL	Ice	(1) 1L Amber		SRI
—1331 B	" " (FB)	"	"		"
—1332 B	1,4-Dioxane	"	(1) 250 ml Amber		ALS

Trip Blanks

Sample #	Analysis	Preserve	Container	LOT	LAB
220615 0645 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
— 0646 B	NDMA LL	Ice	(1) 1L Amber		SRI

Continued from page

Read and Understood By

[signature] 6-15-2022
Signed Date

[signature] 6-19-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-15-2022 Page 1 of 1

Sample Location: ST-6-678

Pertinent Notes (if any)

Sample Number		# of Containers	Sample Matrix*	VOA LL	NDMA LL	SIM					Charge Number XGND
2206150645 B	TB	3	A	X							
1328 B		3		X							
1329 B	FB	3		X							
0646 B	TB	1			X						
1330 B		1			X						
1331 B	FB	1			X						
1332 B		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:
	6-15-2022 1445		6-16-22 / 0900

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

PROJECT SFL-824 FLUTe ENV-0020

Notebook No. D32 #125 B

Continued from page

Dan Halvorsen & Tony Torrez present. Weather is Clear and Warm. This Zone will be purged and sampled using a FLUTe System. Samples will be collected using a dedicated discharge hose. Purge pressure set at 228 psi and Sample pressure at 207 psi. Bubbler Flowmeter set at 3psi and stable at 7 psi. 15 minute recovery between purges. Carboy G3 in use.

Pre-Sample Parameters

PH = 8.28
Temp = 24.1
COND = 980
TURB = 0.32

Transducer

Psi = 32.53
Temp = 24.33
Depth - 75.03

Meter ID

PH/COND = 92
TURB : 6
STD = 2.91
RDG = 2.71
LOT = 200448
Exp - 6/22

Parameters

Time = 220615 1400B
PH = 8.24
Temp = 24.3°C
COND = 975 µs/cm
TURB = 0.22 NTU's
PH Pre = 6.97 - 9.94 (40.8°C)
PH Post = 6.99 - 9.92

SAMPLES

SAMPLE #	Analysis	Preserve	Container	LOT	LAB
220615 1405 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
—— 1406 B	" " (FB)	"	"		"
—— 1407 B	NDMA LL	Ice	(2) 1L Amber		SEL
—— 1408 B	" " (FB)	"	"		"

Continued from page

Read and Understood By

6-15-2022
Date

Signed

6-15-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-15-2022 Page 1 of 1

Sample Location: ST-6-824			Analytical Requirement							
Pertinent Notes (if any)										XGMD
Sample Number	# of Containers	Sample Matrix*	VOC LL	NDMA LL						Charge Number
22061514058	3	A	X							
—— 1406 B FB	3	|	X							
—— 1407 B	1	|		X						
—— 1408 B 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]	6-15-2022 1445		[signature]	6-16-22 / 0900

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

WSTF 381C (05/2016)

ROJECT ST-6-970 FLUTe ENV-0020

Continued from page

Jan Halvorsen & Tony Torrez present. Weather is Clear and Warm. This zone will be Purged and sampled using a FLUTe system. Samples will be Collected using a dedicated discharge hose. Purge pressure set at 228 psi and sample pressure at 207 psi. Bubbler Flowmeter set at 3 psi and stable at 7 psi. 15 minute recovery between purges. Carboy G3 in use.

re Sample Parameters	Transducer	Meter ID
pH = 8.29	N/A	PH/COND - 92
Temp = 24.6		TURB - 6
Cond = 1120		STD - 2.91
TURB = 0.51		RDG - 2.77
		LOT - 200445
		EXP - 6/22

Parameters

- Time = 220616 1410 B
- pH = 8.24
- Temp = 24.7°C
- Cond = 1118 uS/cm
- TURB = 0.38 Ntus
- ΔPre = 6.96-9.88 (43.4°C)
- ΔPost = 6.98-9.89

TRIP BLANKS

Sample #	Analysis	Preserve	Container	LOT	LAB
220616 0645 B	VOC by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
—— 0646 B	NDMA LL	Ice	(1) 1L Amber		SRI

SAMPLES

Sample #	Analysis	Preserve	Container	LOT	LAB
220616 1413 B	VOC by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
—— 1414 B	" " (FB)	"	"		"
—— 1415 B	NDMA LL	Ice	(1) 1L Amber		SRI
—— 1416 B	" " (FB)	"	"		"

Continued from page

Read and Understood By

[signature]	6-16-2022	[signature]	6-21-22
Signed	Date	Signed	Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-16-2022 Page 1 of 1

Sample Location: ST-6-970

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOA LL	NDMA LL					XGMD / Charge Number
220616 0645 B TB	3	A	X						
1413 B	3		X						
1414 B FB	3		X						
0646 B TB	1			X					
1415 B	1			X					
1416 B FB	1			X					

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	6-16-2022 1445		[signature]	6-21-22 / 0900

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

WSTF 381C (05/2016)

PROJECT WW-1-452 WJC ENV-0053

Notebook No. D-32# 123 (A)

Continued from page N/A

Robert Burrows & AL Montes present. Weather is Clear & Warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge Tube. Water quality parameters will be monitored using a In-Situ Aqua Troll 500. Carboy G-2 in use.

~~DO~~ RB Calibrations:

DO - Cal in 100% Saturated air @ 642 mm/Hg.

Conductivity - Cal using 1413 us/cm std.

PH - Cal using Oakton Buffers (4,7,10).

Turbidity meter - #6, Std - 9.21 (ntu's), Rdg - 2.76 (ntu's), Lot # - 210966, Exp - 6-30-22

Total Depth TW - 423.13 (Ft)

Final Depth TW - 423.21 (Ft)

Parameters (Time)	Temp (°C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (Ft)
1) 220606 0945 A	22.21	1,455.6	7.64	7.38	113.5	4.20	423.21
2) ——— 0946A	22.31	1,441.7	7.65	7.41	114.9	5.33	" "
3) ——— 0947A	22.18	1,440.8	7.66	7.39	116.4	4.29	" "

Samples

Sample #	Analysis	Preservative	Containers	Lot #	Lab
2206060951 A	VOA by 8260 2L	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 0952 A	" " (FB)	" "	(3) " "	" "	" "
——— 0953 A	Low Level NDMA	ICE	(1) 1L Amber	01003014	SRI
——— 0954 A	" " (FB)	" "	(1) " "	" "	" "

Total gallons purged - 1 1/2 gals

Continued from page N/A

Robert Burrows
Signed

6-6-22
Date

Read and Understood By

[signature]
Signed

6-7-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6-6-22 Page 1 of 1

Sample Location: WW-1-452

Pertinent Notes (if any): TASK Memo-11172

Charge Number: X6MD

Sample Number	# of Containers	Sample Matrix*	VOA by 8260 2L	Low Level NDMA						Charge Number
220606 0951A	3	A	X							X6MD
0952A (FB)	3	A	X							X6MD
0953A	1	A		X						X6MD
0954A (FB)	1	A		X						X6MD

Sample Location:

Pertinent Notes (if any):

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	6-6-22 / 11:15		[signature]	6-7-22 / 0900

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

WSTF 381C (05/2016)

ROJECT WW-2-489 WJI ENV-0053

Notebook No. D32 #124 (c)

Continued from page

ob Tufts & Craig Del Ferraro present. Weather is hazy & warm. This well will be purged using a ~~QED MP-20 ft~~ 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 ~~wst~~ in saturated air @ 640 mm/Hg.

Conductivity - calibrated using 1413us/cm std. solution.

pH - calibrated using Oakton buffers (7-10).

Turbidity meter #8 std - 60.46 NTU's rdg - 61.12 NTU's lot - 210966 Exp - 6/30/22

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2206090745C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0746C	Low Level NDMA	ice	(1) 1L Amber	010030(H	SRI

Parameters (time)	Temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (Ft.)
1) 220609 0900C	22.02	0.853	3.39	63	7.93	2.90	19.73
2) ——— 0903C	22.06	0.859	3.24	63	7.90	2.43	19.73
3) ——— 0906C	22.07	0.861	3.08	65	7.88	2.22	19.73

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206090915C	VOA by 8260 LL	ice / HCL	(3) 40ml vials	2621	ALS
——— 0916C	" (FB)	"	"	"	"
——— 0917C	Low Level NDMA	ice	(1) 1L Amber	010030(H	SRI
——— 0918C	" (FB)	"	"	"	"

Initial packer pressure Ø. Packer was inflated to ~33 psi prior to purging. Final packer pressure ~27 psi.

Initial DTW (transducer reading) - 19.73 ft.

Total gallons purged (IDW) = 2

Continued from page

Read and Understood By

Craig Del Ferraro 6/9/22 Signed Date

[signature] 6-9-22 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/9/22 Page 1 of 1

Sample Location: WW-2-489

Analytical Requirement

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2206090745C (TB)	3	A	✓							XGMD
——— 0746C (TB)	1	A		✓						〃
——— 0915C	3	A	✓							〃
——— 0916C (FB)	3	A	✓							〃
——— 0917C	1	A		✓						〃
——— 0918C (FB)	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 Del Fiermo	6/9/22 / 1100hrs.		[signature]	6-10-22 / 0915

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

PROJECT WW-2-664 WJI ENV-0053

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.

Calibrations

DO - calibrated in saturated air @ 639 mm/Hg.
Conductivity - calibrated using 1413us/cm std. solution.
PH - calibrated using Fisher buffers (7-10).
Turbidity meter #8 std-60.46 rdg-60.86 lot-210966 Exp-6/30/22

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 220610 0915C	22.28	0.839	3.88	64	8.49	1.33	19.70
2) ——— 0918C	22.20	0.830	3.53	60	8.42	1.26	19.70
3) ——— 0921C	22.21	0.827	3.48	59	8.39	1.19	19.70

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220610 0925C	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0926C	" (FB)	"	"	"	"
——— 0927C	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——— 0928C	" (FB)	"	"	"	"

Initial DTW (transducer reading) - 19.70 ft.

* Initial Packer pressure was Ø psi. Crew inflated packer to ~34 psi prior to purging the well. Final packer pressure after sample collection was ~28 psi.

Total gallons purged (FDW) - 2

Continued from page

Read and Understood By

Craig Del Ferraro 6/10/22 [signature] 6-10-22
Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/10/22 Page 1 of 1

Sample Location: WW-2-664

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
Pertinent Notes (if any)										
2206100925C	3	A	✓							XGMD
——— 0926C (FB)	3	A	✓							"
——— 0927C	1	A		✓						"
——— 0928C (FB)	1	A		✓						"

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fecmo	6/10/22 / 1100hrs.		Jon W. Yemda	6-13-22 / 0900

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

PROJECT WW-3-469 WJI ENV-0020

Bob Tufts & Craig Del Ferraro present. Weather is clear & hot. This zone will be sampled using 2 triple rinsed, stainless steel sample tubes. Ren. in use. Probe #2213. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy 25

Sample	Analysis	Preservative	Container	Lot	Lab
2206061300Y	VOA by 8260 LL	ice/HCL	(3)40ml vials	2621	ALS
—— 1301Y	Low Level NDMA	ice	(1)1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2206061345Y	Time - 2206061417Y	pH/cond - 93
PH - 7.57	PH - 7.46	Turb —— 7
Temp - 25.3°C	Temp - 25.0°C	std —— 45.53
Cond - 1274 us/cm	Cond - 1281 us/cm	rdg —— 46.10
Turb - 0.80 NTU's	Turb - 0.68 NTU's	lot —— 210966
pH pre - 6.95/9.97 (30.7°C)	pH pre - 6.90/9.94 (33.5°C)	Exp —— 6/30/22
pH post - 6.93/9.98	pH post - 6.88/9.95	
DTW - 410.46 ft.	DTW - 410.60 ft.	
Atmos - 12.30 psia	Atmos - 12.31 psia	
	IDW - 1 gal.	

Buffers	Lot	Exp
7	2108656	2/23
10	4103981	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220606 1415Y	VOA by 8260 LL	ice/HCL	(3)40ml vials	2621	ALS
—— 1416Y	Low Level NDMA	ice	(1)1L Amber	0100301H	SRI

Runs	1)	2)
	40.38	40.23
	38.28	38.39
	38.25	38.43
	40.21	40.05

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 6/6/22 — Date

[signature] — Signed — 6-7-22 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/6/22 Page 1 of 1

Sample Location: WW-3-469

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2206061300Y (EB)	3	A	✓							XGMD
——1301Y (EB)	1	A		✓						"
——1415Y	3	A	✓							"
——1416Y	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 DelFerro	6/6/22 / 1500hrs.		[signature]	6-7-22 / 0900

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

WSTF 381C (05/2016)

PROJECT WW-3-569 WJI ENV-0020

Notebook No. D64 #129 (Y)

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is clear & warm, this zone will be sampled using 2 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe #2213. Surface checks performed on probe prior to sampling.

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
2206060745Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0746Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

30 Min Equipment Blanks - Carboy G5

Sample	Analysis	Preservative	Container	Lot	Lab
2206060840Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0841Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2206060930Y	Time - 2206061017Y	pH/cond - 93
PH - 8.53	PH - 8.58	Turb - 7
Temp - 24.4°c	Temp - 24.1°C	" std - 45.53
Cond - 1240 us/cm	Cond - 1228 us/cm	" rdg - 46.10
Turb - 1.12 NTU's	Turb - 0.93 NTU's	" lot - 210966
pH pre - 7.03/10.06 (23.3°c)	pH pre - 7.01/10.04 (25.1°c)	" Exp - 6/30/22
pH post - 7.04/10.05	pH post - 7.03/10.01	
DTW - 410.29 Ft.	DTW - 410.46 ft.	
Atmos - 12.26 psia	Atmos - 12.30 psia	
	IDW - 1 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103G81	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2206061015Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1016Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Runs	1)	2)
	83.67	83.48
	81.54	81.57
	81.52	81.60
	83.50	83.29

Continued from page

Craig Del Ferraro
Signed

6/6/22
Date

Read and Understood By

Lori Wunch
Signed

6-7-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 6/6/22 Page 1 of 1

Sample Location: WW-3-569

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA					Charge Number
22060607454 (TB)	3	A	✓						XGMD
——0746Y (TB)	1	A		✓					"
——0840Y (EB)	3	A	✓						"
——0841Y (EB)	1	A		✓					"
——1015Y	3	A	✓						"
——1016Y	1	A		✓					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	6/6/22 1115hrs.		[signature]	6-7-22 /0900

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

WSTF 381C (05/2016)

PROJECT 100.F.358 WJI ENV.0053

Marcus Avalos & Bob Tufts 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 & water analyzer. Carboy G-3

Calibrations
DO - Cal in saturated air @ 638 mm/Hg.
Conductivity - Cal using 1413 uS/cm std. solution.
PH - Cal using Oakton Buffers (7 & 10)
Turbidity Meter - #20 STD - 5.59 NTU RDG - No 5.73 NTU Lot - 210966 Exp - 7/31/22

Parameters (time)	Temp (°C)	Cond (mS/cm)	ORP	DO	PH	Turb (NTU)	DTW (ft)
1) 2207110920C	22.37	1.194	-140	3.36	7.18	0.61	N/A
2) —— 0923C	22.34	1.195	-115	3.30	7.14	0.79	"
3) —— 0926C	22.40	1.192	-100	3.48	7.05	0.80	"

Trip Blanks

Sample #	Analysis	Preservative	Container	lot	lab
2207110700C	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2621	ALS
—— 0701C	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI

Samples

Sample #	Analysis	Preservative	Container	lot	lab
2207110930C	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2621	ALS
—— 0931C	= (FB)	"	"	"	"
—— 0932C	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI
—— 0933C	= (FB)	"	"	"	"
—— 0934C	1-4, Dioxane 8270D	"	(1) 250 ml Amber	9012106	ALS

* No Depth probe available to measure water level

* Total Gallons Purged - 1.5 gal

Continued from page

Read and Understood By

Signed [signature] Date 7/11/22 Signed [signature] Date 7-12-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: ~~10~~ 11 7/11/22 Page 1 of 1

Sample Location: 100.F.358

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	1-4, Dioxane 8276					Charge Number
2207110700C (TB)	3	A	X							XGMD
— 0701C (TB)	1			X						
— 0930C	3		X							
— 0931C (FB)	3		X							
— 0932C	1			X						
— 0933C (FB)	1			X						
— 0934C	1				X					

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	7/11/22 @ 1100		[signature]	7-12-22 / 0850

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

WSTF 381C (05/2016)

PROJECT 100 · G · 223 WJI ENV · 0053

Notebook No. D32 # 124(c)

Continued from page

Marcus Avalos & Bob Tufts present. Weather is cloudy & warm. This well will be purged & sampled using a dedicated bladder pump. Samples will be collected using a new teflon discharge tube. Water quality parameters will be monitored using a QED MP.20 flow cell & water analyzer. Carboy G.3 in use.

Calibrations

DO - Cal in saturated air @ 638 mm/Hg.

Conductivity - Cal using 1413 uS/cm STD.

pH - Cal using Oakton Buffers (7 + 10)

Turbidity Meter - #20 STD - 5.59 NTU Rdg - 5.73 NTU Lot# - 210966 Exp - 7/31/22

Parameters (time)	Temp (°C)	Cond (uS/cm)	ORP	DO	pH	Turb (NTU)	DTW (ft)
1) 220711 1350c	21.40	1.055	60	3.27	6.91	1.85	N/A
2) —— 1352c	21.38	1.053	61	3.20	6.95	0.96	"
3) —— 1354c	21.37	1.050	59	3.34	6.97	0.55	"

Samples

Sample #	Analysis	Preservative	Container	lot	lab
220711 1400c	VOA by 8260 LL	HCl/Ice	(3) 40 ml vials	2621	ALS
—— 1401c	" (FB)	"	"	"	"
—— 1402c	GRO by 8015D	"	"	"	"
—— 1403c	Low Level NDMA	Ice	(1) 1L Amber	0100301H	SRI
—— 1404c	" (FB)	"	"	"	"
—— 1405c	SVOA by 8270D	"	(2) 1L Amber	0068 1383	ALS
—— 1406c	DRO by ~~8015~~D	"	(1) "	"	"
—— 1407c	1,4-Dioxane 8270	Ice	(1) 250ml Amber	9012806	"

* No Depth probe available to monitor water level

* Total Gallons Purged - 1.25 gal

Continued from page

Signed 7/11/22 Date

Read and Understood By

Signed 7-12-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/11/22 Page 1 of 1

Sample Location: 100 · G · 223

Sample Number	# of Containers	Sample Matrix*	8260 LL	GRO	LL NDMA	SVOA 8270	DRO			Charge Number
220711 1400C	3	A	X							XGMD
1401C (FB)	3		X							
1402C	3			X						
1403C	1				X					
1404C (FB)	1				X					
1405C	2					X				
1406C	1						X			

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*	1,4-Dioxane							Charge Number
220711 1407C	1	A	X							XGMD

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	7/11/22 @ 1500		[signature]	7-12-22 / 0830

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

WSTF 381C (05/2016)

Dan Halvorsen & Craig Del Ferraro present. Weather is 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 an In-Situ Aqua Troll 500. Carboy ~~G3~~ G3 CD in use.

Calibrations
DO - calibrated in 100% saturated air @ 641 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (4,7,10).

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
220713 ~~0710 hrs.~~ CD 0710A	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 220713 0820A	22.27	1.341	7.37	342.9	7.76	2.28	85.41
2) ——— 0821A	22.21	1.335	7.34	341.7	7.80	2.20	85.49
3) ——— 0822A	22.19	1.328	7.33	341.0	7.83	2.09	85.55

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2207130823A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0824A	" (FB)	"	"	"	"
——— 0825A	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——— 0826A	" (FB)	"	"	"	"
——— 0827A	1,4 Dioxane by 8270D	"	(1) 250ml amb.	N/A	ALS
——— 0828A	" (FB)	"	"	"	"

* Modified sampling event.

Initial DTW - 85.37 ft.

Total gallons purged - 1/4 gal. (modified sampling event.)

Continued from page

Read and Understood By

Craig Del Ferraro 7/13/22
Signed Date

[signature] 7-13-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/13/22 Page 1 of 1

Sample Location: 300-F-175

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	Dioxane				Charge Number
2207130710A (TB)	1	A		✓					XGMD
0823A	3	A	✓						"
0824A (FB)	3	A	✓						"
0825A	1	A		✓					"
0826A (FB)	1	A		✓					"
0827A	1	A			✓				"
0828A (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 Ferro	7/13/22/0900hrs.	[signature]	7-14-22 /0830

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

WSTF 381C (05/2016)

PROJECT 600-G-138 WJI ENV-0013 7/26/22

Matt Garcia, Bob Tufts, Tony Torrez, & Craig Del Ferraro present. Weather is cloudy, warm, & breezy. this well will be purged dry using a Bennett pump. After well recovers, samples will be collected using a teflon bailer. Carboy G1 in use.

Total depth - 148.40 ft.
Initial DTW - 145.00 ft.
start purge - 0635 hrs.
stop purge - 0641 hrs.
Total gallons purged - 4.5 gals.
Final DTW - 145.33 ft.

Meter ID
pH/Cond - 92
Turb - 7
" std - 47.0
" rdg - 48.5
" lot - 210966
" Exp - 7/31/22

Buffers	Lot	Exp
7	1202A44	8/23
10	4107E30	1/23

Initial Parameters
Time - 220726 1005A
PH - 7.75
Temp - 22.5
Cond - 2.13 ms/cm
Turb - 0.70
pH pre - 7.04/9.96 (24.3°c)
pH post - 7.03/9.95
DTW - 145.00

Final
Time - 220726 1020A
PH - 7.70
Temp - 23.1
Cond - 2.13 ms/cm
Turb - 0.74
pH pre - 7.04/9.97 (25.5°c)
pH post - 7.03/9.96
145.19

Samples

Sample		Analysis	Preservative	Container	Lot	Lab
220726	1010A	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——	1011A	" (Dupl.)	"	"	"	"
——	1012A	" (FB)	"	"	"	"
——	1013A	Chloride by 300.0	ice	(1) 125ml poly	N/A	"
——	1014A	NO_2/NO_3 by 353.2	ice/H_2SO_4	(1) 250ml poly	21-11-15	"

Continued from page N/A

Read and Understood By

[signature] 7-26-22 [signature] 7-26-22
Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/26/22 Page 1 of 1

Sample Location: 600-G-138

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	Chloride	NO_2/NO_3				Charge Number
220726/1010A	3	A	✓						XGMD
——/1011A (Dupl.)	3	A	✓						"
——1012A (FB)	3	A	✓						"
——1013A	1	A		✓					"
——1014A	1	A			✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [signature]	7-26-22/1100		[signature]	7-26-22/1030

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

WSTF 381C (05/2016)

PROJECT 700-E-458 WJI ENV-0053

Notebook No. D32#126(A)

Continued from page ______

Dan Halvorsen & 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 an In-Situ Aqua Troll 500. Carboy G1 in use.

Calibrations.
DO - calibrated in 100% saturated air @ 641 mm/Hg.
Conductivity - calibrated using 1413us/cm std. solution.
PH - calibrated using Oakton buffers (4, 7, 10).

Parameters (time)	Temp (°c)	Cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft)
1) 2207110855A	24.62	1.098	5.10	291.7	8.08	3.05	311.90
2) ——— 0858A	24.57	1.105	4.93	288.4	8.05	2.67	311.94
3) ——— 0901A	24.50	1.112	4.70	287.7	8.03	2.41	311.97

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2207110920A	VOA by 8260	ice/HCL	(3) 40ml vials	2621	ALS
——— 0921A	" (FB)	"	"	"	"
——— 0922A	607/Bromacil	ice	(1) 1L Amber	0100301H	SRI
——— 0923A	Total Metals	ice/HNO_3	(2) 125ml poly's	22-04-21	ALS

Blind Controls

Sample	Analysis	Preservative	Container	Lot	Lab
2207121300A	VOA by 8260	ice/HCL	(3) 40ml vials	22MM146A	ALS
——— 1301A	607/Bromacil	ice	(1) 1L Amber	22MM146B	SRI
——— 1302A	Total Metals	ice/HNO_3	(2) 125ml poly's	22MM146C	ALS

Initial DTW - 310.72 ft.

Total gallons purged - 1.5

Continued from page

Craig Del Ferraro 7/12/22
Signed Date

Read and Understood By
[signature] 7-13-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/11/22 | Page 1 of 2

Sample Location: 700-E-458			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals					Charge Number
2207110920A	3	A	✓							XGMD
——0921A (FB)	3	A	✓							"
——0922A	1	A		✓						"
——0923A	2	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 Del Fecco	7/11/22/1020hrs.		[signature]	7-12-22 /0850

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

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/12/22

Sample Location: 700-E-458

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 +TICs	607	Total Metals				Charge Number
2207121300A (BC)	3	A	✓						XGMD
1301A (BC)	1	A		✓					"
1302A (BC)	2	A			✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelTerrus	7/12/22 / 1330hrs.		[signature]	7-13-22 / 0900

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

WSTF 381C (05/2016)

PROJECT B650-EFF-1

Notebook No. PFTS #1079
Continued from page N/A

Frank Gallegos & Tim Moore present. These samples will be taken in bldg 650 from the effluent side by a dedicated sampling port that is purged one minute prior to sampling. carboy "GIplmofront"

Parameters	Meter ID	Buffers	LOT#	Exp
Time-2207190835	Ph/cond-92	7	1202A44	8/23
Ph - 8.46	Turb - 7	10	4107E30	1/23
Temp - 25.7°C	" STD - 47.0			
Cond - 1159 us/cm	" RDG - 48.6			
Turb - 0.43 NTU's	" LOT# - 210966			
PhPe - 7.08/10.04 (24.6°c)	" Exp - 7/31/22			
PhPost - 7.09/10.02				

Samples

Sample#	Analysis	Pres	LOT#	LAB	CONT
2207190840	VOA by 8260C(L)	ICE & Hcl	2621	ALS	(5) 40mL vial
0841	" (FB)	"	"	"	"
0842	NDMA/DMN/by/8270	ICE	0100301H	SwRI	(L) Lt amber
0843	LLNDMA	"	"	"	"
0844	" (FB)	"	"	"	"

* Robert Burrows & Craig Del Ferraro completed this sampling event on 7/19.

Continued from page N/A

Craig Del Ferraro — Signed — 7/19/22 — Date

Read and Understood By

[signature] — Signed — 7-19-22 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/19/22 Page 1 of 1

Sample Location: B650-EFF-1

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA					Charge Number
2207190840	3	A	✓							XAMD
——0841 (FB)	3	A	✓							"
——0842	1	A		✓						"
——0843	1	A			✓					"
——0844 (FB)	1	A			✓					"

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	7/19/22/1030hrs.		[signature]	7-20-22/0900

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

PROJECT B650-INF-1

Notebook No. PFTS 210

Continued from page N/A

Frank Gallegos & Tim Moore present. These samples will be taken from bldg 650 from the influent side ~~of~~ by a dedicated sampling port, that has been purged one minute prior to sampling. Calboy "6-1 Plume front

Parameters	Meter (ID)	Buffers	Lot#	Exp
Time - 2207190850	ph/cond - 92	7	1202A44	8/23
Ph - 7.47	Turb - 7	10	4107E30	1/23
Temp - 25.4°C	" STD - 47.0			
cond - 1152us/cm	" LoT - 210966			
Turb - 0.88 NTU's	" Exp - 7/31/22			
Ph pre - 7.03/10.05 (25.1)	RDG - 48.6			
Ph POST - 7.04/10.07				

Samples

Sample#	Analysis	Pres	Lot#	LAB	Cont
2207190855	VOA by 8260	ICE/HCL	2621	ALS	(3) 40ml vial
——— 0856	" (FB)	"	"	"	"
——— 0857	NDMA/DMN/Bo by 607	ICE ~~/HNO3~~	0100301H	SWRI	(1) 1L amber

*Robert Burrows & Craig Del Ferraro completed this sampling event on 7/19.

Continued from page N/A

Craig Del Ferraro 7/19/22
Signed Date

Read and Understood By

[signature] 7-19-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/19/22 Page 1 of 1

Sample Location: B650-INF-1

Sample Number	# of Containers	Sample Matrix*	8260	607						Charge Number
Pertinent Notes (if any)			Analytical Requirement							
2207190855	3	A	✓							XGMD
—— 0856 (FB)	3	A	✓							"
—— 0857	1	A		✓						"

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeFeo [signature]	7/19/22/1030 hrs.		[signature]	7-20-22/0900

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

PROJECT B655-EFF-2

Frank Gallegos & Tim Moore present. These ~~well~~ samples will Be Sampled from The effluent side in bldg 655, Purging will Be done to a dedicated sampling port prior to samples being taken. Calboy " G-1P Info front"

Parameters	Meter ID	Buffers	LOT #	Exp
Time - 2207191000	ph/cond - 92	7	1202A44	8/23
PH - 8.59	Turb - 7	10	4107E30	1/23
Temp - 27.4°C	" STD - 47.0			
Cond - 1198 us/cm	" RD6 - 48.5			
Turb - 1.31 NTU's	" LOT# 210966			
PH pre - 6.98/10.03 (27.1°C)	" Exp - 7/31/22			
ph POST - 6.95/10.04				

Samples

Sample #	Analysis	Pres	LOT #	LAB	CONT.
2207191005	VOA by 8260 (LL)	ICE & HCL	2621	ALS	(3) 40ml vial
1006	" (FB)	"	"	"	"
1007	NDMA/D MN/Bio by 607	ICE	0100301H	SWRI	(1) L amber
1008	2 L NDMA	"	"	"	"
1009	" (FB)	"	"	"	"

* Robert Burrows & Craig Del Ferraro completed this sampling event on 7/19.

Continued from page N/A

Read and Understood By

Craig Del Ferraro 7/19/22
Signed Date

[signature] 7-19-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/19/22 Page 1 of 1

Sample Location: B655-EFF-2

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	8260 LL	607	LL NDMA					Charge Number
2207191005	3	A	✓							XGMD
1006 (FB)	3	A	✓							"
1007	1	A		✓						"
1008	1	A			✓					"
1009 (FB)	1	A			✓					"

Pertinent Notes (if any)

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 Del Ferro	7/19/22/1030hrs.	[signature]	7-20-22 /0900

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

WSTF 381C (05/2016)

PROJECT B655-INF-2

Notebook No. PFIS #10

Continued from page N/A

Frank Gallegos & Tim Moore present. These samples will be taken from Influent side in bldg 655 from a dedicated sampling port. Prior to sampling purging for one minute will be observed. Carboy 6.1 P1 me front

Parameters	Meter ID	Buffers	LOT #	Exp
Time - 2207190835 0935	ph/cond - 92	7	1202A44	8/23
ph - 7.28	Turb - 7	10	4107E30	1/23
Temp - 26.0 °C	" STD - 47.0			
cond - 1219 us/cm	" RDG - 48.5			
Turb - 0.75 NTU's	" LOT# - 210966			
Ph Pre - 7.02/10.04 (26.1 °C)	" Exp - 7/31/22			
Ph Post - 6.99/10.04				

Samples

Sample #	Analysis	Pres	Lot #	LAB	CONT
2207190940	VOA by 8260	ICE & HCL	2621	ALS	(3) 40 mL vial
——0941	" (FB)	"	"	"	"
——0942	NDMA/DMN/Bio by 607	ICE	0100301H	SWRI	(1) L amber

*Robert Burrows & Craig Del Ferraro completed this sampling event on 7/19.

Continued from page N/A

Read and Understood By

Craig Del Ferraro 7/~~22~~ 19/22 Signed Date

[signature] 7-19-22 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/19/22 Page 1 of 1

Sample Location: B655-INF-2

Sample Number	# of Containers	Sample Matrix*	8260	607						Charge Number
2207190940	3	A	✓							XGMD
0941 (FB)	3	A	✓							"
0942	1	A		✓						"

Pertinent Notes (if any)

Analytical Requirement

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Pertinent Notes (if any)

Analytical Requirement

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig [signature]	7/19/22/ 1030hrs.		[signature]	7-20-22 /0900

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

WSTF 381C (05/2016)

Notebook No. D32# 124(c) 67

PROJECT BLM-6-488

Continued from page

MATT GARCIA & TONY TORREZ PRESENT. THE WEATHER IS OVERCAST & WARM. THIS WELL WILL BE SAMPLED USING A DEDICATED TEFLON BLADDER PUMP. THE SAMPLES WILL BE COLLECTED FROM A TEFLON DISCHARGE TUBE. INSITU SAMPLER USED. CARBOY 6-5

CALIBRATION

DO CAL'D IN 100% SATURATION @ 642 mg/L

COND CAL'D IN 1413 µs/cm STANDARD

pH CAL'D USING THE 3 pT CALIBRATION METHOD.

~~TURB METER #~~ TURB CAL'D IN 20 NTU'S

PARAMETER'S

PARAMETERS		TEMP(c)	COND(µs/cm)	ORP	DO	pH	TURB
220713	0955c	22.48	1422	186.3	1.02	7.33	1.62
―	0956c	22.58	1427	190.5	1.48	7.31	1.50
―	0957c	22.49	1418	185.8	1.36	7.34	1.48

SAMPLES

SAMPLE#		ANALYSIS	PRESERV	LOT#	CONT	LAB
220713	1001c	8260	ICE/HCl	2621	(3) 40ml VIALS	ALS
―	1002c	" (FB)	"	"	"	"
―	1003c	LLNDMA	ICE	0100301H	(1) 1L AMBER	SRI
―	1004c	" (FB)	"	"	"	"
―	10					

Continued from page

Read and Understood By

T. [signature] Signed 7.13.22 Date

[signature] Signed 7-13-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7.13-22 Page 1 of 1

Sample Location: BLM-6-488			Analytical Requirement							
Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260	CCNDN4						XGMD
Sample Number										Charge Number
220713 1001C	3	A	X							
— 1002C	3		X							
— 1003C	1			X						
— 1004C	1			X						

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. Dz	7-13-22 / 1100		[signature]	7-14-22 / 0830

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

PROJECT BLM-10-517 WJI ENV-0053

Notebook No. D-32# 126(A)

Continued from page N/A

Robert Burrows & Bob Tufts present, weather is partly Cloudy & warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be Collected using a new Teflon discharge tube. Water quality parameters will be monitored using a QED Quality analyzer MP-20 Flow Cell. Carboy G-1 in use.

Calibrations:

DO - Cal in 100% Saturated air @ 613 mm/Hg.
Conductivity - Cal using 1413 us/cm Std. Solution.
PH - Cal in Oakton Buffers (4,7,10).
Turb meter - 8#, Std. 6.0 (ntu's), Rdg - 9.99 (ntu's), Lot# - 210966, Exp - 7/31/22

Initial DTW - 496.70 ft.
Final DTW - 496.73 ft.

Parameters (Time)	Temp (°C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (ft)
220707 1339 A	25.50	0.957	6.21	6.62	55	0.43	496.73
——— 1340 A	25.52	0.994	6.17	6.94	52	0.40	" "
——— 1341 A	25.17	0.959	6.17	7.30	49	0.68	" "

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
2207071344A	Vocs by 8260 LL	HCl/ICE	(3) 40 ml vials	2621	ALS
——— 1345 A	" " (FB)	" "	(3) " "	" "	" "
——— 1346 A	Low Level NDMA	ICE	(1) 1L Amber	0100301H	SGI
——— 1350 A	" " (ms)	" "	(1) " "	" "	" "
——— 1359 A	" " (msd)	" "	(1) " "	" "	" "
——— 1400 A	" " (FB)	" "	(1) " "	" "	" "

IDW - 1 1/2 gals

Continued from page N/A

Read and Understood By

Robert Burrows
Signed

7-7-22
Date

[signature]
Signed

7-8-22
Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-7-22 Page 1 of 1

Sample Location: BLM-10-517

Sample Number	# of Containers	Sample Matrix*	VOA by 8260 LL	Low level NDMA					Charge Number
Pertinent Notes (if any): TASK memo-11231									X 6MD
220707 1344A	3	A	X						
1345A (FB)	3		X						
1346A	1			X					
1350A (MS)	1			X					
1359A (MSD)	1			X					
1400A (FB)	1			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:
Robert Burnous	7-7-22/2:37		[signature]	7-8-22 / 0830

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

WSTF 381C (05/2016)

PROJECT BLM-15-305 WJI ENV-0053

Notebook No. D-32# 126 (A)

Continued from page N/A

Robert Burrows & Bob Tufts present. Weather is cloudy & windy & cool. This well will be purged ~~and~~ and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge tubing. Water quality parameters will be monitored using a Quality Analyzer QED MP-20 Flow Cell. Carboy G-1 In use.

Calibrations:

DO - Cal in 100% saturated air @ 613 mm/Hg. INITIAL DTW - 282.83 Ft.

Conductivity - Cal using 1413 us/cm Std. Solution. FINAL DTW - 283.40 Ft.

PH - Cal in Oakton Buffers (4,7,10).

Turb meter - 8#, Std. - 61.0 (ntus), Rdg - 9.99 (ntus), Lot# - 210966, Exp - 7-31-22

Parameter (Time)	Temp (°C)	Cond (us/cm)	DO	PH	ORP	Turb (ntu's)	DTW (Ft)
1) 220706 1325A	23.57	1,097	1.89	7.32	50	2.15	283.40 Ft
2) ——— 1330A	23.47	1,106	1.53	7.68	42	1.18	283.40 Ft
3) ——— 1335A	23.15	1.110	1.36	7.87	37	1.14	283.40 Ft

Samples

Sample #	Analysis	Preservative	Container	Lot#	Lab
220706 1336A	VOA by 8260	HCl / ICE	(3) 40 ml vials	2621	ALS
——— 1337A	" " (EB)	" "	(3) " "	" "	" "
——— 1338A	NDMA/DMN/Bromacil by 607	ICE	(1) 1L Amber	01003014	SRI

IDW - 2 gals

* Well has DIE, and samples also.

Continued from page N/A

Robert Burrows 7-6-22

Read and Understood By

[signature] 7-7-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-6-22

Sample Location: B2M-15-305			Analytical Requirement							
Pertinent Notes (if any): TASK Memo - 11229										X6MD
Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Bromacil / NDMA/DMN / by 607						Charge Number
2207061336A	3	A	X							↓
1337A	3	A	X							
1338A	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:
Robert Bennett	7-6-22/1435		[signature]	7-7-22 /0900

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

WSTF 381C (05/2016)

PROJECT BLM-17-550 WJI ENV-0053

Continued from page N/A

Robert Burrows & Bob Tufts present. Weather is windy & cloudy & cool. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge tube. Water quality parameters will be monitored using a MP-20-QED-Flow Cell Quality Analyzer. Carboy G-1 in use.

Calibration:

DO - Cal in 100% saturated air @ 613 mm/Hg. Initial DTW - 505.78 Ft.

Conductivity - Cal using 1413 us/cm std. Solution. Final DTW - 505.70 Ft.

PH - Cal using Oakton Buffers (4,7,10).

Turb meter - 8#, Std-61.0 (ntus), Rdg - 9.99 (ntus), Lot#-210966, Exp - 7/31/22

Parameters (time)	Temp (°C)	Cond (us/cm)	DO	PH	ORP	Turb (ntus)	DTW (Ft)
1) 2207060910 A	21.66	1,117	77.5	3.68	136	7.95	508.69
2) ——— 0915 A	20.94	1,116	91.7	4.04	144	5.17	505.69
3) ——— 0920 A	21.34	1,108	80.8	4.40	146	4.17	505.69

Sample #	Analysis	Sample Preservative	Container	Lot #	Lab
2207060922 A	VOA by 8260	HCl/ICE	(3) 40ml vials	2621	ALS
——— 0923 A	" " (FB)	" "	(3) " "	" "	" "
——— 0924 A	NDMA/DMN/Bromacil by 607	ICE	(1) 1L Amber	0100301H	SRI

IDW - 1.75 gals.

Continued from page N/A

Read and Understood By

Robert Burrows 7-6-22 [signature] 7-7-22

Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-6-22 | Page 1 of 1

Sample Location: BLM-17-550

Pertinent Notes (if any): TASK memo - 11228

Charge Number: XGMD

Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Bromacil NDMA/DMA/607						Charge Number
220706 0922A	3	A	X							
0923A (FB)	3	A	X							
0924A	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:
Robert Burns	7-6-22/ 11:13		[signature]	7-7-22 /0900

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

WSTF 381C (05/2016)

Robert Burrows & Bob Tufts present. Weather is cloudy & warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be collected using a new Teflon discharge tube. Water quality parameters will be monitored using a QED MP-20 Quality Analyzer Flow Cell. Carboy G-1 in use.

Calibrations:

DO - Cal in 100% saturated air @ 613 mm/Hg.

Conductivity - Cal using 1413 us/cm std. Solution.

PH - Cal in OAKton Buffers (4,7,10).

Turbidity meter - 8#, Std - 61.0 (ntus), Rdg - 9.99 (ntus), Lot# - 210966, Exp - 7-31-22

Initial DTW - 388.38 (Ft.)

Final DTW - 389.15 (Ft.)

Parameters (Time)	Temp (°c)	Cond (us/cm)	DO	PH	ORP	Turb (ntus)	DTW (Ft)
220707 0915 A	22.77	0.300	5.95	7.26	61	1.41	389.15
— 0916 A	22.86	0.351	6.22	7.59	63	0.49	" "
— 0917 A	23.46	0.298	5.86	7.60	59	0.76	" "

Samples

Sample #	Analysis	Preservative	Container	Lot #	Lab
220707 0923A	Voc by 8260	HCl/ICE	(3) 40 ml vials	2621	ALS
— 0924A	" " (Dup)	" "	(3) " "	" "	" "
— 0925A	" " (FB)	" "	(3) " "	" "	" "
— 0926 A	NDMA/DMN/Bromacil by 607	ICE	(1) 1L Amber	0100301H	SRI

IDW - 1 1/2 gals.

Continued from page N/A

Read and Understood By

Robert Burrows 7-7-22

[signature] 7-8-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-7-22 Page 1 of 1

Sample Location: BLM-18-430

Pertinent Notes (if any): Task memo-11230

Sample Number	# of Containers	Sample Matrix*	VOA by 8260	Bromacil NDMA/DMN/by 607					Charge Number
220707 0923A	3	A	X						XGMD
—— 0924A (Dup)	3	↓	X						↓
—— 0925A (EB)	3	↓	X						↓
—— 0926A	1	↓		X					↓

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Robert Burrows	7-7-22/11:19		[signature]	7-8-22/0830

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

PROJECT JER-1-483 FLUTe ENV-0020

Notebook No. D32 #125 B

Continued from page

Al Montes & Dan Halvorsen present. Weather is cloudy and cool. This zone will be purged and sampled using a FLUTe system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 248 psi, sample pressure at 227 psi. Bubbler flowmeter set at 3 psi and stable at 5 psi. 15 minute recovery between purges. Carboy G3 in use.

Pre-Sample Parameters

pH = 8.40
Temp - 26.3
Cond = 1253
Turb = 1.01

Transducer

N/A

Meter ID

pH/Cond = 91
Turb = 20
STD = 5.59
RDG = 5.85
Lot = 210966
Exp = 7/22

Parameters

Time = 220706/1355 B
pH = 8.42
Temp = 26.4°C
Cond = 1250 uS/cm
Turb = 0.96 NTU's
pH Pre = 6.68 - 9.82 (42.3°C)
pH Post = 6.71 - 9.84

SAMPLES

Sample #	Analysis	Preserve	Container	Lot	Lab
220706/1357 B	VOA by 8260 LL	Ice/HCl	(3) 40 ml vial		ALS
——1358 B	" " (FB)	"	"		"
——1359 B	NDMA LL	Ice	(1) 1L Amber		SRI
——1400 B	" " (FB)	"	"		"
——1401 B	1,4-Dioxane	"	(1) 250 ml Amber		ALS

Continued from page

Read and Understood By

Signed [signature] Date 7-6-2022

Signed [signature] Date 7-7-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-6-2022 Page 1 of 1

Sample Location: JER-1-483

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	VOC	NDMA LL	1,4-Dioxane				Charge Number
									X 6MD
2207061357 B	3	A	X						
1358 B FB	3	|	X						
1359 B	1	|		X					
1400 B FB	1	|		X					
1401 B	1	|			X				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	7-6-2022 1500	[signature]	7-7-22 / 0900

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

WSTF 381C (05/2016)

PROJECT SER-1-563 FLUTe ENV-0020

Continued from page

Al Montes + Dan Halvorsen present. Weather is cloudy and cool. This zone will purged and sampled using a FLUTe system. Samples will be collected using a dedicated discharge hose. Purge pressure set at 248 psi, sample pressure at 227 psi. Bubbler flowmeter set at 3 psi and stable at 5 psi. 15 minute recovery between purges. Carboy E3 in use.

Pre-Sample Parameters	Transducer	Meter ID
pH = 8.30	N/A	PH/Cond = 91
Temp = 25.4		Turb = 20
Cond = 1247		STD = 5.59
Turb = 2.70		RDG = 5.83
		LOT = ~~940~~ 210966
		Exp = 7/22

Parameters

Time	= 2207061410B
pH	= 8.22
Temp	= 25.3°C
Cond	= 1243 uS/cm
Turb	= 2.82 NTU's
Pre	= 6.71 - 9.84
Post	= 6.70 - 9.86

SAMPLES

Samples	Analysis	Preserve	Container	Lot	Lab
22070614 12 B	VOC by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
1413 B	" " (MS)	"	"		"
1414 B	" " (FB)	"	"		"
1415 B	NDMA LL	Ice	(1) 1L Amber		SRI
1440 B	" " (Dup)	"	"		"
1441 B	" " (FB)	"	"		"
1442 B	1,4-Dioxane	"	(1) 250 ml Amber		ALS
1443 B	" " (Dup)	"	"		"

Continued from page

Read and Understood By

Signed: [signature] Date: 7-6-2022 Signed: [signature] Date: 7-7-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7.6.2022 Page 1 of 1

Sample Location: SER-1-SL3

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	VOA	VOMA LL	1,4-Dioxane				Charge Number
										X GMP
2207061412B		3	A	X						
1413B	MS	3		X						
1414B	FB	3		X						
1415B		1			X					
1440B	DUP	1			X					
1441B	FB	1			X					
1442B		1				X				

Sample Location:

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	1,4-Dioxane							Charge Number
2207061443B	DUP	1	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	7.6.2022 1500		[signature]	7-7-22 / 0900

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

WSTF 381C (05/2016)

PROJECT JER-1-683 FLUTe ENV-0020

Notebook No. D32 #125 B

Continued from page

Dan Halvorsen & Tim Korchy present. Weather is Cloudy and Cool. This zone will be purged and sampled using a FLUTe System. Samples will be Collected using a dedicated discharge hose. Purge pressure set at 248 psi, sample pressure at 227 psi. Bubbler flowmeter set at 3 psi and stable at 5 psi. 15 minute recovery between purges. CarDay 63 in use.

Pre-Sample Parameters	Transducer	Meter I.D
PH = 8.44	N/A	PH/COND = 91
TEMP = 28.3		TURB = 20
COND = 1242		" STD = 5.59
TURB = 2.46		" RDG = 5.71
		" LOT = 210966
		" EXP = 7/30

Parameters

Time = 2207071400B
PH = 8.49
TEMP = 28.4
COND = 1239
TURB = 2.42
PHPre = 6.71-9.82 (27.4°C)
PHPost = 6.73-9.83

SAMPLES

SAMPLE #	Analysis	Preserve	Container	LOT	LAB
2207071405B	VOA by 8260 LL	Ice/HCl	(3) 40 ml Vial		ALS
——1406B	" " (FB)	"	"		"
——1407B	NDMA LL	Ice	(1) 1L Amber		SRI
——1408B	" " (FB)	"	"		"
——1409B	1,4-Dioxane	"	(1) 250 ml Amber		ALS

Continued from page

Read and Understood By

Signed: [signature] Date: 7-7-2022

Signed: [signature] Date: 7-8-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-7-2022 Page 1 of 1

Sample Location: JER-1-683			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	VOC	NDMA LL	1,4-Dioxane					XGMD / Charge Number
220707 1405 B	3	A	Y							
—— 1406 B FB	3		Y							
—— 1407 B	1			Y						
—— 1408 B FB	1			Y						
—— 1409 B	1				Y					

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]	7-7-2022 1445	[signature]	7-8-22 / 0830

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

Notebook No. D32 #125(B) 37

PROJECT JER-2-504

Continued from page

MATT GARCIA & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & WARM. THIS ZONE WILL BE SAMPLED USING A FLUTE SYSTEM. SAMPLES COLLECTED FROM A DEDICATED TEFLON DISCHARGE HOSE. PURGE PRESSURE SET @ 265 psi & SAMPLE PRESSURE SET @ 244 psi. BUBBLER SET @ 3 psi & STABLE @ 7 psi. 15 mins RECOVERY BETWEEN CYCLES. CARBOY 6-5 TRANSDUCER N/A

PRE SAMPLE PARAM'S

pH 8.45
TEMP 27.3
COND 1087 µs/cm
TURB 0.74 NTU's

METER ID'S
pH/COND
TURB #
" STD =
" RDG =
" LOT # =
" EXP =

PARAMETERS

220711 1355B
pH 8.42
TEMP 27.4 °C
COND 1085 µs/cm
TURB 0.86 NTU's
pH pre 7.05/10.04 (36.8 °C)
pH post 7.04/10.04

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	CONT	LAB
220711 1400B	8260LL	ICE/HCl	(3) 40ml VIALS	ALS
— 1401B	" (FB)	"	"	"
— 1402B	LL NDMA	ICE	(1) 1LT AMBER	SRI
— 1403B	" (FB)	"	"	"
— 1404B	SUDA SIMS	"	(1) 250ml AMBER	ALS

Continued from page

Read and Understood By

T. [signature] 7.11.22
Signed Date

[signature] 7-12-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-11-22 Page 1 of 1

Sample Location: JEA-2-504

Sample Number	# of Containers	Sample Matrix*	8260LL	LLNDMA	SV0451m					Charge Number
Pertinent Notes (if any)										DGmA
220711 1400B	3	A	X							
1401B (FB)	3		X							
1402B	1			X						
1403B (FB)	1			X						
1404B	1				X					

Sample Location:

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	7-11-22/1500		[signature]	7-12-22 / 0850

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

PROJECT Jer-2-584

Notebook No. D32 # 125(B)

Continued from page

MATT GARCIA & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & WARM. This zone will be purged & sampled using A FLUTE Sampling System. Purge pressure set @ 265 psi & sample pressure set @ 244 psi. Samples collected from a dedicated Teflon discharge tube. 15 mins recharge between cycles Carboy 6.5

PRE SAMPLE PARAM'S

pH	~~8.45~~	8.38
Temp	~~27.3°c~~	30.2°c
Cond	~~1087 μs/cm~~	1111 μs/cm
Turb	~~0.74 NTU's~~	0.64 NTUs
~~pH~~		

METER ID'S

pH/cond # 92

Turb # 7

" std = 47.0

" rdg = 49.0

" Lot # 210964

" Exp 7/31/22

PARAMETERS

220711 1415B

pH	~~8.42~~	8.36
Temp	~~27.4°c~~	30.8°c
Cond	~~1087 μs/cm~~	1115 μs/cm
Turb	~~0.86 NTU's~~	0.57
pH pre	~~7.05/10.02 (~~	7.05/10.02 (38.1)
pH post		7.05/10.04

SAMPLE #		ANALYSIS	SAMPLES PRESERV	CONT	Lab
220711	1416B	8260ll	Ice/HCl	(3) 40ml vials	ALS
—	1417B	" (FB)	"	"	"
—	1418B	1,4-Dioxane	Ice	(1) 1LT Amber	SKI
—	1419B	" (FB)	"	"	"
—	1420B	8270 SIM	"	(1) 250ml Amber	ALS

Continued from page

Signed [signature] Date 7-11-22

Read and Understood By [signature] 7-12-22

Signed

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-11-22 | Page ______ of ______

Sample Location: JER-2-584

Analytical Requirement

Charge Number: XGMDA

Sample Number	# of Containers	Sample Matrix*	8260LC	LLNDMA	SU04SIM					Charge Number
220711 1416B	3	A	x							
— 1417B (FB)	3		x							
— 1418B	1			x						
— 1419B (FB)	1			x						
— 1420B	1				x					

Pertinent Notes (if any)

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]	7-11-22/1500		[signature]	7-12-22/0850

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

WSTF 381C (05/2016)

PROJECT JER-2-6841

Matt Garcia & Tony Torrez present. Weather is clear & warm.
This Zone will be purged & sampled using a Flute sampling system.
Purge pressure set @ 265 psi & Sample pressure set @ 244 psi. Samples
collected from a dedicated teflon discharge tube. 15 min Recover.

Pre-Samples Parameters

PH - 8.47
Temp - 30.1°c
Cond - 1195
Turb - 0.91

Meter ID

PH/Cond # - 92
Turb # - 20
cc Std - 5.59 NTU
cc RDG - 5.45 NTU
cc Lot # - 210966
cc EXP - 7/31/22

Parameters

220712 1400B
PH - 8.42
Temp - 37.2°c
Cond - 1187
Turb - 0.79
Pre PH - 6.90 / 10.01 (42.4°c)
Post PH - 6.95 / 10.04

Samples

Sample		Analysis	Preserve	Container	Lot	Lab
220712	1401B	8260cc	Ice / HCL	(3) 40mL vials		ALS
———	1402B	cc (FB)	"	"		"
———	1403B	LLNDMA	Ice	(1) 1LT Amber		SRI
———	1404B	cc (FB)	"	"		"
———	1405B	SVOASIM	"	(1) 250mL Amber		ALS

Continued from page

Read and Understood By

[signature] Signed 7/12/22 Date

[signature] Signed 7-13-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-12-22

Sample Location: JER-2-684

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260C	CLN3M4	SUOA SIM3				Charge Number
									X6-M1
220712 1401B	3	A	x						
— 1402B (FB)	3		x						
— 1403B	1			x					
— 1404B (FB)	1			x					
— 1405B	1				x				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [signature]	7-12-22/1500		[signature]	7-13-22/0900

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

WSTF 381C (05/2016)

Bob Tufts & Craig Del Ferraro present. Weather is 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 G1 in use.

Calibrations
DO - calibrated in saturated air @ 637 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7, 10).
Turbidity meter #8 std- 61.0 rdg- 61.2 lot-210966 Exp-7/31/22

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
220705 0720C	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0721C	Low Level NDMA	ice	(1) 1L Amber	010030lH	SRI

Parameters (time)	temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU)	DTW (ft)
1) 220705 0840C	20.75	0.967	5.20	82	6.53	1.50	413.76
2) ——— 0843C	20.86	0.968	5.31	78	6.56	1.14	413.76
3) ——— 0846C	20.95	0.973	5.42	76	6.61	1.03	413.76

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220705 0850C	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0851C	" (FB)	"	"	"	"
——— 0852C	Low Level NDMA	ice	(1) 1L Amber	010030lH	SRI
——— 0853C	" (FB)	"	"	"	"

Initial DTW - 413.57 ft. Total gallons purged - 1.5

Continued from page

Read and Understood By

Craig Del Ferraro 7/5/22 [signature] 7-5-22
Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/5/22 Page 1 of 1

Sample Location: JP-1-424

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2207050720C (TB)	3	A	✓							XGMD
———— 0721C (TB)	1	A		✓						"
———— 0850C	3	A	✓							"
———— 0851C (FB)	3	A	✓							"
———— 0852C	1	A		✓						"
———— 0853C (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 DelFerro	7/5/22 / 1115hrs.	[signature]	7-6-22 / 0830

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

WSTF 381C (05/2016)

PROJECT JP-2-447 WJI ENV-0053

Notebook No. D32 #124(c)

Continued from page

Bob Tufts & Craig Del Ferraro present. Weather is 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 G1 in use.

Calibrations

DO - calibrated in saturated air @ 637 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (7, 10).
Turbidity meter #8 std - 61.0 rdg - 61.2 lot - 210966 Exp - 7/31/22

Parameters (time)	temp (°c)	cond (ms/cm)	ORP	DO	PH	Turb (NTU's)	DTW (ft)
1) 220705 1025C	22.31	1.014	51	5.38	7.61	1.33	415.05
2) ——— 1028C	22.46	1.020	50	5.16	7.65	1.16	415.05
3) ——— 1031C	22.58	1.031	50	5.05	7.66	1.12	415.05

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220705 1035C	VOA by 8260 LL	ice / HCL	(3) 40ml vials	2621	ALS
——— 1036C	" (FB)	"	"	"	"
——— 1037C	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRL
——— 1038C	" (FB)	"	"	"	"

Initial DTW - 414.81 ft.   Total gallons purged - 1.5

Continued from page

Craig Del Ferraro 7/5/22
Signed Date

Read and Understood By

[signature] 7-5-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/5/22 Page 1 of 1

Sample Location: JP-2-447

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2207051035C	3	A	✓							XGMD
——— 1036C (FB)	3	A	✓							"
——— 1037C	1	A		✓						"
——— 1038C (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 Fermo	7/5/22 / 1115 hrs.		[signature]	7-6-22 / 0830

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

PROJECT JP-3-509 WJI-ENV-0053

Robert Burrows & Bob Tufts present. Weather is Partly Cloudy & Warm. This well will be purged and sampled using a dedicated bladder pump. Samples will be Collected using a new Teflon discharge tube. Water Quality Parameters will be monitored using a QED Quality Analyzer MP-20 FlowCell. Carboy G-1 in use.

Calibrations:

DO - Cal in 100% Saturated air @ 613 mm/Hg. * Initial DTW - N/A Ft.
Conductivity - Cal using 1413 us/cm std. Solution. Final DTW - N/A Ft.
pH - Cal in Oakton Buffers (4,7,10).
Turb meter - 8#, std. 61.0 (ntu's), Rdg - 9.99 (ntu's), Lot# 210966, Exp - 7-31-22

Parameters (Time)	Temp(°C)	Cond(ms/cm)	DO	pH	ORP	Turb(ntu's)	DTW (Ft)
1) 220708 0829 A	21.26	0.992	4.82	6.54	71	1.12	N/A
2) —— 0830 A	21.35	0.994	4.49	6.54	77	0.69	N/A
3) —— 0831 A	21.43	0.991	4.30	6.74	78	0.58	N/A

Samples

Samples #	Analysis	Preservative	Container	Lot #	Lab
220708 0832 A	VOA by 8260 LL	HCl/Ice	(3) 40 mil vials	2621	ALS
—— 0833 A	" " (FB)	" "	(3) " "	" "	" "
—— 0834 A	Low Level NDMA	ICE	(1) L Amber	0100301H	SRI
—— 0835 A	" " (FB)	" "	(1) " "	" "	" "

IDW - 1.75 gals

* Too much tubing to get depth, put on Long Refill to avoid Draw Down.
Start packer pressure @ 30 psi. Final packer pressure @ 24 psi

Continued from page N/A

Read and Understood By

Robert Burrows 7-8-22
Signed Date

[signature] 7-11-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-8-22 Page 1 of 1

Sample Location: JP-3-509

Pertinent Notes (if any): TASK memo-11237

Sample Number	# of Containers	Sample Matrix*	VOA by 8260 LL	Low Level NDMA						Charge Number
										XGMD
2207080832 A	3	A	X							
0833 A (EB)	3		X							
0834 A	1			X						
0835 A (EB)	1			X						

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Robert Burrows	7-8-22/11:20	[signature]	7-11-22 / 1100 HRS

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

WSTF 381C (05/2016)

Notebook No. 032 # 124 (c)

OJECT JP-3-689

Continued from page

arcus Avalos & Matt Garcia present. Weather is clear + warm. This well will be purged
sampled using a dedicated bladder pump. Samples will be collected using a new teflon
ischarge tube. Water quality parameters will be monitored using an In-Situ Aqua Troll
00. Carboy G-3

alibrations

NS

O- Cal in 100% saturated air @ 641 mm/Hg.
nductivity - Cal in 1413 uS/cm STD.
t- Cal using 3pt method (4,7,10)
urbidity - #7 STD. 47.0 NTU RDG - 44.9 NTU lot - 210766 Exp. 7/31/22

rameters (time)	Temp (C)	Cond (uS/cm)	ORP	DO	PH	Turb (NTU)
220718 0940c	21.74	1253.2	322	5.56	7.35	2.48
) ——— 0942c	21.77	1250.6	322	5.50	7.36	2.53
) ——— 0944c	21.80	1248.2	325	5.51	7.35	2.50

Samples

ample #	Analysis	Preservative	Container	lot	lab
220718 0950c	VOA by 8260 LL	HCl/Ice	(3) 40ml vials	2621	Als
——— 0952c	" (FB)	"	"	"	"
——— 0954c	Low Level NDMA	Ice	(1) 1L Amber	01003014	SDI
——— 0956c	" (FB)	"	"	"	"

Total Gallons Purged - 2 gallons

* No Depth

Continued from page

Read and Understood By

Signed [signature] Date 7/18/22

Signed [signature] Date 7-19-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/18/22 Page 1 of 1

Sample Location: JP·3·689

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260LL	LL NDMA					Charge Number
2207180950C	3	A	X						XGMD
—0952C (FB)	3		X						
—0954C	1			X					
—0956C (FB)	1			X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	7/18/22 @ 1100		[signature]	7-19-22 / 0830

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

WSTF 381C (05/2016)

PROJECT PFE-4A

Notebook No. PFTSH/8
Continued from page N/A

Frank Gallegos & Tim Moore present. This well will be purged for one minute prior to sampling from a dedicated sampling port. Colboy "6-1" in use.

Parameters	Meter ID	Buffers	LOT#	EXP
Time - 2207200745	Ph/cond - 92	7	1202A44	8/23
Ph - 7.58	Turb - 7	10	4107E30	1/23
Temp - 26.1°C	" STD - 47.0			
Cond - 1181 us/cm	" RDG - 47.9			
Turb - 1.15 NTU's	LOT# - 210966			
Ph pre - 7.06/10.04 (22.3°C)	" Exp - 7/31/22			
Ph post - 7.04/10.02				

Samples

Sample #	Analysis	Pre	LOT#	LAB	CONT
2207200750	VOA by 8260	ICE & HCl	2621	ALS	(3) 40mL Vi
——— 0751	" (FB)	"	"	"	"
——— 0752	NDMA/DMN/Bro by 607	/ICE	0100301H	SwRI	(1) Ct amber
——— 0753	TOTAL Metals	/ICE/HNO_3	22-04-21	ALS	(2) 125ml poly
——— 0754	Anions/ALK	/ICE	N/A	"	"
——— 0755	TDS	"	083021-2AA0	"	(1) 250ml poly
——— 0756	Perchlorate	"	N/A	"	(1) 125ml poly
——— 0757	NO_2/NO_3	/ICE/H_2SO_4	21-11-15	"	(1) 250ml poly

*Samples were very aerated.

*Robert Burrows & Craig Del Ferraro completed this sampling event on 7/20.

Continued from page N/A

Read and Understood By

Craig Del Ferraro 7/20/22 [signature] 7-20-22

Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/20/22 Page 1 of 1

Sample Location: PFE-4A

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	Anions/Alk	TDS	Perchlorate		Charge Number
2207200750	3	A	✓							XGMD
——0751 (FB)	3	A	✓							"
——0752	1	A		✓						"
——0753	2	A			✓					"
——0754	2	A				✓				"
——0755	1	A					✓			"
——0756	1	A						✓		"

Sample Location: PFE-4A

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	NO_2/NO_3							Charge Number
2207200757	1	A	✓							XGMD

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Del Ferro	7/20/22/0815 hrs.	[signature]	7-20-22 /0900

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

WSTF 381C (05/2016)

PROJECT PFE-5

Notebook No. PFTS#1077
Continued from page N/A

Frank Gallegos & Tim Moore present. This well will be purged for one minute prior to sampling from a dedicated sampling port. Colboy 6-1 in use

Parameters	Meter ID	Buffers	LOT#	Exp
Time - 2207200850	ph/cond - 92	7	1202A44	8/23
ph - 7.91	Turb - 7	10	4107E30	1/23
temp - 26.1°C	" STD - 47.0			
cond - 979us/cm	" RDG - 47.9			
Turb - 0.28 NTU's	" LOT# 210966			
Ph pre - 7.03/10.05 (25.1°C)	" EXP - 7/31/22			
Ph post - 7.01/10.03				

Samples

Sample#	Analysis	Pres	LOT#	LAB	CONT
2207200855	VOA by 8260	ICE & HCl	2621	ALS	(3) 40ml vials
——0856	" (Dup)	"	"	"	"
——0857	" (FB)	"	"	"	"
——0858	NDMA/DMN/PNB by 607	ICE	0100301H	SWRI	(1) 1L Amber
——0859	TOTAL Metals		22-04-21	ALS	(2) 125ml polys
——0900	" (Dup)		"	"	"
——0901	Anions/Alk		N/A	"	"
——0902	TDS		083021-2AA0	"	(1) 250ml poly
——0903	Perchlorate		N/A	"	(1) 125ml poly
——0904	NO2/NO3		21-11-15	"	(1) 250ml poly

*Robert Burrows & Craig Del Ferraro completed this sampling event on 7/20.

Continued from page N/A

Craig Del Ferraro 7/20/22
Signed Date

Read and Understood By

[signature] 7-20-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/20/22 Page 1 of 1

Sample Location: PFE-5

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	Total Metals	Anions/Alk	~~TDS~~		Charge Number
2207200855	3	A	✓						XGMD
——0856 (Dupl.)	3	A	✓						"
——0857 (FB)	3	A	✓						"
——0858	1	A		✓					"
——0859	2	A			✓				"
——0900 (Dupl)	2	A			✓				"
——0901	2	A				✓			"

Sample Location: PFE-5

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	TDS	Perchlorate	NO_2/NO_3					Charge Number
2207200902	1	A	✓							XGMD
——0903	1	A		✓						"
——0904	1	A			✓					"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelFerro	7/20/22/0920 hrs.		[signature]	7-21-22 /0840

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

PROJECT PFE-7

Notebook No. PFTS #10
Continued from page N/A

Frank Gallegos & Tim Moore present. This well will be pulsed for one minute prior to sampling from a dedicated sampling port. Cal boy "G-Ilmeftont"

Parameters	Meter ID	Buffers	Lot #	Exp
Time - 2207201000	Ph/cond - 92	7	1202A44	8/23
Ph - 7.44	Turb - 7	10	4107E30	1/23
Temp - 25.8°C	" STD - 47.0			
Cond - 1165 us/cm	" RDG - 47.9			
Turb - 0.78 NTU's	" Lot # - 210966			
Ph pre - 7.01/9.97 (28.7°c)	" Exp - 7/31/22			
Ph post - 6.99/9.98				

Samples

Sample #	Analysis	Pres	Lot #	Lab	Cont
2207201005	VOA by 8260	ICE; HCL	2621	ALS	(3) 40ml vials
1006	" (FB)	"	"	"	"
1007	NDMA/DMN/NDO by 607	ICE	0100301H	SWRI	(1) 1L Amber
1008	LL NDMA	"	"	"	"
1009	" (Dup)	"	"	"	"
1010	" (FB)	"	"	"	"
1011	Total Metals	ICE/HNO3	22-04-21	ALS	(2) 125ml poly
1012	Anions/ALK	ICE	N/A	"	"
1013	TDS	"	083021-2AA0	"	(1) 250ml poly
1014	Perchlorate	"	N/A	"	(1) 125ml poly
1015	NO2/NO3	ICE/H2SO4	21-11-15	"	(1) 250ml poly

*Robert Burrows & Craig Del Ferraro completed this sampling event on 7/20.

Continued from page N/A

Craig Del Ferraro 7/20/22
Signed Date

Read and Understood By
[signature] 7-20-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/20/22 Page 1 of 1

Sample Location: PFE-7

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	LL NDMA	Total Metals				Charge Number
2207201005	3	A	✓							XGMD
—— 1006 (FB)	3	A	✓							"
—— 1007	1	A		✓						"
—— 1008	1	A		~~✓~~	✓					"
—— 1009 (Dupl.)	1	A			✓					"
—— 1010 (FB)	1	A			✓					"
—— 1011	2	A				✓				"

Sample Location: PFE-7

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Anions/Alk.	TDS	Perchlorate	NO_2/NO_3				Charge Number
2207201012	2	A	✓							XGMD
—— 1013	1	A		✓						"
—— 1014	1	A			✓					"
—— 1015	1	A				✓				"

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	7/20/22/ 1045hrs.		[signature]	7-21-22 / 0840

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

PROJECT PL-1-486 WJI ENV-0053

Dan Halvorsen & 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 an In-Situ Aqua Troll 500. Carboy G3 in use.

Calibrations

DO - calibrated in 100% saturated air @ 643 mm/Hg.
Conductivity - calibrated using 1413 us/cm std. solution.
PH - calibrated using Oakton buffers (4, 7, 10).

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
220712 0700A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0701A	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Parameters (time)	Temp (°c)	cond (ms/cm)	DO	ORP	PH	Turb (NTU's)	DTW (Ft.)
1) 220712 0910A	23.78	1.227	7.15	340.8	7.71	3.36	485.76
2) ——— 0913A	23.85	1.236	6.83	338.6	7.68	2.86	485.76
3) ——— 0916A	23.92	1.239	6.40	337.1	7.64	2.80	485.76

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220712 0920A	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0921A	" (Dupl.)	"	"	"	"
——— 0922A	" (FB)	"	"	"	"
——— 0923A	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——— 0924A	" (FB)	"	"	"	"
——— 1315A	" (BC)	"	"	22MM145A	"

Initial DTW - 485.62 ft. Total gallons purged - 1.5

Continued from page

Craig Del Ferraro 7/12/22
Signed Date

Read and Understood By

Lori [signature] 7-13-22
Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/12/22 Page 1 of 1

Sample Location: PL-1-486

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2207120700A (TB)	3	A	✓							XGMD
——— 0701A (TB)	1	A		✓						"
——— 0920A	3	A	✓							"
——— 0921A (Dupl)	3	A	✓							"
——— 0922A (FB)	3	A	✓							"
——— 0923A	1	A		✓						"
——— 0924A (FB)	1	A		✓						"

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	LL NDMA							Charge Number
2207121315A (BC)	1	A	✓							XGMD

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fino	7/12/22 / 1050 hrs.		[signature]	7-13-22 / 0900

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

WSTF 381C (05/2016)

PROJECT PL-6-545 WJI ENV-0020

Tony Torrez & Craig Del Ferraro present. Weather is cloudy & hot. This zone will be sampled using 3 triple rinsed, stainless steel sample tubes. Gen. in use. Probe # 4955. Surface checks performed on probe prior to sampling.

30 Min. Equipment Blanks - Carboy G2

Sample	Analysis	Preservative	Container	Lot	Lab
220707134 5Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1346Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2207080845Y	Time - 2207080945Y	pH/Cond - 93
PH - 7.34	PH - 7.33	Turb - 21
Temp - 23.8°C	Temp - 24.1°C	" std - 9.79
Cond - 1152 us/cm	Cond - 1135 us/cm	" rdg - 9.86
Turb - 0.91 NTU's	Turb - 0.76 NTU's	" lot - 210966
pH pre - 7.08/10.04 (19.8°C)	pH pre - 7.05/10.02 (20.5°C)	" Exp - 7/31/22
pH post - 7.10/10.03	pH post - 7.07/10.02	
DTW - 475.27 ft.	DTW - 475.38 ft.	
Atmos - 12.62 psia	Atmos - 12.58 psia	
	IDW - 1/2 gal.	

Buffers	Lot	Exp
7	2108G56	2/23
10	4103981	9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2207080915Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 0916Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

* Sampling event was postponed @ roughly 1400 hrs. due to lightning within a close proximity to the sampling ~~event.~~ area. Sampling event will resume on 7/8.

Runs	1)	2)	3)
	47.69	47.66	47.63
	55.74	55.71	55.69
	55.72	55.69	55.66
	47.68	47.68	47.65

Continued from page

Read and Understood By

Craig Del Ferraro 7/8/22 — Signed, Date

[signature] 7-8-22 — Signed, Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/7/22 Page 1 of 2

Sample Location: PL-6-545

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA					Charge Number
2207071345Y (EB)	3	A	✓						XGMD
—— 1346Y (EB)	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 Ferraro	7/7/22/1435hrs.		[signature]	7-8-22 / 0830

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

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/8/22 Page 2 of 2

Sample Location: PL-6-545

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2207080915Y	3	A	✓							XGMD
——— 0916Y	1	A		✓						"

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Analytical Requirement

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Ferro	7/8/22/ 1100hrs.		[signature]	7-11-22 / 1100HRS

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

WSTF 381C (05/2016)

PROJECT PL-6-725 WJI ENV-0020

Notebook No. D64 #129(Y)

Continued from page

Tony Torrez & Craig Del Ferraro present. Weather is cloudy & warm. This zone will be sampled using 5 steam cleaned & triple rinsed, stainless steel sample tubes. Gen. in use. Probe # 4955. Surface checks performed on probe prior to sampling.

Trip Blanks - Water Purification System

Sample	Analysis	Preservative	Container	Lot	Lab
220707 0700Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
—— 0701Y	Low Level NDMA	ice	(1) 1L Amber	010030 1H	SRI

30 Min. Equipment Blanks - Carboy G2

Sample	Analysis	Preservative	Container	Lot	Lab
220707 0925Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
—— 0926Y	Low Level NDMA	ice	(1) 1L Amber	010030 1H	SRI

Initial Parameters	Final	Meter ID
Time - 2207071010Y	Time - 2207071042Y	pH/Cond - 93
PH - 8.24	PH - 8.22	Turb - 21
Temp - 24.1°C	Temp - 24.4°C	" std - 9.79
Cond - 1184 us/cm	Cond - 1174 us/cm	" rdg - 9.86
Turb - 0.40 NTU's	Turb - 0.36 NTU's	" lot - 210966
pH pre - 7.06/10.03 (23.7°C)	pH pre - 7.03/10.04 (26.5°C)	" Exp - 7/31/22
pH post - 7.07/10.03	pH post - 7.01/10.04	
DTW - 475.15 ft.	DTW - 475.27 ft.	Buffers Lot Exp
Atmos - 12.59 psia	Atmos - 12.59 psia	7 2108G56 2/23
	IDW - 1/2 gal.	10 4103G81 9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
220707 1040Y	VOA by 8260 LL	ice/HCL	(3) 40ml vials	2621	ALS
—— 1041Y	Low Level NDMA	ice	(1) 1L Amber	010030 1H	SRI

Runs	1)	2)
	126.21	126.14
	134.30	134.38
	134.34	134.38
	126.25	126.14

Continued from page

Read and Understood By

Craig Del Ferraro 7/7/22 Signed Date

[signature] 7-8-22 Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/7/22 Page 1 of 1

Sample Location: PL-6-725

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA						Charge Number
2207070700Y (TB)	3	A	✓							XGMD
——— 0701Y (TB)	1	A		✓						"
——— 0925Y (EB)	3	A	✓							"
——— 0926Y (EB)	1	A		✓						"
——— 1040Y	3	A	✓							"
——— 1041Y	1	A		✓						"

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Pertinent Notes (if any)

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig DelFerro	7/7/22 / 1115 hrs.	[signature]	7-8-22 / 0830

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

WSTF 381C (05/2016)

Tony Torrez & Craig Del Ferraro present. Weather is cloudy & warm. This zone will be sampled using 2 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
2207061300Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1301Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2207061345Y	Time - 2207061456Y	pH/cond - 93
PH - 8.16	PH - 8.21	Turb - 21
Temp - 25.2°C	Temp - 25.4°C	" std - 9.79
Cond - 1262 us/cm	Cond - 1270 us/cm	" rdg - 9.84
Turb - 1.79 NTU's	Turb - 1.34 NTU's	" lot - 210966
pH pre - 6.95/10.01 (30.7°c)	pH pre - 6.92/9.96 (32.1°C)	" Exp - 7/31/22
pH post - 6.93/9.98	pH post - 6.94/9.96	
DTW - 465.24 ft.	DTW - 465.36 ft.	Buffers Lot Exp
Atmos - 12.22 psia	Atmos - 12.21 psia	7 2108G56 2/23
	IDW - 1 gal.	10 4103G81 9/22

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2207061425Y	VOA by 8260LL	ice/HCL	(3) 40ml vials	2621	ALS
——— 1426Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——— 1455Y	1,4 Dioxane by 8270D	"	(1) 250ml amb.	90121-06	ALS

Runs	1)	2)	3)
	23.27	23.27	23.29
	20.93	20.92	20.99
	20.90	20.92	20.95
	23.39	23.29	23.34

Read and Understood By

Craig Del Ferraro 7/6/22 [signature] 7-7-22

Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/6/22 Page 1 of 1

Sample Location: PL-10-484

Analytical Requirement

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	Dioxane				Charge Number
22070613004 (EB)	3	A	✓						XGMD
1301Y (EB)	1	A		✓					"
1425Y	3	A	✓						"
1426Y	1	A		✓					"
1455Y	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 McTerns	7/6/22 / 1515hrs.		[signature]	7-7-22 / 0900

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

WSTF 381C (05/2016)

PROJECT PL-10-592 WJI ENV-0020

Notebook No. D64#129(Y)

Continued from page

Tony Torrez & Craig Del Ferraro present. Weather is cloudy & warm. This zone will be sampled using 2 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 G2

Sample	Analysis	Preservative	Container	Lot	Lab
2207060825Y	VOA by 8260LL	ice / HCL	(3) 40ml vials	2621	ALS
——0826Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI

Initial Parameters	Final	Meter ID
Time - 2207060910Y	Time - 2207060948Y	pH/cond - 93
PH - 8.12	PH - 7.95	Turb - 21
Temp - 24.6 °C	Temp - 24.5 °C	" std - 9.79
Cond - 1257 us/cm	Cond - 1250 us/cm	" rdg - 9.84
Turb - 0.21 NTU's	Turb - 0.24 NTU's	" lot - 210966
pH pre - 7.09/10.04 (21.7 °C)	pH pre - 7.06/10.02 (24.0 °C)	" Exp - 7/31/22
pH post - 7.10/10.03	pH post - 7.06/10.03	
DTW - 465.15 ft.	DTW - 465.24 ft.	
Atmos - 12.23 psia	Atmos - 12.21 psia	
	IDW - 1 gal.	

Buffers	Lot	Exp
7	2108656	2/23
10	4103681	9/2:

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
2207060945Y	VOA by 8260LL	ice / HCL	(3) 40ml vials	2621	ALS
——0946Y	Low Level NDMA	ice	(1) 1L Amber	0100301H	SRI
——0947Y	1,4 Dioxane by 8270D	"	(1) 250ml amb.	90121-06	ALS

*Samples were a bit aerated.

Runs	1)	2)
	70.21	70.25
	67.91	67.91
	67.91	67.93
	70.29	70.31

Continued from page

Read and Understood By

Craig Del Ferraro — Signed — 7/6/22 — Date

[signature] — Signed — 7-7-22 — Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7/6/22 Page 1 of 1

Sample Location: PL-10-592

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260 LL	LL NDMA	Dioxane					Charge Number
22070608254 (EB)	3	A	✓							XGMD
08264 (EB)	1	A		✓						"
09454	3	A	✓							"
09464	1	A		✓						"
09474	1	A			✓					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Craig Del Ferro	7/6/22 / 1110hrs	[signature]	7-7-22 / 0900

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

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PROJECT ST-7-453 ENV.00? INTHEWORKS

Notebook No. D32#125(B)

Continued from page

Al MONTES + TONY TORREZ PRESENT. THE WEATHER IS CLEAR & HOT. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SAMPLING SYSTEM. PURGE PRESSURE SET @ 228psi & SAMPLE PRESSURE SET @ 207. SAMPLES COLLECTED FROM A DEDICATED DISCHARGE HOSE. 15 MIN RECOVERY BETWEEN PURGES.
Carboy 6-5

PRE SAMPLE PARAM'S
pH 7.75
Temp 22.4
COND 1230 µs/cm
TURB 0.79

METER ID'S
pH/COND #91
Turb# 20
" STD 5.59
" Rdg 5.45
" LOT# 210966
" Exp 7/31/22

PARAMETERS
220718 1355B
pH 7.71
Temp 22.3
COND 1238
Turb 0.63
pH pre 6.95/9.91 (43.1°C)
pH post 6.96 9.94

SAMPLES ~~FOR BLANKS~~

SAMPLE#	ANALYSIS	PRESERV	CONT	LAB
220718 1400B	8260LL	ICE/HCl	(3) 40ml vials	ALS
— 1401B	" (FB)	"	"	"
— 1402B	LLNDMA	ICE	(1) 1LT AMBER	SRI
— 1403B	" (FB	"	"	"

TRIP BLANKS

SAMPLE#	ANALYSIS	PRESERV	CONT	LAB
220718 0700B	8260LL	ICE/HCl	(3) 40ml vials	ALS
— 0701B	LLNDMA	ICE	(1) 1LT AMBER	SRI

Continued from page

Read and Understood By

[signature] Signed 7-18-22 Date

[signature] Signed 7-19-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-18-22 Page ____ of ____

Sample Location: ST-7-453

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260C	1123M4						Charge Number X6MD
220718 1400B	3	A	X							
— 1401B FB	3		X							
— 1402B	1			X						
— 1403B FB	1			X						
— 0700B (TB)	3	A	X							
— 0701B (TB)	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]	7-18-22 / 1600		[signature]	7-19-22 / 0830

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

Notebook No. D32 #125(B) 41

PROJECT ST-7-544

Continued from page

AL MONTES & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & HOT. This ZONE will BE purged + sampled using A FLUTE SYSTEM. Purge pressure SET @ 228psi & SAMPLE PRESSURE SET @ 207psi. SAMPLES collected from a dedicated discharge Tube. 15 mins RECOVERY between purges. Carboy 6-5

PRE SAMPLE PARAM'S
pH 7.61
Temp 27.51
COND 1215
Turb 1.19

METER ID's
pH/COND # ~~25~~ 91
Turb # 20
" Std 5.59
" Rdg 5.45
" Lot# 210966
" Exp 7/31/22

PARAM'S
220718 1425B
pH 7.77
Temp 27.9°c
COND 1222
Turb 0.95
pH pre 6.95/9.92 (42.8°c
ph post 6.96/9.91

SAMPLE #	ANALYSIS	SAMPLES PRESERV	CONT	LAB
220718 1426B	8260 II	ICE/HCl	(3) 40ml VIALS	AIS
— 1427B	" (FB)	"	"	"
— 1428B	LLNDMA	ICE	(1) 1L AMBER	SRI
— 1429B	" (FB)	"	"	"
— 1430B (DUP)		"	"	"

Continued from page

Read and Understood By

[signature] Signed 7-18-22 Date [signature] Signed 7-19-22 Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-18-22 Page ______ of ______

Sample Location: ST-7.544			Analytical Requirement							
Pertinent Notes (if any)	# of Containers	Sample Matrix*	8260E	CCXMA						XGMD
Sample Number										Charge Number
220718 1426B	3	A	X							
— 1427B	3		X							
— 1428B	1			X						
— 1429B	1			X						
— 1450B	1			X						

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

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T. [signature]	7-18-22/1600		[signature]	7-19-22 /0930

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

WSTF 381C (05/2016)

PROJECT ST-7.779

Notebook No. D32 # 120(B)

Continued from page

AL MONTES & TONY TSCCEZ PRESENT. THE WEATHER IS CLEAR & HOT. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SYSTEM. SAMPLES COLLECTED FROM A DEDICATED TEFLON DISCHARGE TUBE. SAMPLE PRESSURE SET @ 207 & PURGE PRESSURE SET @ 228 psi. 15 min RECOVERY BETWEEN PURGES. TRANSDUCER WAS NOT READING. Canbag 6-5

PRE SAMPLE PARAM'S		PARAM'S		METER ID'S
pH	8.38	pH	8.42	pH/cond # 91
Temp	27.6	Temp	28.9	Turb # 20
COND	~~2.01~~ 1048	COND	1069	" Std = 5.55
Turb	2.01	Turb	1.83	" Adj = 5.45
		pH pre	6.95 / 9.91 (43.4)	" GT # 21096
		pH post	6.96 / 9.92	" Exp = 7/31/2
			220719 1409B	

TRIP BLANKS

Sample #	Analysis	Preserv	~~CONT~~	Lab
220719 0630B	LLNDMA	ICE/HCl	~~(3) 40ml VOA/ET~~ (1) 1L Amber	SRI

SAMPLES

Sample #	Analysis	Preserv	CONT	Lab
220719 1410B	8260AL	ICE/HCl	(3) 40ml VOAs	ALS
—— 1411B	" (FB)	"	"	"
—— 1412B	LLNDMA	ICE	(1) 1L amber	SRI
—— 1413B	" (FB)	"	"	"

Continued from page

Signed [signature] Date 7.19.22

Read and Understood By

Signed [signature] Date 7-20-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-19-22 | Page ______ of ______

Sample Location: ST-7.779			Analytical Requirement							
Pertinent Notes (if any)										
Sample Number	# of Containers	Sample Matrix*	8260LL	LLNDMA						Charge Number X6-nA
22071906 30B (TB)	1	A		X						
1410B	3		X							
1411B (FB)	3		X							
1412B	1			X						
1413B (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
[illegible signature]	7-19-22/1600		[illegible signature]	7-20-22/0900

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

WSTF 381C (05/2016)

PROJECT ST-7-970

Continued from page

AL MONTES & TONY TORREZ PRESENT. THE WEATHER IS CLEAR & HOT THIS ZONE WILL PURGED & SAMPLED USING A FLUTE SYSTEM. SAMPLES COLLECTED FROM DEDICATED TEFLON DISCHARGE TUBE. SAMPLE PRESSURE SET @ 207 & PURGE PRESSURE SET @ 228 psi. 15 mins of RECOVERY BETWEEN PURGES. TRANSDUCER NOT WORKING. CARBOY 6.5.

PRE SAMPLE PARAMS		PARAMETERS		METER ID'S	
pH	7.86	pH	7.90	pH/COND	91
Temp	27.7°C	Temp	27.6	TURB #	20
COND	973	COND	965	" STD	5.59
TURB	1.54	TURB	1.43	" Rdg	5.48
pH pre		pH pre	6.95/9.92(43.4)	" LOT#	210966
pH post		pH post	6.96/9.92	" Exp	7/31/22
			220719 1429B		

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	CONT	LAB
220719 1430B	8260LL	ICE/HCl	(3) 40ml VIALS	ALS
— 1431B	"(FB)	"	"	"
— 1432B	LLNDMA	ICE	(1) 1L T AMBER	SRL
— 1433B	"(FB)	"	"	"

Continued from page

Read and Understood By

Signed T. [signature] Date 7.19.22 Signed [signature] Date 7-20-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-19·22 Page ____ of ____

Sample Location: ST-7-970

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 876011	11734						Charge Number: XGmJ
220719 1430B	3	A	X							
1431B	3	A	X							
1432B	1	A		X						
1433B	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]	7·19·22/1600		[signature]	7-20-22/0900

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

WSTF 381C (05/2016)

PROJECT WW.5.459

Notebook No. D32#125(B)

Continued from page

AL MONTES & TONY TORREZ PRESENT. THE WEATHER IS OVERCAST & HOT. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SYSTEM. SAMPLES COLLECTED FROM A dedicated TEFLON discharge Tube. SAMPLE PRESSURE SET @ 203psi & PURGE PRESSURE SET @ 224psi. BUBBLER SET @ 3psi & STABLE @ 5.5psi. 15 MINS OF RECOVERY BETWEEN PURGES. TRANSDUCER NOT READING. Carboy 6.5

PRESAMPLE PARAM'S

pH	7.39
Temp	24.7c
COND	1163
Turb	3.39

PARAM'S

220720 1359B

pH	7.41
Temp	25.4
COND	1188
Turb	3.23
pH pre	6.96/9.91 (42.8c)
pH post	6.95/9.92

METER ID'S

pH/COND #91

Turb# 20

" STD = 5.55

" Rdg = 5.48

" Lot# = 21096

" Exp = 7/31/

TRIP BLANKS

SAMPLE#		ANALYSIS	PRESERV	CONT	Lab
220720	0630B	8260l	ICE/HCl	(3) 40ml VIALS	AIS
———	0631B	1,4 DMA	ICE	(1) 1L AMBER	SRI

SAMPLES

SAMPLE#		ANALYSIS	PRESERV	CONT	Lab
220720	1400B	8260l	ICE/HCl	(3) 40ml VIALS	AIS
———	1401B	" (FB)	"	"	"
———	1402B	~~1,4~~ 1,4 DMA	ICE	(1) 1L AMBER	SRI
———	1403B	" (FB)	"	"	"

Continued from page

Signed: T. [signature] Date: 7.20.22

Read and Understood By: [signature] Date: 7-21-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7.20.22 Page ______ of ______

Sample Location: WWS-455

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260C	1183A						Charge Number XGMA
220720 0630B (TB)	3	A	x							
0631B (TB)	1			x						
1400B	3		x							
1401B (FB)	3		x							
1402B	1			x						
1403B (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. [illegible]	7-20-22/1600		[illegible]	7-21-22 /0840

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

PROJECT WW-5-57S

AL MONTES & TONY TORREZ PRESENT. THE WEATHER IS OVERCAST & HOT. THIS ZONE will be purged & sampled using A FLUTE SYSTEM. Purge pressure SET @ 224 psi & SAmple pressure SET @ 203 psi. Bubbler SET @ 3psi & STABLE @ 5.5 psi 15 mins of RECOVERY BETWEEN purges. Transducer NOT working. Carboy 6-5

PRE SAMPLE PARAM'S		PARAM'S		METER ID'S
		220720 1429B		pH/Cond #91
pH	8.44	pH	8.41	Turb #20
Temp	25.3°c	Temp	25.8	1STD = 5.
Cond	1133	Cond	1116	"Rdg =
Turb	3.70	Turb	3.39	"Lot# =
		pHpre		"Exp =
		phpost		

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	CONT	Lab
220720 1430B	8260LL	ICE/HCl	(3) 40ml vials	ATS
— 1431B	" (FB)	"	"	"
— 1432B	LLNDMA	ICE	(1) 1LT amber	SRI
— 1433B	" (FB)	"	"	"

Read and Understood By

Signed: [signature] Date: 7-20-22 Signed: [signature] Date: 7-21-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-20-22 Page ____ of ____

Sample Location: WW-G-579			Analytical Requirement							
Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260C	1,4DDMA						XGMD Charge Number
220720 1430B	3	A	X							
1431B (FB)	3	A	X							
1432B	1	A		X						
1433B (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:
T. [signature]	7-20-22/1600		[signature]	7-21-22 / 0840

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

WSTF 381C (05/2016)

PROJECT WW-5-809

Notebook No. D32#125 (B)

Continued from page ______

AL MONTES & TONY TORREZ PRESENT. THE WEATHER IS CLEAR AND HOT. THIS THE WELL BE PURGED & SAMPLED USING A FLUTE SYSTEM. SAMPLES COLLECTED FROM A DEDICATED TEFLON DISCHARGE TUBE. SAMPLE PRESSURE SET @ 203 & PURGE PRESSURE SET @ 224 PSI. BUBBLER SET @ 3 PSI & STABLE @ 5.5 PSI. 15 MIN OF RECOVERY BETWEEN PURGES. NO TRANSDUCER READING. CARBOY 6.5

PRE SAMPLE PARAMS		PARAMS		METER ID'S
pH	7.48	pH	7.52	pH/cond # 91
TEMP	25.4	TEMP	25.8	Turb # 20
COND	1066	COND	1070	" STD = 5.58
TURB	3.78	TURB	3.56	" RDG = 5.60
		pH PRE	6.98/9.95 (46.3°C	" LOT # 210966
		pH POST	6.97/9.94	" EXP = 7/31/22
		2207211359B		

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	CONT	LAB
2207211400B	8260LL	ICE/HCl	(3) 40ml VIALS	ALS
— 1401B	" (FB)	"	"	"
— 1402B	LL NDMA	ICE	(1) 1LT AMBER	SRF
— 1403B	" (FB)	"	"	"

TRIP BLANKS

SAMPLE #	ANALYSIS	PRESERV	CONT	LAB
220721 0630B	8260LL	ICE/HCl	(3) 40ml VIALS	ALS
— 0631B	LL NDMA	ICE	(1) 1LT AMBER	SRF

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Read and Understood By

Signed: [signature] Date: 7.21.22

Signed: [signature] Date: 7-22-22

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7.21.22 Page ______ of ______

Sample Location: WW-5-809

Sample Number	# of Containers	Sample Matrix*	8260LL	LXMA						Charge Number
Pertinent Notes (if any)										X6MD
2207210630B (TB)	3	A	X							
— 0631B (TB)	1			X						
— 1400B	3		X							
— 1401B (FB)	3		X							
— 1402B	1			X						
— 1403B (FB)	1			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. [signature]	7.21.22/1600		[signature]	7-22-22 / 0800

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

PROJECT WW-5-909

ALMONTES + ~~#~~ TORREZ TONY PRESENT. THE WEATHER IS CLEAR & HOT. THIS ZONE WILL BE PURGED & SAMPLED USING A FLUTE SYSTEM. PURGE PRESSURE SET @ 224 psi & SAMPLE PRESSURE SET @ 203 psi. BUBBLER SET @ 3psi & STABLE @ 5psi. 15 MINS RECOVERY BETWEEN PURGES. CARBOY 6.5

PRE SAMPLE PARAM'S		PARAM'S		METER ID'S
pH	7.88	pH	7.92	pH/COND #21
TEMP	24.3°C	TEMP	25.4	TURB # 20
COND	1566	COND	1577	" STD = 5.
TURB	~~1.73~~ 1.80 NTU's	TURB	2.51	" RDG =
		pH PRE	6.98/9.95 (45.7)	" LOT # =
		pH POST	6.97/9.95	" EXP =
		220721 1429B		

SAMPLE #	SAMPLES ANALYSIS	PRESERV	CONT	LAB
SAMPLE 220721 1430B	8260LL	ICE/HCl	(3) 40ml VIALS	A/S
——— 1431B	" (FB)	"	"	"
——— 1432B	UNDMA	ICE	(1) 1L AMBER	SRL
——— 1433B	" (FB)	"	"	"

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Read and Understood By

[signature] 7-21-22 [signature] 7-22-22

Signed Date Signed Date

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 7-21-22 Page ______ of ______

Sample Location: WW-5-909

Sample Number	# of Containers	Sample Matrix*	8260LL	LLNDMA						Charge Number XGMA
220721 1430B	3	A	X							
— 1431B (FB)	3		X							
— 1432B	1			X						
— 1433B (FB)	1			X						

Pertinent Notes (if any)

Sample Location:

Sample Number	# of Containers	Sample Matrix*								Charge Number

Pertinent Notes (if any)

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
T-[signature]	7/21/22 /1600		[signature]	7-22-22 / 0800

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

WSTF 381C (05/2016)

Appendix C
Chemical Analytical Program
(Internal QA reports)

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility Groundwater Monitoring Data

May 2022

NM8800019434

Report Submitted: October 13, 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 May 2022.
- The quantity and type of quality control samples collected or prepared in May 2022.
- Quality control sample percentages in annual period immediately preceding and during May 2022.
- 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 May 2022 QAR.

3.0 Data Tables

Table 1 summarizes the groundwater sample events initiated in May 2022. 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 May 2022

Well ID	Event Date	Well ID	Event Date	Well ID	Event Date
400-EV-131	5/2/2022	ST-5-485	5/2/2022	BLM-36-860	5/3/2022
400-JV-150	5/2/2022	ST-5-655	5/2/2022	BLM-8-418	5/3/2022
BLM-32-543	5/2/2022	400-GV-125	5/3/2022	BW-5-295	5/3/2022
BLM-32-571	5/2/2022	BLM-17-493	5/3/2022	600A-002-GW-1	5/4/2022
BLM-32-632	5/2/2022	BLM-36-610	5/3/2022	BLM-24-565	5/4/2022

Well ID	Event Date
BLM-26-404	5/4/2022
BLM-36-350	5/4/2022
BLM-36-800	5/4/2022
600A-001-GW-1	5/5/2022
BLM-38-620	5/5/2022
PL-12-800	5/5/2022
BLM-2-630	5/9/2022
BLM-38-480	5/9/2022
ST-4-589	5/9/2022
PL-7-480	5/10/2022
PL-7-560	5/10/2022

Well ID	Event Date
ST-1-473	5/12/2022
ST-1-630	5/12/2022
B650-EFF-1	5/13/2022
B650-INF-1	5/13/2022
B655-EFF-2	5/13/2022
B655-INF-2	5/13/2022
BLM-22-570	5/16/2022
ST-1-541	5/16/2022
WB-1-255	5/16/2022
WB-1-330	5/16/2022
600-C-173	5/17/2022

Well ID	Event Date
MPE-1	5/17/2022
MPE-11	5/17/2022
MPE-8	5/17/2022
WB-1-200	5/17/2022
MPE-10	5/18/2022
NASA 4	5/18/2022
PL-12-570	5/19/2022
WW-4-419	5/23/2022
WW-4-589	5/23/2022
WW-4-848	5/24/2022
WW-4-948	5/24/2022

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	**16**	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**37**	**1**	**1**	0	**1**	**4**	**1**
Perchlorate by SW-846 Method 6850	**17**	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**32**	**25**	**7**	**3**	**1**	**5**	0
Low Level Volatile Organics by SW-846 Method 8260C	**16**	**10**	**6**	**10**	0	0	**1**
Semi-Volatile Organics by SW-846 Method 8270D	**7**	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	**32**	**2**	**2**	0	**1**	**3**	**1**
Nitrosamines by Low-Level Method	**22**	**16**	**6**	**12**	**1**	**3**	**1**
Total Dissolved Solids by Standard Method 2540C	**16**	0	0	0	0	0	0

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement %	Samp. Qty. since 6/1/2021	QC Qty. since 6/1/2021	QC % since 6/1/2021	Sample Quantity May 2022	QC Quantity May 2022	QC % May 2022
VOA Duplicates	10	528	57	**11**	48	5	10
VOA Matrix Spikes	2	528	11	**2**	48	1	2
607 Duplicates	10	313	35	**11**	37	4	11
607 Matrix Spikes	2	313	8	**3**	37	1	3
607 Equipment Blanks	2	313	9	**3**	37	1	3
607 Field Blanks	2	313	9	**3**	37	1	3
NDMA_LL Duplicates	10	318	37	**12**	22	3	14
NDMA_LL Matrix Spikes	2	318	9	**3**	22	1	5
Metals Duplicates	10	209	21	**10**	32	3	9
Metals Matrix Spikes	2	209	6	**3**	32	1	3
Metals Equipment Blanks	5	209	12	**6**	32	2	6
Metals Field Blanks	5	209	12	**6**	32	2	6

Quality Control Requirement	Requirement %	Sample Events since 6/1/2021	QC Qty. since 6/1/2021	QC % since 6/1/2021	Sample Events May 2022	QC Quantity May 2022	QC % May 2022
VOA Equipment Blanks and Field Blanks	*Should approach 100%*	528	528	**100%**	48	48	100%
Low Level Nitrosamine Equipment Blanks and Field Blanks	*Should approach 100%*	312	312	**100%**	22	22	100%

Quality Control Requirement	Requirement %	Shipments since 6/1/2021	TB Qty. since 6/1/2021	TB % since 6/1/2021	Shipments in May 2022	TB Quantity May 2022	QC % May 2022
VOA Trip Blank (per shipment)	*Should approach 100%*	99	99	**100%**	11	11	100%
Low Level Nitrosamine Trip Blank (per shipment)	*Should approach 100%*	100	100	**100%**	12	12	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	**16**	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**120**	0	0	0	0	**2**	0	**6**
Perchlorate by SW-846 Method 6850	**17**	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**2421**	**2**	**2**	**1**	**4**	0	0	0
Low Level Volatile Organics by SW-846 Method 8260C	**1042**	0	**1**	0	0	0	0	0
Semi-Volatile Organics by SW-846 Method 8270D	**847**	0	0	0	0	0	0	0

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Anions by Various EPA Methods	**64**	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**945**	0	0	0	0	0	0	0
Nitrosamines by Low-Level Method	**50**	0	0	**1**	0	0	0	0
Total Dissolved Solids by Standard Method 2540C	**16**	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	**16**	0	0	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**120**	0	0	0	0	0	0	**1**	0	**6**
Perchlorate by SW-846 Method 6850	**17**	0	0	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**2421**	0	**3**	0	0	**3**	0	0	0	**39**
Low Level Volatile Organics by SW-846 Method 8260C	**1042**	0	0	0	0	**4**	0	0	0	**9**
Semi-Volatile Organics by SW-846 Method 8270D	**847**	0	0	0	0	0	0	0	**9**	0
Anions by Various EPA Methods	**64**	0	0	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**945**	0	0	0	0	**8**	0	0	0	**178**
Nitrosamines by Low-Level Method	**50**	**1**	0	0	0	0	0	0	0	**4**
Total Dissolved Solids by Standard Method 2540C	**16**	0	0	0	0	0	0	0	0	0

Table 7 – Quality Assurance Narratives

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-38-620	5/5/2022	For Low Level SW-846 Method 8260C, 1,1,2-trichloro-1,2,2-trifluoroethane (0.52 ug/L) was detected in the equipment blank (2205051000Y). No groundwater data are affected by this equipment blank contamination.
ST-4-589	5/9/2022	For Low Level SW-846 Method 8260C, 4-methyl-2-pentanone (0.39 ug/L) was detected in the field blank (2205091412A) below the reporting limit. No groundwater data are affected by this field blank contamination.
BLM-38-480	**5/9/2022**	**For Low Level SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 764469 below the reporting limit. Affected data are appropriately qualified.**
PL-7-480	**5/10/2022**	**For Low Level SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 764469 below the reporting limit. Affected data are appropriately qualified.**
PL-7-560	**5/10/2022**	**For Low Level SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 764469 below the reporting limit. Affected data are appropriately qualified.**
ST-4-589	**5/9/2022**	**For Low Level SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 764469 below the reporting limit. Affected data are appropriately qualified.**
BLM-38-480	**5/9/2022**	**For Low Level SW-846 Method 8260C, chloromethane (0.33 ug/L) was detected in the equipment blank (2205090825Y) below the reporting limit. Affected data are appropriately qualified.**
BLM-8-418	5/3/2022	For Low Level SW-846 Method 8260C, chloromethane (1.0 ug/L) was detected in the field blank (2205030856C). No groundwater data are affected by this field blank contamination.
ST-4-589	5/9/2022	For Low Level SW-846 Method 8260C, for field blank 2205091412A analysis was performed on this sample with headspace. Headspace-free sample was not available. No groundwater data are affected by this issue.
ST-4-589	5/9/2022	For Low Level SW-846 Method 8260C, matrix spike recoveries for sample 2205091411A were within laboratory control limits.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-24-565	5/4/2022	For Low Level SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. No groundwater data are affected by this method blank contamination.
BLM-38-620	5/5/2022	For Low Level SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. No groundwater data are affected by this method blank contamination.
WW-4-589	**5/23/2022**	**For Low Level SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in sample 2205231342C.**
BLM-8-418	**5/3/2022**	**For Low Level SW-846 Method 8260C, sulfur dioxide (5.4 ug/L) was tentatively identified by a GC/MS library search in sample 2205030855C.**
B650-EFF-1	5/13/2022	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.
B655-EFF-2	5/13/2022	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-24-565	5/4/2022	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-38-620	5/5/2022	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-8-418	5/3/2022	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-5-485	5/2/2022	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-5-655	5/2/2022	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.
WW-4-419	5/23/2022	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.
WW-4-589	5/23/2022	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.
WW-4-848	5/24/2022	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.
WW-4-948	5/24/2022	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-8-418	**5/3/2022**	**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**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		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 are appropriately qualified.
ST-5-485	5/2/2022	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-5-655	5/2/2022	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-24-565	5/4/2022	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-38-480	5/9/2022	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-38-620	5/5/2022	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-8-418	5/3/2022	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	5/10/2022	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-7-560	5/10/2022	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-4-589	5/9/2022	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	5/2/2022	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	5/2/2022	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	5/13/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
B655-EFF-2	5/13/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
B655-EFF-2	5/13/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-22-570	5/16/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
BLM-22-570	5/16/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-24-565	5/4/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
BLM-24-565	5/4/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-38-620	5/5/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
BLM-8-418	5/3/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
PL-7-480	5/10/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
PL-7-480	5/10/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-5-485	5/2/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-5-655	5/2/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-5-655	5/2/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
WW-4-419	5/23/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
WW-4-419	5/23/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-4-589	5/23/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-4-848	5/24/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-4-848	5/24/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
WW-4-948	5/24/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-7-560	5/10/2022	For Low Level SW-846 Method 8260C, trip blank 2205100720Y and equipment blank 2205100755Y were not received at the analytical laboratory.
ST-1-630	**5/12/2022**	**For SW-846 Method 8260C in blind control sample (2205121100A), the percent recoveries for 1,1,2-trichloro-1,2,2-trifluoroethane (60%), trichloroethene (68%), tetrachloroethene (63%), and trichlorofluoromethane (60%) were outside of the standard limits (75-125%). Additionally, vinyl chloride (0.2 ug/L) was detected below the reporting limit and one unknown compound (5.8 ug/L) was tentatively identified by a GC/MS library search but none was added. Affected data are appropriately qualified.**
WB-1-255	5/16/2022	For SW-846 Method 8260C, 1,1,2-trichloro-1,2,2-trifluoroethane (0.27 ug/L) was detected in the equipment blank (2205161320Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
BLM-2-630	**5/9/2022**	**For SW-846 Method 8260C, 2-butanone (MEK) (0.84 ug/L) and chloromethane (0.31 ug/L) were detected in the field blank (2205090951A) below the reporting limit. Affected data are appropriately qualified.**
B650-INF-1	**5/13/2022**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. Affected data are appropriately qualified.**
B655-INF-2	**5/13/2022**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. Affected data are appropriately qualified.**
ST-1-473	**5/12/2022**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. Affected data are appropriately qualified.**
ST-1-541	5/16/2022	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. No groundwater data are affected by this method blank contamination.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-1-630	**5/12/2022**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. Affected data are appropriately qualified.**
WB-1-255	5/16/2022	For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. No groundwater data are affected by this method blank contamination.
WB-1-330	**5/16/2022**	**For SW-846 Method 8260C, chloromethane (0.28 ug/L) was detected below the reporting limit and one unknown compound (6.5 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 765396. Affected data are appropriately qualified.**
BLM-2-630	**5/9/2022**	**For SW-846 Method 8260C, chloromethane (0.29 ug/L) was detected in the method blank for analytical batch 764469 below the reporting limit. Affected data are appropriately qualified.**
400-EV-131	5/2/2022	For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the method blank for analytical batch 763467 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-JV-150	5/2/2022	For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the method blank for analytical batch 763467 below the reporting limit. No groundwater data are affected by this method blank contamination.
BLM-2-630	**5/9/2022**	**For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the trip blank (2205090730A) below the reporting limit. Affected data are appropriately qualified.**
BLM-32-543	**5/2/2022**	**For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the method blank for analytical batch 763467 below the reporting limit. Affected data are appropriately qualified.**
BLM-32-571	5/2/2022	For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the method blank for analytical batch 763467 below the reporting limit. No groundwater data are affected by this method blank contamination.
BLM-32-632	5/2/2022	For SW-846 Method 8260C, chloromethane (0.31 ug/L) was detected in the method blank for analytical batch 763467 below the reporting limit. No groundwater data are affected by this method blank contamination.
400-GV-125	**5/3/2022**	**For SW-846 Method 8260C, chloromethane (0.76 ug/L) was detected in the field blank (2205030901A) below the reporting limit. Affected data are appropriately qualified.**
BLM-17-493	5/3/2022	For SW-846 Method 8260C, chloromethane (1.0 ug/L) was detected in the field blank (2205031401A) below the reporting limit, No groundwater data are affected by this field blank contamination.
BLM-36-860	**5/3/2022**	**For SW-846 Method 8260C, chloromethane (1.1 ug/L) was detected in the equipment blank (2205031020Y) below the reporting limit. Affected data are appropriately qualified.**
BLM-36-610	**5/3/2022**	**For SW-846 Method 8260C, chloromethane (1.5 ug/L) was detected in the equipment blank (2205030800Y) below the reporting limit. Affected data are appropriately qualified.**
B650-INF-1	5/13/2022	For SW-846 Method 8260C, field duplicate samples 2205130625 and 2205130627 the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 4.1%. Upper acceptance limit for relative percent difference is 25%.
B650-INF-1	5/13/2022	For SW-846 Method 8260C, field duplicate samples 2205130625 and 2205130627 the relative percent difference for trichloroethene (TCE) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
B650-INF-1	5/13/2022	For SW-846 Method 8260C, field duplicate samples 2205130625 and 2205130627 the relative percent difference for trichlorofluoromethane (CFC 11) was 7.4%. Upper acceptance limit for relative percent difference is 25%.
WB-1-255	5/16/2022	For SW-846 Method 8260C, field duplicate samples 2205161415Y and 2205161416Y the relative percent difference for 1,2-dichloro-1,1,2-trifluoroethane (CFC 123a) was 9.9%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
WB-1-255	5/16/2022	For SW-846 Method 8260C, field duplicate samples 2205161415Y and 2205161416Y 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	5/17/2022	For SW-846 Method 8260C, field duplicate samples 2205170806 and 2205170807 the relative percent difference for trichlorofluoromethane (CFC 11) was 5.1%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	5/17/2022	For SW-846 Method 8260C, field duplicate samples 2205170806 and 2205170807 the relative percent difference for trichloroethene (TCE) was 4.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	5/17/2022	For SW-846 Method 8260C, field duplicate samples 2205170806 and 2205170807 the relative percent difference for tetrachloroethene (PCE) was 2.8%. Upper acceptance limit for relative percent difference is 25%.
MPE-1	5/17/2022	For SW-846 Method 8260C, field duplicate samples 2205170806 and 2205170807 the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 6.1%. Upper acceptance limit for relative percent difference is 25%.
PL-12-570	5/19/2022	For SW-846 Method 8260C, field duplicate samples 2205190947A and 2205190948A the relative percent difference for trichlorofluoromethane (CFC 11) was 2.5%. Upper acceptance limit for relative percent difference is 25%.
PL-12-570	5/19/2022	For SW-846 Method 8260C, field duplicate samples 2205190947A and 2205190948A the relative percent difference for trichloroethene (TCE) was 8.2%. Upper acceptance limit for relative percent difference is 25%.
B655-INF-2	**5/13/2022**	**For SW-846 Method 8260C, one unknown compound (14 ug/L) was tentatively identified by a GC/MS library search in sample 2205130544.**
ST-1-541	**5/16/2022**	**For SW-846 Method 8260C, one unknown compound (16 ug/L) was tentatively identified by a GC/MS library search in sample 2205161426A.**
B650-INF-1	**5/13/2022**	**For SW-846 Method 8260C, one unknown compound (5 ug/L) was tentatively identified by a GC/MS library search in sample 2205130625.**
BLM-36-800	**5/4/2022**	**For SW-846 Method 8260C, one unknown compound (5 ug/L) were tentatively identified by a GC/MS library search in sample 2205040920Y.**
ST-1-473	**5/12/2022**	**For SW-846 Method 8260C, one unknown compound (5.1 ug/L) was tentatively identified by a GC/MS library search in sample 2205121440A.**
600A-002-GW-1	5/4/2022	For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. No groundwater data are affected by this method blank contamination.
BLM-17-493	5/3/2022	For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. No groundwater data are affected by this method blank contamination.
BLM-26-404	**5/4/2022**	**For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. Affected data are appropriately qualified.**
BLM-36-350	5/4/2022	For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. No groundwater data are affected by this method blank contamination.
BLM-36-800	**5/4/2022**	**For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. Affected data are appropriately qualified.**
BW-5-295	5/3/2022	For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the field blank (2205031406C). No groundwater data are affected by this field blank contamination.
BW-5-295	5/3/2022	For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 764044. No groundwater data are affected by this method blank contamination.
WB-1-200	**5/17/2022**	**For SW-846 Method 8260C, one unknown compound (5.4 ug/L) was tentatively identified by a GC/MS library search in sample 2205170910Y.**
WB-1-330	**5/16/2022**	**For SW-846 Method 8260C, one unknown compound (5.6 ug/L) was tentatively identified by a GC/MS library search in sample 2205160940Y.**

Well ID	Event Date	SW-846 Method 8260C QA Narratives
BLM-26-404	**5/4/2022**	**For SW-846 Method 8260C, one unknown compound (5.8 ug/L) was tentatively identified by a GC/MS library search in the field blank (2205041411A). Affected data are appropriately qualified.**
BLM-26-404	**5/4/2022**	**For SW-846 Method 8260C, one unknown compound (5.8 ug/L) was tentatively identified by a GC/MS library search in sample 2205041410A.**
ST-1-541	**5/16/2022**	**For SW-846 Method 8260C, one unknown compound (6.6 ug/L) was tentatively identified by a GC/MS library search in the field blank (2205161427A). Affected data are appropriately qualified.**
NASA 4	5/18/2022	For SW-846 Method 8260C, relative percent differences (RPD) for duplicate samples 2205181256A and 2205181257A were within control limits or below the calculable range.
BW-5-295	**5/3/2022**	**For SW-846 Method 8260C, silane, fluorotrimethyl- (6.5 ug/L) was tentatively identified by a GC/MS library search in sample 2205031405C.**
BLM-32-543	**5/2/2022**	**For SW-846 Method 8260C, silane, methoxytrimethyl- (6.3 ug/L) and one unknown compound (7.2 ug/L) were tentatively identified by a GC/MS library search in sample 2205021407B.**
600-C-173	**5/17/2022**	**For SW-846 Method 8260C, sulfur dioxide (12 ug/L) was tentatively identified by a GC/MS library search in sample 2205170809A.**
WB-1-255	**5/16/2022**	**For SW-846 Method 8260C, sulfur dioxide (43 ug/L) and (34 ug/L) was tentatively identified by a GC/MS library search in sample 2205161415Y and duplicate sample 2205161416Y.**
400-GV-125	5/3/2022	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.
600A-001-GW-1	5/5/2022	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.
600A-002-GW-1	5/4/2022	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	5/13/2022	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.
B655-INF-2	5/13/2022	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-17-493	5/3/2022	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-26-404	5/4/2022	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-36-350	5/4/2022	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-36-610	5/3/2022	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-36-800	5/4/2022	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-36-860	5/3/2022	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.
BW-5-295	5/3/2022	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.
NASA 4	5/18/2022	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.
PL-12-570	5/19/2022	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.
PL-12-800	5/5/2022	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.
ST-1-473	5/12/2022	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-GV-125	**5/3/2022**	**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 MRL are appropriately qualified.**
BLM-17-493	**5/3/2022**	**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 MRL are appropriately qualified.**
BLM-36-610	**5/3/2022**	**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 MRL are appropriately qualified.**
BLM-36-860	**5/3/2022**	**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 MRL are appropriately qualified.**
400-GV-125	5/3/2022	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.
600A-001-GW-1	5/5/2022	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-17-493	5/3/2022	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-2-630	5/9/2022	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-36-350	5/4/2022	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-36-610	5/3/2022	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-36-860	5/3/2022	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	5/5/2022	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-36-350	5/4/2022	For SW-846 Method 8260C, there were no detections in the equipment blank.
BLM-36-800	5/4/2022	For SW-846 Method 8260C, there were no detections in the equipment blank.
WB-1-200	5/17/2022	For SW-846 Method 8260C, there were no detections in the equipment blank.
WB-1-330	5/16/2022	For SW-846 Method 8260C, there were no detections in the equipment blank.
400-EV-131	5/2/2022	For SW-846 Method 8260C, there were no detections in the field blank.
400-JV-150	5/2/2022	For SW-846 Method 8260C, there were no detections in the field blank.
600A-001-GW-1	5/5/2022	For SW-846 Method 8260C, there were no detections in the field blank.
600A-002-GW-1	5/4/2022	For SW-846 Method 8260C, there were no detections in the field blank.
600-C-173	5/17/2022	For SW-846 Method 8260C, there were no detections in the field blank.
B650-INF-1	5/13/2022	For SW-846 Method 8260C, there were no detections in the field blank.
B655-INF-2	5/13/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-32-543	5/2/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-32-571	5/2/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-32-632	5/2/2022	For SW-846 Method 8260C, there were no detections in the field blank.
MPE-1	5/17/2022	For SW-846 Method 8260C, there were no detections in the field blank.
MPE-10	5/18/2022	For SW-846 Method 8260C, there were no detections in the field blank.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
MPE-11	5/17/2022	For SW-846 Method 8260C, there were no detections in the field blank.
MPE-8	5/17/2022	For SW-846 Method 8260C, there were no detections in the field blank.
NASA 4	5/18/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PL-12-570	5/19/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PL-12-800	5/5/2022	For SW-846 Method 8260C, there were no detections in the field blank.
ST-1-473	5/12/2022	For SW-846 Method 8260C, there were no detections in the field blank.
ST-1-630	5/12/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PL-12-570	5/19/2022	For SW-846 Method 8260C, there were no detections in the trip blank.
WB-1-200	5/17/2022	For SW-846 Method 8260C, there were no detections in the trip blank.
ST-1-630	**5/12/2022**	**For SW-846 Method 8260C, two unknown compounds were tentatively identified by a GC/MS library search in sample 2205121015A.**

Well ID	Event Date	Modified EPA Method 607 QA Narratives
ST-1-630	5/12/2022	For Modified EPA Method 607 in blind control sample (2205121101A), all recoveries were within standard limits.
600A-001-GW-1	5/5/2022	For Modified EPA Method 607, bromacil (0.02 ug/L) was detected in the equipment blank (2205050730B). No groundwater data are affected by this equipment blank contamination.
ST-1-541	5/16/2022	For Modified EPA Method 607, duplicate sample 2205161432A was received at the analytical laboratory broken.
BLM-36-350	5/4/2022	For Modified EPA Method 607, field duplicate samples 2205041321Y and 2205041345Y the relative percent difference for N-nitrosodimethylamine was 22.2%. Upper acceptance limit for relative percent difference is 25%.
BLM-36-350	**5/4/2022**	**For Modified EPA Method 607, field duplicate samples 2205041321Y and 2205041345Y the relative percent difference for N-nitrodimethylamine was 26.3%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
BLM-36-350	5/4/2022	For Modified EPA Method 607, field duplicate samples 2205041321Y and 2205041345Y the relative percent difference for bromacil was 5.3%. Upper acceptance limit for relative percent difference is 25%.
BLM-26-404	5/4/2022	For Modified EPA Method 607, field duplicate samples 2205041412A and 2205041413A the relative percent difference for N-nitrosodimethylamine was 7.4%. Upper acceptance limit for relative percent difference is 25%.
BLM-26-404	5/4/2022	For Modified EPA Method 607, field duplicate samples 2205041412A and 2205041413A the relative percent difference for N-nitrodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-11	5/17/2022	For Modified EPA Method 607, field duplicate samples 2205170918 and 2205170919 the relative percent difference for N-nitrosodimethylamine was 6.9%. Upper acceptance limit for relative percent difference is 25%.
MPE-11	5/17/2022	For Modified EPA Method 607, field duplicate samples 2205170918 and 2205170919 the relative percent difference for N-nitrodimethylamine was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-38-480	5/9/2022	For Modified EPA Method 607, matrix spike recoveries for sample 2205091015Y were within laboratory control limits.
B650-INF-1	5/13/2022	For Modified EPA Method 607, due to low surrogate recovery in sample 2205130629, resampling was conducted on 5/23/2022.
B650-INF-1	**5/13/2022**	**For Modified EPA Method 607, the surrogate recovery (3%) for sample 2205130629 was outside the method recovery criteria (40-160%). Affected data are appropriately qualified.**
B655-EFF-2	**5/13/2022**	**For Modified EPA Method 607, the surrogate recovery (5%) for sample 2205130523 was outside the method recovery criteria (40-160%). Affected data are appropriately qualified.**
600A-002-GW-1	5/4/2022	For Modified EPA Method 607, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
BLM-2-630	5/9/2022	For Low Level Nitrosamine Method in blind control sample (2205091100A), all recoveries were within standard limits however N-nitrodimethylamine (0.54 ng/L) was detected but none was added.
PL-12-800	5/5/2022	For Low Level Nitrosamine Method, field duplicate samples 2205051042A and 2205051043A the relative percent difference for N-nitrosodimethylamine was 7.7%. Upper acceptance limit for relative percent difference is 25%.
BLM-32-543	**5/2/2022**	**For Low Level Nitrosamine Method, for sample 2205011426B the recovery of the internal standard DMN-d6 (137%) was outside laboratory control limits (10-100%). The sample could not be re-extracted due to lack of reserve. The signal to noise for this sample was well above the minimum of 3 (actual signals was > 25) allowing for detection of native DMN, if present, above the MDL. Native DMN was not detected in the sample. No additional corrective action was required. Affected data are appropriately qualified.**
BLM-8-418	5/3/2022	For Low Level Nitrosamine Method, matrix spike recoveries for sample 2205030859C and 2205030900C were within laboratory control limits.
PL-12-570	**5/19/2022**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.68 pg/L) was detected in the trip blank (2205190704A). Affected data are appropriately qualified.**
BLM-2-630	5/9/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2205090952A and 2205090953A were within control limits or below the calculable range.
PL-12-570	5/19/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2205190950A and 2205190952A were within control limits or below the calculable range.
B650-EFF-1	5/13/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
B655-EFF-2	5/13/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
B655-EFF-2	5/13/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-22-570	5/16/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-22-570	5/16/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-24-565	5/4/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-24-565	5/4/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-2-630	5/9/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-2-630	5/9/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-32-543	5/2/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-32-571	5/2/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-32-632	5/2/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-38-480	5/9/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
BLM-38-620	5/5/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
BLM-38-620	5/5/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-8-418	5/3/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-8-418	5/3/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-12-570	5/19/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-12-800	5/5/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-7-480	5/10/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-7-560	5/10/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-7-560	5/10/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
ST-4-589	5/9/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-5-485	5/2/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
ST-5-655	5/2/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
ST-5-655	5/2/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-4-419	5/23/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-4-419	5/23/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-4-589	5/23/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-4-848	5/24/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
WW-4-848	5/24/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-4-948	5/24/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-7-480	5/10/2022	For Low Level Nitrosamine Method, trip blank 2205110731Y was lost during the sample preparation process at the analytical laboratory.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
600A-001-GW-1	**5/5/2022**	**For SW-846 Method 8270D, 1H-benzotriazole, 5-methyl- (4.4 ug/L), ethanol, 1-(2-butoxyethoxy)- (7.3 ug/L), and one unknown compound (460 ug/L) were tentatively identified by a GC/MS library search in sample 2205051253B.**
BLM-32-543	**5/2/2022**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (1,400 ug/L) was tentatively identified by a GC/MS library search in sample 2205021440B.**
WW-4-948	**5/24/2022**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (13 ug/L) and two unknown compounds were tentatively identified by a GC/MS library search in sample 2205241308C**
WW-4-589	**5/23/2022**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (19 ug/L), n-hexadecanoic acid (4.4 ug/L), and one unknown compound (4.4 ug/L) were tentatively identified by a GC/MS library search in sample 2205231417C.**
WW-4-419	**5/23/2022**	**For SW-846 Method 8270D, benzenesulfonamide, N-butyl- (52 ug/L) and six unknown compounds were tentatively identified by a GC/MS library search in sample 2205231350C.**
WW-4-848	**5/24/2022**	**For SW-846 Method 8270D, one unknown compound (4.0 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 400663. Affected data are appropriately qualified.**
WW-4-948	**5/24/2022**	**For SW-846 Method 8270D, one unknown compound (4.0 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 400663. Affected data are appropriately qualified.**
BLM-32-543	5/2/2022	For SW-846 Method 8270D, one unknown compound (5.1 ug/L) was tentatively identified by a GC/MS library search in the method blank for analytical batch 399298. No groundwater data are affected by this method blank contamination.
600A-002-GW-1	**5/4/2022**	**For SW-846 Method 8270D, one unknown compound (500 ug/L) was tentatively identified by a GC/MS library search in sample 2205041014B.**
BLM-32-543	**5/2/2022**	**For SW-846 Method 8270D, sample 2205021440B required dilution due to the presence of matrix that interfered with internal standard recovery. The reporting limits are adjusted to reflect the dilution. Affected data are appropriately qualified.**
WW-4-848	5/24/2022	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.
WW-4-948	5/24/2022	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-32-543	5/2/2022	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-32-543	5/2/2022	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-4-419	5/23/2022	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

Well ID	Event Date	SW-846 Method 8270D 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.
WW-4-589	5/23/2022	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-4-848	5/24/2022	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-4-948	5/24/2022	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-4-848	**5/24/2022**	**For SW-846 Method 8270D, three unknown compounds were tentatively identified by a GC/MS library search in sample 2205241055C.**
WW-4-419	**5/23/2022**	**For SW-846 Method 8270D, tridecanoic acid (4.7 ug/L) and one unknown compound (5.8 ug/L) were tentatively identified by a GC/MS library search in the method blank for analytical batch 400588. Affected data are appropriately qualified.**
WW-4-589	**5/23/2022**	**For SW-846 Method 8270D, tridecanoic acid (4.7 ug/L) and one unknown compound (5.8 ug/L) were tentatively identified by a GC/MS library search in the method blank for analytical batch 400588. Affected data are appropriately qualified.**

Well ID	Event Date	Total Metals QA Narratives
ST-1-630	5/12/2022	For Total Metals, blind control sample (2205121102A) was prepared at a concentration below the reporting limits for boron and calcium. The results for these metals are not qualified based on this control.
600A-002-GW-1	5/4/2022	For Total Metals, calcium (0.3 mg/L), magnesium (0.2 mg/L), and strontium (0.009 mg/L) were detected in the equipment blank (2205040950B) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
BLM-24-565	5/4/2022	For Total Metals, field duplicate samples 2205040944A and 2205040945A the relative percent difference for calcium was 0.8%. Upper acceptance limit for relative percent difference is 25%.
BLM-24-565	5/4/2022	For Total Metals, field duplicate samples 2205040944A and 2205040945A the relative percent difference for sodium was 1.8%. Upper acceptance limit for relative percent difference is 25%.
WB-1-255	5/16/2022	For Total Metals, field duplicate samples 2205161440Y and 2205161441Y the relative percent difference for strontium was 0.6%. Upper acceptance limit for relative percent difference is 25%.
WB-1-255	5/16/2022	For Total Metals, field duplicate samples 2205161440Y and 2205161441Y the relative percent difference for magnesium was 1.2%. Upper acceptance limit for relative percent difference is 25%.
WB-1-255	5/16/2022	For Total Metals, field duplicate samples 2205161440Y and 2205161441Y the relative percent difference for calcium was 1.4%. Upper acceptance limit for relative percent difference is 25%.
WB-1-255	5/16/2022	For Total Metals, field duplicate samples 2205161440Y and 2205161441Y the relative percent difference for sodium was 1.1%. Upper acceptance limit for relative percent difference is 25%.
MPE-8	5/17/2022	For Total Metals, field duplicate samples 2205170847 and 2205170848 the relative percent difference for magnesium was 0.2%. Upper acceptance limit for relative percent difference is 25%.

Well ID	Event Date	Total Metals QA Narratives
MPE-8	5/17/2022	For Total Metals, field duplicate samples 2205170847 and 2205170848 the relative percent difference for sodium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-8	5/17/2022	For Total Metals, field duplicate samples 2205170847 and 2205170848 the relative percent difference for calcium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
MPE-8	5/17/2022	For Total Metals, field duplicate samples 2205170847 and 2205170848 the relative percent difference for strontium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-38-620	5/5/2022	For Total Metals, for matrix spike sample 2205051420Y the concentrations of calcium and magnesium 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.
600-C-173	5/17/2022	For Total Metals, magnesium (0.03 mg/L) was detected in the field blank (2205170813A) below the reporting limit. No groundwater data are affected by this field blank contamination.
WB-1-200	5/17/2022	For Total Metals, magnesium (0.09 mg/L) and strontium (0.009 mg/L) were detected in the equipment blank (2205170811Y) below the reporting limit. No groundwater data are affected by this equipment blank contamination.
WW-4-848	**5/24/2022**	**For Total Metals, molybdenum (0.003 mg/L) was detected in the method blank for analytical batch 400683 below the reporting limit. Affected data are appropriately qualified.**
WW-4-948	**5/24/2022**	**For Total Metals, molybdenum (0.003 mg/L) was detected in the method blank for analytical batch 400683 below the reporting limit. Affected data are appropriately qualified.**
BLM-22-570	**5/16/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 400365 below the reporting limit. Affected data are appropriately qualified.**
MPE-10	**5/18/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 400365 below the reporting limit. Affected data are appropriately qualified.**
NASA 4	**5/18/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 400365 below the reporting limit. Affected data are appropriately qualified.**
WB-1-255	**5/16/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 400365 below the reporting limit. Affected data are appropriately qualified.**
WB-1-330	**5/16/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 400365 below the reporting limit. Affected data are appropriately qualified.**
NASA 4	5/18/2022	For Total Metals, zinc (0.004 mg/L) was detected in the field blank (2205181301A) below the reporting limit. No groundwater data are affected by this field blank contamination.

Table 8 – WSTF Blank Sample Detections

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
ST-1-541	5/16/2022	Carboy G2	8260	VOA-FB	TIC	Unknown	6.6	ug/L	TIC FB
BLM-26-404	5/4/2022	Carboy G2	8260	VOA-FB	TIC	Unknown	5.8	ug/L	TIC RB FB
BW-5-295	5/3/2022	Carboy G3	8260	VOA-FB	TIC	Unknown	5.4	ug/L	TIC RB FB
BLM-36-610	5/3/2022	Carboy G1	8260	VOA-EB	74-87-3	Chloromethane	1.5	ug/L	J EB A
BLM-36-860	5/3/2022	Carboy G1	8260	VOA-EB	74-87-3	Chloromethane	1.1	ug/L	J EB A
BLM-17-493	5/3/2022	Carboy G2	8260	VOA-FB	74-87-3	Chloromethane	1	ug/L	J FB A
BLM-8-418	5/3/2022	Carboy G3	8260_LL	VOA-FB	74-87-3	Chloromethane	1	ug/L	FB A
BLM-2-630	5/9/2022	Carboy G5	8260	VOA-FB	78-93-3	2-Butanone (MEK)	0.84	ug/L	J FB
400-GV-125	5/3/2022	Carboy G2	8260	VOA-FB	74-87-3	Chloromethane	0.76	ug/L	J FB A

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
PL-12-570	5/19/2022	Carboy G2	NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.68	ng/L	TB
BLM-38-620	5/5/2022	Carboy G1	8260_LL	VOA-EB	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.52	ug/L	EB
ST-4-589	5/9/2022	Carboy G5	8260_LL	VOA-FB	108-10-1	4-Methyl-2-pentanone	0.39	ug/L	J FB
BLM-38-480	5/9/2022	Carboy G1	8260_LL	VOA-EB	74-87-3	Chloromethane	0.33	ug/L	J RB EB
BLM-2-630	5/9/2022	Carboy G5	8260	VOA-TB	74-87-3	Chloromethane	0.31	ug/L	J RB TB FB
BLM-2-630	5/9/2022	Carboy G5	8260	VOA-FB	74-87-3	Chloromethane	0.31	ug/L	J RB TB FB
600A-002-GW-1	5/4/2022	Carboy G5	METALS	METALS-EB	7440-70-2	Calcium, Total	0.3	mg/L	J EB
WB-1-255	5/16/2022	Carboy G1	8260	VOA-EB	76-13-1	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.27	ug/L	J EB
600A-002-GW-1	5/4/2022	Carboy G5	METALS	METALS-EB	7439-95-4	Magnesium, Total	0.2	mg/L	J EB
WB-1-200	5/17/2022	Carboy G1	METALS	METALS-EB	7439-95-4	Magnesium, Total	0.09	mg/L	J EB
600-C-173	5/17/2022	Carboy G2	METALS	METALS-FB	7439-95-4	Magnesium, Total	0.03	mg/L	J FB
600A-001-GW-1	5/5/2022	Carboy G5	607	NDMA-EB	314-40-9	Bromacil	0.02	µg/L	EB
600A-002-GW-1	5/4/2022	Carboy G5	METALS	METALS-EB	7440-24-6	Strontium, Total	0.009	mg/L	J EB
WB-1-200	5/17/2022	Carboy G1	METALS	METALS-EB	7440-24-6	Strontium, Total	0.009	mg/L	J EB
NASA 4	5/18/2022	Carboy G2	METALS	METALS-FB	7440-66-6	Zinc, Total	0.004	mg/L	J FB

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility
Groundwater Monitoring Data

June 2022

NM8800019434

Report Submitted: October 13, 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 June 2022.
- The quantity and type of quality control samples collected or prepared in June 2022.
- Quality control sample percentages in annual period immediately preceding and during June 2022.
- 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 June 2022 QAR.

3.0 Data Tables

Table 1 summarizes the groundwater sample events initiated in June 2022. 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 June 2022

Well ID	Event Date	Well ID	Event Date	Well ID	Event Date
BLM-7-509	6/6/2022	PL-8-455	6/7/2022	ST-3-486	6/8/2022
WW-1-452	6/6/2022	PL-8-605	6/7/2022	ST-4-481	6/8/2022
WW-3-469	6/6/2022	ST-4-690	6/7/2022	MPE-9	6/9/2022
WW-3-569	6/6/2022	PL-11-530	6/8/2022	PL-11-820	6/9/2022
PL-11-470	6/7/2022	PL-11-710	6/8/2022	PL-11-980	6/9/2022

Well ID	Event Date
ST-3-586	6/9/2022
WW-2-489	6/9/2022
B650-EFF-1	6/10/2022
B650-INF-1	6/10/2022
B655-EFF-2	6/10/2022
B655-INF-2	6/10/2022
BLM-27-270	6/10/2022

Well ID	Event Date
WW-2-664	6/10/2022
100-E-261	6/13/2022
BLM-42-569	6/13/2022
BLM-42-709	6/13/2022
ST-3-666	6/13/2022
PL-2-504	6/14/2022
PL-4-464	6/14/2022

Well ID	Event Date
ST-6-528	6/14/2022
ST-6-568	6/14/2022
BW-7-211	6/15/2022
ST-6-678	6/15/2022
ST-6-824	6/15/2022
ST-6-970	6/16/2022

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	**4**	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**13**	0	0	0	**1**	0	**1**
Perchlorate by SW-846 Method 6850	**8**	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	**12**	**11**	0	**1**	**1**	**3**	0
Low Level Volatile Organics by SW-846 Method 8260C	**23**	**20**	**4**	**7**	0	**1**	**1**
Semi-Volatile Organics by SW-846 Method 8270D	**9**	**1**	0	0	0	**1**	0
Anions by Various EPA Methods	**4**	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**7**	0	0	0	**1**	**1**	0
Nitrosamines by Low-Level Method	**25**	**21**	**4**	**8**	**1**	**3**	**1**
Total Dissolved Solids by Standard Method 2540C	**4**	0	0	0	0	0	0

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement %	Samp. Qty. since 7/1/2021	QC Qty. since 7/1/2021	QC % since 7/1/2021	Sample Quantity June 2022	QC Quantity June 2022	QC % June 2022
VOA Duplicates	10	527	56	**11**	35	4	11
VOA Matrix Spikes	2	527	12	**2**	35	1	3
607 Duplicates	10	310	33	**11**	13	0	0
607 Matrix Spikes	2	310	9	**3**	13	1	8
607 Equipment Blanks	2	310	9	**3**	13	0	0
607 Field Blanks	2	310	9	**3**	13	0	0
NDMA_LL Duplicates	10	318	37	**12**	25	3	12
NDMA_LL Matrix Spikes	2	318	9	**3**	25	1	4
Metals Duplicates	10	206	21	**10**	7	1	14
Metals Matrix Spikes	2	206	6	**3**	7	0	0
Metals Equipment Blanks	5	206	12	**6**	7	0	0
Metals Field Blanks	5	206	11	**5**	7	0	0

Quality Control Requirement	Requirement %	Sample Events since 7/1/2021	QC Qty. since 7/1/2021	QC % since 7/1/2021	Sample Events June 2022	QC Quantity June 2022	QC % June 2022
VOA Equipment Blanks and Field Blanks	*Should approach 100%*	527	527	**100%**	35	35	100%

Quality Control Requirement	Requirement %	Sample Events since 7/1/2021	QC Qty. since 7/1/2021	QC % since 7/1/2021	Sample Events June 2022	QC Quantity June 2022	QC % June 2022
Low Level Nitrosamine Equipment Blanks and Field Blanks	*Should approach 100%*	312	312	**100%**	25	25	100%

Quality Control Requirement	Requirement %	Shipments since 7/1/2021	TB Qty. since 7/1/2021	TB % since 7/1/2021	Shipments in June 2022	TB Quantity June 2022	QC % June 2022
VOA Trip Blank (per shipment)	*Should approach 100%*	101	101	**100%**	8	8	100%
Low Level Nitrosamine Trip Blank (per shipment)	*Should approach 100%*	102	102	**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	**4**	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**39**	0	0	0	0	0	0	0
Perchlorate by SW-846 Method 6850	**4**	0	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**975**	0	0	0	**4**	0	0	0
Low Level Volatile Organics by SW-846 Method 8260C	**1563**	0	0	0	0	0	**3**	0
Semi-Volatile Organics by SW-846 Method 8270D	**122**	0	0	0	0	0	0	0
Anions by Various EPA Methods	**16**	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**216**	0	0	0	0	0	0	0

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Nitrosamines by Low-Level Method	**56**	**1**	0	0	0	0	0	0
Total Dissolved Solids by Standard Method 2540C	**4**	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	**4**	0	0	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**39**	0	0	0	0	0	0	0	0	**2**
Perchlorate by SW-846 Method 6850	**4**	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	**975**	0	**4**	0	0	0	0	0	0	**13**
Low Level Volatile Organics by SW-846 Method 8260C	**1563**	0	0	0	0	0	0	0	0	**12**
Semi-Volatile Organics by SW-846 Method 8270D	**122**	0	**28**	0	0	0	0	0	0	0
Anions by Various EPA Methods	**16**	0	0	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**216**	0	0	0	0	**7**	0	0	0	**46**
Nitrosamines by Low-Level Method	**56**	**1**	0	0	0	0	0	0	0	**9**
Total Dissolved Solids by Standard Method 2540C	**4**	0	0	0	0	0	0	0	0	0

Table 7 – Quality Assurance Narratives

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-6-568	**6/14/2022**	**For Low Level SW-846 Method 8260C, 1,4-dioxane, 2,5-dimethyl- (5.2 ug/L) and silane, methoxytrimethyl- (5.1 ug/L) were tentatively identified by a GC/MS library search in sample 2206141332B.**
WW-1-452	6/6/2022	For Low Level SW-846 Method 8260C, 2-propanol (8.2 ug/L) was detected below the reporting limit and silane, methoxytrimethyl- (8.3 ug/L) was tentatively identified by a GC/MS library search in the field blank (2206060952A). No groundwater data are affected by this field blank contamination.
ST-4-690	**6/7/2022**	**For Low Level SW-846 Method 8260C, matrix spike recoveries for sample 2206071314A for 1,1,2-trichloroethane (81%), bromodichloromethane (77%), and dichlorofluoromethane (CFC 21) (66%) were outside laboratory control limits (82-121%), (78-135%), and (70-130%). Affected data are appropriately qualified.**
BLM-42-569	6/13/2022	For Low Level SW-846 Method 8260C, one unknown compound (5.2 ug/l) was tentatively identified by a GC/MS library search in the trip blank (2206130655C). No groundwater data are affected by this trip blank contamination.
ST-6-568	6/14/2022	For Low Level SW-846 Method 8260C, relative percent differences (RPD) for duplicate samples 2206141332B and 2206141333B were within control limits or below the calculable range.
BLM-7-509	**6/6/2022**	**For Low Level SW-846 Method 8260C, silane, methoxytrimethyl- (7.9 ug/L) was tentatively identified by a GC/MS library search in sample 2206061408A.**
BLM-42-569	6/13/2022	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-42-709	6/13/2022	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-7-509	6/6/2022	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

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		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-11-470	6/7/2022	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-11-530	6/8/2022	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-11-710	6/8/2022	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-8-455	6/7/2022	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-8-605	6/7/2022	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-4-481	6/8/2022	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-4-690	6/7/2022	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-6-528	6/14/2022	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-6-568	6/14/2022	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-6-678	6/15/2022	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-6-824	6/15/2022	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-6-970	6/16/2022	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.
WW-1-452	6/6/2022	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.
WW-3-469	6/6/2022	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

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		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-3-569	6/6/2022	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	6/10/2022	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	6/10/2022	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-7-509	6/6/2022	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	6/7/2022	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	6/8/2022	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	6/8/2022	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	6/9/2022	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	6/9/2022	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-8-455	6/7/2022	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	6/7/2022	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.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
ST-4-481	6/8/2022	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	6/7/2022	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	6/14/2022	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-6-568	6/14/2022	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-1-452	6/6/2022	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	6/9/2022	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-2-664	6/10/2022	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-3-469	6/6/2022	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	6/6/2022	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	6/10/2022	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	6/10/2022	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-7-509	6/6/2022	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

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		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-11-470	6/7/2022	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-11-530	6/8/2022	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-11-710	6/8/2022	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	6/9/2022	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-11-980	6/9/2022	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-8-455	6/7/2022	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-8-605	6/7/2022	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-4-481	6/8/2022	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-4-690	6/7/2022	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	6/14/2022	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	6/14/2022	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.
WW-1-452	6/6/2022	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-2-489	6/9/2022	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-2-664	6/10/2022	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-3-469	6/6/2022	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-3-569	6/6/2022	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	6/10/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
B655-EFF-2	6/10/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-42-569	6/13/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-42-709	6/13/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-7-509	6/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-470	6/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-530	6/8/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-710	6/8/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-820	6/9/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-11-980	6/9/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-8-455	6/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-8-605	6/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-4-481	6/8/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-4-481	6/8/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-4-690	6/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-4-690	6/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-528	6/14/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-568	6/14/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-678	6/15/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-6-678	6/15/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-824	6/15/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-6-970	6/16/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-6-970	6/16/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-2-489	6/9/2022	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
WW-2-489	6/9/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-2-664	6/10/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-3-469	6/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
WW-3-569	6/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
WW-3-569	6/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
ST-3-666	**6/13/2022**	**For SW-846 Method 8260C in blind control sample (2206141344A), the percent recoveries for 1,1,2-trichloro-1,2,2-trifluoroethane (56%), trichloroethene (60%), tetrachloroethene (60%), and trichlorofluoromethane (50%) were outside of the standard limits (75-125%). Affected data are appropriately qualified.**
MPE-9	6/9/2022	For SW-846 Method 8260C, acetone (5.9 ug/L) was detected in the field blank (2206090902) below the reporting limit. No groundwater data are affected by this field blank contamination.
ST-3-586	6/9/2022	For SW-846 Method 8260C, field duplicate samples 2206090957A and 2206090958A the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 5.4%. Upper acceptance limit for relative percent difference is 25%.
ST-3-586	6/9/2022	For SW-846 Method 8260C, field duplicate samples 2206090957A and 2206090958A the relative percent difference for trichloroethene (TCE) was 2.0%. Upper acceptance limit for relative percent difference is 25%.
B655-INF-2	6/10/2022	For SW-846 Method 8260C, field duplicate samples 2206100540 and 2206100541 the relative percent difference for trichloroethene (TCE) was 2.5%. Upper acceptance limit for relative percent difference is 25%.
B655-INF-2	6/10/2022	For SW-846 Method 8260C, field duplicate samples 2206100540 and 2206100541 the relative percent difference for trichlorofluoromethane (CFC 11) was 3.9%. Upper acceptance limit for relative percent difference is 25%.
B655-INF-2	6/10/2022	For SW-846 Method 8260C, field duplicate samples 2206100540 and 2206100541 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%.
BW-7-211	6/15/2022	For SW-846 Method 8260C, field duplicate samples 2206151005C and 2206151006C the relative percent difference for trichlorofluoromethane (CFC 11) was 8.7%. Upper acceptance limit for relative percent difference is 25%.
BW-7-211	6/15/2022	For SW-846 Method 8260C, field duplicate samples 2206151005C and 2206151006C the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 13.3%. Upper acceptance limit for relative percent difference is 25%.
B655-INF-2	**6/10/2022**	**For SW-846 Method 8260C, the Continuing Calibration Verification (CCV) exceeded control limits for one or more analytes. All detected concentrations for the analyte(s) in samples associated with this CCV should be considered as estimated. The analytes affected are flagged in the CCV Summary Report. Affected groundwater data are appropriately qualified.**
MPE-9	**6/9/2022**	**For SW-846 Method 8260C, the Continuing Calibration Verification (CCV) exceeded control limits for one or more analytes. All detected concentrations for the analyte(s) in samples associated with this CCV should be considered as estimated. The analytes affected are flagged in the CCV Summary Report. Affected groundwater data are appropriately qualified.**
100-E-261	6/13/2022	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	6/10/2022	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.
B655-INF-2	6/10/2022	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-27-270	6/10/2022	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.
BW-7-211	6/15/2022	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.
PL-2-504	6/14/2022	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.
PL-4-464	6/14/2022	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.
ST-3-486	6/8/2022	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.
ST-3-666	6/13/2022	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.
100-E-261	6/13/2022	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.
B650-INF-1	6/10/2022	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.
B655-INF-2	6/10/2022	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.
B655-INF-2	6/10/2022	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-27-270	6/10/2022	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.
MPE-9	6/9/2022	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.
ST-3-586	6/9/2022	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

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		high bias. The sample data is not significantly affected. No further corrective action was appropriate.
ST-3-666	**6/13/2022**	**For SW-846 Method 8260C, the upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). The error associated with elevated recovery equates to a high bias. Affected data are appropriately qualified.**
100-E-261	6/13/2022	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.
B650-INF-1	6/10/2022	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	6/10/2022	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-27-270	6/10/2022	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.
ST-3-586	6/9/2022	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.
ST-3-666	6/13/2022	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.
100-E-261	6/13/2022	For SW-846 Method 8260C, there were no detections in the field blank.
B650-INF-1	6/10/2022	For SW-846 Method 8260C, there were no detections in the field blank.
B655-INF-2	6/10/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-27-270	6/10/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BW-7-211	6/15/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PL-2-504	6/14/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PL-4-464	6/14/2022	For SW-846 Method 8260C, there were no detections in the field blank.
ST-3-486	6/8/2022	For SW-846 Method 8260C, there were no detections in the field blank.
ST-3-586	6/9/2022	For SW-846 Method 8260C, there were no detections in the field blank.
ST-3-666	6/13/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PL-4-464	6/14/2022	For SW-846 Method 8260C, there were no detections in the trip blank.

Well ID	Event Date	Modified EPA Method 607 QA Narratives
ST-3-666	6/13/2022	For Modified EPA Method 607 in blind control sample (2206141345A), all recoveries were within standard limits.
100-E-261	6/13/2022	For Modified EPA Method 607, matrix spike recoveries for sample 2206131014A were within laboratory control limits.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
ST-6-568	6/14/2022	For Low Level Nitrosamine Method in blind control sample (2206141410B), all recoveries were within standard limits.
ST-6-568	6/14/2022	For Low Level Nitrosamine Method, blind control 2206141410B contained the internal standard DMN-d6 with a percent recovery slightly above the upper QC limit of 100% (actual recovery was 122%). The elevated recovery has no negative impact on the data quality, since the minimum signal to noise of 3 was met. No further corrective action was required by the lab.
BLM-7-509	6/6/2022	For Low Level Nitrosamine Method, matrix spike recoveries for sample 2206061412A and 2206061414A were within laboratory control limits.
PL-11-530	**6/8/2022**	**For Low Level Nitrosamine Method, N-nitrodimethylamine (0.64 ng/L) was detected in the field blank (2206081319B). Affected data are appropriately qualified.**
ST-6-970	6/16/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.48 ng/L) was detected in the field blank (2206161416B). No groundwater data are affected by this field blank contamination.
ST-6-528	6/14/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.7 ng/L) was detected in the field blank (2206141305B). No groundwater data are affected by this field blank contamination.
PL-4-464	6/14/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.79 ng/L) was detected in the method blank (PB22F21BP1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-6-528	6/14/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.79 ng/L) was detected in the method blank (PB22F21BP1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-6-568	6/14/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.79 ng/L) was detected in the method blank (PB22F21BP1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-6-678	6/15/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.79 ng/L) was detected in the method blank (PB22F21BP1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-6-824	6/15/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.79 ng/L) was detected in the method blank (PB22F21BP1) below the reporting limit. No groundwater data are affected by this method blank contamination.
ST-4-690	6/7/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.86 ng/L) was detected in the trip blank (2206070901A). No groundwater data are affected by this trip blank contamination.
PL-11-820	6/9/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2206091333B and 2206091335B were within control limits or below the calculable range.
PL-8-605	6/7/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2206071011Y and 2206071045Y were within control limits or below the calculable range.
ST-6-568	6/14/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2206141335B and 2206141405B were within control limits or below the calculable range.
BLM-42-709	**6/13/2022**	**For Low Level Nitrosamine Method, sample 2206131017C contained the internal standard DMN-d6 with a percent recovery slightly above the upper QC limit of 100% (actual recovery was 113%). No further corrective action was required by the lab. Potentially affected groundwater data are appropriately qualified.**
B650-EFF-1	6/10/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
B655-EFF-2	6/10/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-42-569	6/13/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
BLM-42-569	6/13/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-42-709	6/13/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-7-509	6/6/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-11-470	6/7/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-11-710	6/8/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-11-820	6/9/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-11-980	6/9/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-4-464	6/14/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-4-464	6/14/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
PL-8-455	6/7/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
PL-8-605	6/7/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
ST-4-481	6/8/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
ST-4-481	6/8/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-4-690	6/7/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-6-568	6/14/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-6-678	6/15/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
ST-6-678	6/15/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-6-824	6/15/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-6-970	6/16/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-1-452	6/6/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-2-489	6/9/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-2-489	6/9/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-2-664	6/10/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-3-469	6/6/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
WW-3-569	6/6/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
WW-3-569	6/6/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
100-E-261	**6/13/2022**	**For SW-846 Method 8270D, butanoic acid (6.2 ug/L) and three unknown compounds were tentatively identified by a GC/MS library search in sample 2206131015A.**
PL-11-710	6/8/2022	For SW-846 Method 8270D, field duplicate samples 2206081340B and 2206081341B the relative percent difference for 1,4-dioxane was 22.2%. Upper acceptance limit for relative percent difference is 25%.
100-E-261	6/13/2022	For SW-846 Method 8270D, five compounds were detected below the reporting limit in the method blank for analytical batch 401488. No groundwater data are affected by this method blank contamination.
100-E-261	**6/13/2022**	**For SW-846 Method 8270D, the control limit was exceeded for one or more analytes in the Laboratory Control Sample (LCS). The discrepancy indicates a potential bias for results reported from this analytical batch. The analytes affected are flagged in the LCS Summary Report. Affected groundwater data are appropriately qualified.**
100-E-261	6/13/2022	For SW-846 Method 8270D, the extraction of sample 2206131015A was initially performed within holding time, but was reextracted due to a QC failure. Efforts were made to re-extract the samples as soon as possible. The re-extraction was performed past the recommended holding time. Original analysis results are reported.
100-E-261	6/13/2022	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.
100-E-261	6/13/2022	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	6/14/2022	For SW-846 Method 8270D, there were no detections in the field blank.
100-E-261	**6/13/2022**	**For SW-846 Method 8270D, two unknown compounds were tentatively identified by a GC/MS library search in the method blank for analytical batch 401542. Affected data are appropriately qualified.**

Well ID	Event Date	Total Metals QA Narratives
ST-3-666	6/13/2022	For Total Metals, blind control sample (2206141346A) was prepared at a concentration below the reporting limits for magnesium, boron, and calcium. The results for these metals are not qualified based on this control.
MPE-9	**6/9/2022**	**For Total Metals, copper (0.008 mg/L), molybdenum (0.003 mg/L), and zinc (0.006 mg/L) were detected in the method blank for analytical batch 401701 below the reporting limit. Affected data are appropriately qualified.**
PL-2-504	**6/14/2022**	**For Total Metals, copper (0.008 mg/L), molybdenum (0.003 mg/L), and zinc (0.006 mg/L) were detected in the method blank for analytical batch 401701 below the reporting limit. Affected data are appropriately qualified.**
ST-3-486	**6/8/2022**	**For Total Metals, copper (0.008 mg/L), molybdenum (0.003 mg/L), and zinc (0.006 mg/L) were detected in the method blank for analytical batch 401701 below the reporting limit. Affected data are appropriately qualified.**
ST-3-586	**6/9/2022**	**For Total Metals, copper (0.008 mg/L), molybdenum (0.003 mg/L), and zinc (0.006 mg/L) were detected in the method blank for analytical batch 401701 below the reporting limit. Affected data are appropriately qualified.**
ST-3-666	**6/13/2022**	**For Total Metals, copper (0.008 mg/L), molybdenum (0.003 mg/L), and zinc (0.006 mg/L) were detected in the method blank for analytical batch 401701 below the reporting limit. Affected data are appropriately qualified.**
PL-2-504	6/14/2022	For Total Metals, field duplicate samples 2206140914C and 2206140914C the relative percent difference for calcium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
PL-2-504	6/14/2022	For Total Metals, field duplicate samples 2206140914C and 2206140914C the relative percent difference for magnesium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
PL-2-504	6/14/2022	For Total Metals, field duplicate samples 2206140914C and 2206140914C the relative percent difference for sodium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
PL-2-504	6/14/2022	For Total Metals, field duplicate samples 2206140914C and 2206140914C the relative percent difference for strontium was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BW-7-211	**6/15/2022**	**For Total Metals, molybdenum (0.004 mg/L), and zinc (0.004 mg/L) were detected in the method blank for analytical batch 401701 below the reporting limit. Affected data are appropriately qualified.**
BW-7-211	6/15/2022	For Total Metals, the upper control limit was exceeded for selenium 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	6/9/2022	For Total Metals, the upper control limit was exceeded for selenium 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-3-486	6/8/2022	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 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-3-586	6/9/2022	For Total Metals, the upper control limit was exceeded for selenium 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-2-504	6/14/2022	For Total Metals, the upper control limit was exceeded for 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.

Well ID	Event Date	Total Metals QA Narratives
ST-3-666	6/13/2022	For Total Metals, the upper control limit was exceeded for 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.

Well ID	Event Date	Miscellaneous QA Narratives
100-E-261	6/13/2022	For SW-846 Method 6850, original perchlorate sample was discarded due to shipping delays. The well was resampled for perchlorate on 6/24/22.
BLM-27-270	6/10/2022	For SW-846 Method 6850, original perchlorate sample was discarded due to shipping delays. The well was resampled for perchlorate on 6/23/22.
MPE-9	6/9/2022	For SW-846 Method 6850, original perchlorate sample was discarded due to shipping delays. The well was resampled for perchlorate on 6/28/22.
ST-3-586	6/9/2022	For SW-846 Method 6850, original perchlorate sample was discarded due to shipping delays. The well was resampled for perchlorate on 6/22/22.

Table 8 – WSTF Blank Sample Detections

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
WW-1-452	6/6/2022	Carboy G2	8260_LL	VOA-FB	1825-61-2	Silane, methoxytrimethyl-	8.3	ug/L	TIC FB
WW-1-452	6/6/2022	Carboy G2	8260_LL	VOA-FB	67-63-0	2-Propanol	8.2	ug/L	J FB
MPE-9	6/9/2022	Carboy PF1	8260	VOA-FB	67-64-1	Acetone	5.9	ug/L	J FB
BLM-42-569	6/13/2022	Carboy G1	8260_LL	VOA-TB	TIC	Unknown	5.2	ug/L	TIC TB
ST-4-690	6/7/2022		NDMA_LL	NDMA_LL-TB	62-75-9	N-Nitrosodimethylamine	0.86	ng/L	TB
ST-6-528	6/14/2022		NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.7	ng/L	RB FB
PL-11-530	6/8/2022	Carboy G2	NDMA_LL	NDMA_LL-FB	4164-28-7	N-Nitrodimethylamine	0.64	ng/L	FB
ST-6-970	6/16/2022	Carboy G3	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.48	ng/L	FB
PL-6-725	4/13/2022	Carboy G3	NDMA_LL	NDMA_LL-EB	62-75-9	N-Nitrosodimethylamine	0.81	ng/L	EB *

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility Groundwater Monitoring Data

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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 July 2022.
- The quantity and type of quality control samples collected or prepared in July 2022.
- Quality control sample percentages in annual period immediately preceding and during July 2022.
- 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 July 2022 QAR.

3.0 Data Tables

Table 1 summarizes the groundwater sample events initiated in July 2022. 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 July 2022

Well ID	Event Date
JP-1-424	7/5/2022
JP-2-447	7/5/2022
BLM-15-305	7/6/2022
BLM-17-550	7/6/2022
JER-1-483	7/6/2022

Well ID	Event Date
JER-1-563	7/6/2022
PL-10-484	7/6/2022
PL-10-592	7/6/2022
BLM-10-517	7/7/2022
BLM-18-430	7/7/2022

Well ID	Event Date
JER-1-683	7/7/2022
PL-6-545	7/7/2022
PL-6-725	7/7/2022
JP-3-509	7/8/2022
100-F-358	7/11/2022

Well ID	Event Date
100-G-223	7/11/2022
700-E-458	7/11/2022
JER-2-504	7/11/2022
JER-2-584	7/11/2022
JER-2-684	7/12/2022
PL-1-486	7/12/2022
300-F-175	7/13/2022
BLM-6-488	7/13/2022
JP-3-689	7/18/2022

Well ID	Event Date
ST-7-453	7/18/2022
ST-7-544	7/18/2022
B650-EFF-1	7/19/2022
B650-INF-1	7/19/2022
B655-EFF-2	7/19/2022
B655-INF-2	7/19/2022
ST-7-779	7/19/2022
ST-7-970	7/19/2022
PFE-4A	7/20/2022

Well ID	Event Date
PFE-5	7/20/2022
PFE-7	7/20/2022
WW-5-459	7/20/2022
WW-5-579	7/20/2022
WW-5-809	7/21/2022
WW-5-909	7/21/2022
600-G-138	7/26/2022

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	**4**	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**11**	0	0	0	**1**	0	0
Perchlorate by SW-846 Method 6850	**6**	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	**11**	**11**	0	0	**1**	**3**	0
Low Level Volatile Organics by SW-846 Method 8260C	**29**	**25**	**4**	**7**	0	**1**	**1**
Semi-Volatile Organics by SW-846 Method 8270D	**12**	**1**	0	0	0	**1**	0
Anions by Various EPA Methods	**3**	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**4**	0	0	0	**1**	**1**	0
Nitrosamines by Low-Level Method	**31**	**27**	**4**	**9**	**1**	**3**	**1**
Total Dissolved Solids by Standard Method 2540C	**3**	0	0	0	0	0	0

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement %	Samp. Qty. since 8/1/2021	QC Qty. since 8/1/2021	QC % since 8/1/2021	Sample Quantity July 2022	QC Quantity July 2022	QC % July 2022
VOA Duplicates	10	525	56	**11**	40	4	10
VOA Matrix Spikes	2	525	12	**2**	40	1	2
607 Duplicates	10	310	32	**10**	11	0	0
607 Matrix Spikes	2	310	9	**3**	11	0	0
607 Equipment Blanks	2	310	9	**3**	11	0	0
607 Field Blanks	2	310	9	**3**	11	0	0
NDMA_LL Duplicates	10	318	36	**11**	31	3	10
NDMA_LL Matrix Spikes	2	318	9	**3**	31	1	3
Metals Duplicates	10	210	22	**10**	4	1	25
Metals Matrix Spikes	2	210	6	**3**	4	0	0
Metals Equipment Blanks	5	210	12	**6**	4	0	0
Metals Field Blanks	5	210	11	**5**	4	0	0

Quality Control Requirement	Requirement %	Sample Events since 8/1/2021	QC Qty. since 8/1/2021	QC % since 8/1/2021	Sample Events July 2022	QC Quantity July 2022	QC % July 2022
VOA Equipment Blanks and Field Blanks	*Should approach 100%*	525	525	**100%**	40	40	100%

Quality Control Requirement	Requirement %	Sample Events since 8/1/2021	QC Qty. since 8/1/2021	QC % since 8/1/2021	Sample Events July 2022	QC Quantity July 2022	QC % July 2022
Low Level Nitrosamine Equipment Blanks and Field Blanks	*Should approach 100%*	312	312	**100%**	31	31	100%

Quality Control Requirement	Requirement %	Shipments since 8/1/2021	TB Qty. since 8/1/2021	TB % since 8/1/2021	Shipments in July 2022	TB Quantity July 2022	QC % July 2022
VOA Trip Blank (per shipment)	*Should approach 100%*	101	101	**100%**	7	7	100%
Low Level Nitrosamine Trip Blank (per shipment)	*Should approach 100%*	103	103	**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"
Chloride by EPA Method 300.0	**1**	0	0	0	0	0	0	0
Nitrate plus Nitrite as N by EPA Method 353.2	**4**	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**33**	0	0	0	0	0	0	0
Perchlorate by SW-846 Method 6850	**3**	0	0	0	0	0	0	0
Organics by SW-846 Method 8015M	**2**	0	0	0	0	0	0	0
Volatile Organics by SW-846 Method 8260C	**910**	0	0	0	0	0	0	0
Low Level Volatile Organics by SW-846 Method 8260C	**1953**	0	0	0	0	0	0	0
Semi-Volatile Organics by SW-846 Method 8270D	**118**	0	0	0	0	0	0	0
Anions by Various EPA Methods	**12**	0	0	0	0	0	0	0

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Total Metals by Various SW-846 Methods	**135**	0	0	0	**2**	0	0	0
Nitrosamines by Low-Level Method	**68**	**3**	0	0	**1**	0	0	0
Total Dissolved Solids by Standard Method 2540C	**3**	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	**4**	0	0	0	0	0	0	0	0	0
Nitrosamines by EPA Method 607	**33**	0	0	0	0	0	0	**1**	0	**1**
Perchlorate by SW-846 Method 6850	**3**	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	**910**	0	0	0	0	0	0	0	0	**17**
Low Level Volatile Organics by SW-846 Method 8260C	**1953**	0	0	0	0	0	0	0	0	**8**
Semi-Volatile Organics by SW-846 Method 8270D	**118**	0	0	0	0	**1**	**1**	0	0	**3**
Anions by Various EPA Methods	**12**	0	0	0	0	0	0	0	0	0
Total Metals by Various SW-846 Methods	**135**	0	0	0	0	**4**	0	0	0	**22**
Nitrosamines by Low-Level Method	**68**	0	0	0	0	0	0	0	0	**4**
Total Dissolved Solids by Standard Method 2540C	**3**	0	0	0	0	0	0	0	0	0

Table 7 – Quality Assurance Narratives

Well ID	Event Date	SW-846 Method 8260C QA Narratives
JER-1-683	**7/7/2022**	**For Low Level SW-846 Method 8260C, 1,4-dioxane, 2,5-dimethyl- (8.7 ug/L) was tentatively identified by a GC/MS library search in sample 2207071405B.**
JER-2-684	7/12/2022	For Low Level SW-846 Method 8260C, 2-propanol (3.7 ug/L) was detected in the field blank (2207121402B) below the reporting limit. No groundwater data are affected by this field blank contamination.
JER-1-683	7/7/2022	For Low Level SW-846 Method 8260C, 2-propanol (3.8 ug/L) was detected in the field blank (2207071406B) below the reporting limit. No groundwater data are affected by this field blank contamination.
ST-7-453	7/18/2022	For Low Level SW-846 Method 8260C, chloromethane (0.3 ug/L) was detected in the trip blank (2207180700B) below the reporting limit. No groundwater data are affected by this trip blank contamination.
B655-EFF-2	7/19/2022	For Low Level SW-846 Method 8260C, dichloromethane (21 ug/L) was detected in the field blank (2207191006). No groundwater data are affected by this field blank contamination.
WW-5-459	**7/20/2022**	**For Low Level SW-846 Method 8260C, one unknown compound (17 ug/L) was tentatively identified by a GC/MS library search in sample 2207201400B.**
PL-1-486	7/12/2022	For Low Level SW-846 Method 8260C, relative percent differences (RPD) for duplicate samples 2207120920A and 2207120921A were within control limits or below the calculable range.
JER-1-563	**7/6/2022**	**For Low Level SW-846 Method 8260C, sulfur dioxide (5.8 ug/L) was tentatively identified by a GC/MS library search in sample 2207061412B.**
100-F-358	7/11/2022	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.
100-G-223	7/11/2022	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

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		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-F-175	7/13/2022	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	7/19/2022	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.
B655-EFF-2	7/19/2022	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	7/7/2022	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	7/6/2022	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-1-563	7/6/2022	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	7/7/2022	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	7/11/2022	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	7/11/2022	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	7/12/2022	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	7/5/2022	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-2-447	7/5/2022	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-3-509	7/8/2022	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	7/18/2022	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

Well ID	Event Date	SW-846 Method 8260C QA Narratives
		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	7/6/2022	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	7/6/2022	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	7/12/2022	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	7/7/2022	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	7/7/2022	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	7/18/2022	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-7-544	7/18/2022	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	7/19/2022	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	7/19/2022	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.
WW-5-459	7/20/2022	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.
WW-5-579	7/20/2022	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-1-563	7/6/2022	For Low Level SW-846 Method 8260C, the recovery of 2-hexanone (136%) for matrix spike sample 2207061413B was outside laboratory control limits (56-132%). No groundwater data are affected by this QC exceedance.
B650-EFF-1	7/19/2022	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	7/19/2022	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

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.
BLM-10-517	7/7/2022	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	7/6/2022	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	7/6/2022	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	7/7/2022	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	7/5/2022	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-2-447	7/5/2022	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-3-509	7/8/2022	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	7/18/2022	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-10-484	7/6/2022	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	7/6/2022	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	7/7/2022	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.
PL-6-725	7/7/2022	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-7-453	7/18/2022	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	7/18/2022	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	7/19/2022	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-7-970	7/19/2022	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	7/19/2022	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	7/19/2022	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-1-483	7/6/2022	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	7/6/2022	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	7/5/2022	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	7/5/2022	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.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
JP-3-689	7/18/2022	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	7/6/2022	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	7/6/2022	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	7/18/2022	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	7/18/2022	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	7/19/2022	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	7/19/2022	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	7/21/2022	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	7/21/2022	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.
100-F-358	7/11/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
100-F-358	7/11/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
100-G-223	7/11/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
300-F-175	7/13/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
B650-EFF-1	7/19/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
BLM-10-517	7/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-1-483	7/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-1-563	7/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-2-504	7/11/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JER-2-584	7/11/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
JP-1-424	7/5/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JP-1-424	7/5/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
JP-2-447	7/5/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JP-3-509	7/8/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
JP-3-689	7/18/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-10-484	7/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-10-592	7/6/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-1-486	7/12/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
PL-1-486	7/12/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
PL-6-545	7/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-6-725	7/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the equipment blank.
PL-6-725	7/7/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
ST-7-453	7/18/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-7-544	7/18/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-7-779	7/19/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
ST-7-970	7/19/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-5-459	7/20/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
WW-5-459	7/20/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-5-579	7/20/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-5-809	7/21/2022	For Low Level SW-846 Method 8260C, there were no detections in the trip blank.
WW-5-809	7/21/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
WW-5-909	7/21/2022	For Low Level SW-846 Method 8260C, there were no detections in the field blank.
700-E-458	7/11/2022	For SW-846 Method 8260C in blind control sample (2207121300A), the percent recoveries for 1,1,2-trichloro-1,2,2-trifluoroethane (164%), trichloroethene (144%), tetrachloroethene (146%), and trichlorofluoromethane (138%) was outside of the standard limits (75-125%). No groundwater data are affected by these control recovery exceedances.
600-G-138	7/26/2022	For SW-846 Method 8260C, 2-propanol (15 ug/L) was detected in the method blank for analytical batch 772550 below the reporting limit. No groundwater data are affected by this method blank contamination.
BLM-18-430	7/7/2022	For SW-846 Method 8260C, field duplicate samples 2207070923A and 2207070924A the relative percent difference for trichloroethene (TCE) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
BLM-18-430	7/7/2022	For SW-846 Method 8260C, field duplicate samples 2207070923A and 2207070924A the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 5.7%. Upper acceptance limit for relative percent difference is 25%.
BLM-18-430	7/7/2022	For SW-846 Method 8260C, field duplicate samples 2207070923A and 2207070924A the relative percent difference for trichlorofluoromethane (CFC 11) was 0.0%. Upper acceptance limit for relative percent difference is 25%.
PFE-5	7/20/2022	For SW-846 Method 8260C, field duplicate samples 2207200855 and 2207200856 the relative percent difference for trichlorofluoromethane (CFC 11) was 4.9%. Upper acceptance limit for relative percent difference is 25%.
PFE-5	7/20/2022	For SW-846 Method 8260C, field duplicate samples 2207200855 and 2207200856 the relative percent difference for trichloroethene (TCE) was 7.4%. Upper acceptance limit for relative percent difference is 25%.
PFE-5	7/20/2022	For SW-846 Method 8260C, field duplicate samples 2207200855 and 2207200856 the relative percent difference for 1,1,2-trichloro-1,2,2-trifluoroethane was 6.1%. Upper acceptance limit for relative percent difference is 25%.
600-G-138	7/26/2022	For SW-846 Method 8260C, field duplicate samples 2207261010A and 2207261011A 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%.

Well ID	Event Date	SW-846 Method 8260C QA Narratives
600-G-138	7/26/2022	For SW-846 Method 8260C, field duplicate samples 2207261010A and 2207261011A the relative percent difference for trichloroethene (TCE) was 5.0%. Upper acceptance limit for relative percent difference is 25%.
700-E-458	7/11/2022	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	7/19/2022	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.
B655-INF-2	7/19/2022	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-6-488	7/13/2022	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	7/20/2022	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	7/20/2022	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	7/20/2022	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	7/26/2022	For SW-846 Method 8260C, there were no detections in the field blank.
700-E-458	7/11/2022	For SW-846 Method 8260C, there were no detections in the field blank.
B650-INF-1	7/19/2022	For SW-846 Method 8260C, there were no detections in the field blank.
B655-INF-2	7/19/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-15-305	7/6/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-17-550	7/6/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-18-430	7/7/2022	For SW-846 Method 8260C, there were no detections in the field blank.
BLM-6-488	7/13/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-4A	7/20/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-5	7/20/2022	For SW-846 Method 8260C, there were no detections in the field blank.
PFE-7	7/20/2022	For SW-846 Method 8260C, there were no detections in the field blank.

Well ID	Event Date	Modified EPA Method 607 QA Narratives
700-E-458	7/11/2022	For Modified EPA Method 607 in blind control sample (2207121301A), all recoveries were within standard limits.
BLM-15-305	**7/6/2022**	**For Modified EPA Method 607, N-nitrosodimethylamine was detected in sample 2207061338A at a level exceeding the calibration curve. The sample extract was diluted 10-fold and reanalyzed for N-nitrosodimethylamine. Affected data are appropriately qualified.**

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
PL-1-486	**7/12/2022**	**For Low Level Nitrosamine Method in blind control sample (2207121315A), the percent recovery for N-nitrosodimethylamine (0%) was outside of the standard limits (70-130%). Affected data are appropriately qualified.**
PFE-7	7/20/2022	For Low Level Nitrosamine Method, field duplicate samples 2207201008 and 2207201009 the relative percent difference for N-nitrosodimethylamine was 4.6%. Upper acceptance limit for relative percent difference is 25%.
BLM-10-517	7/7/2022	For Low Level Nitrosamine Method, matrix spike recoveries for sample 2207071350A and 2207071359A were within laboratory control limits.
ST-7-453	**7/18/2022**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.45 ng/L) was detected in the field blank (2207181403B) below the reporting limit. Affected data are appropriately qualified.**
WW-5-459	**7/20/2022**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.45 ng/L) was detected in the field blank (2207201403B) below the reporting limit. Affected data are appropriately qualified.**
WW-5-579	7/20/2022	For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.48 ng/L) was detected in the field blank (2207201433B) below the reporting limit. No groundwater data are affected by this field blank contamination.
JER-1-683	**7/7/2022**	**For Low Level Nitrosamine Method, N-nitrosodimethylamine (0.54 ng/L) was detected in the field blank (2207071408B). Affected data are appropriately qualified.**
JER-1-563	7/6/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2207061415B and 2207061440B were within control limits or below the calculable range.
ST-7-544	7/18/2022	For Low Level Nitrosamine Method, relative percent differences (RPD) for duplicate samples 2207181428B and 2207181450B were within control limits or below the calculable range.
JER-2-584	7/11/2022	For Low Level Nitrosamine Method, sample 2207111418B contained the internal standard DMN-d6 with a percent recovery above the upper QC limit of 100% (actual recovery was 164%). Since the signal to noise was well above the minimum requirement of 10, no further corrective action was required.
100-F-358	7/11/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
100-F-358	7/11/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
100-G-223	7/11/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
300-F-175	7/13/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
300-F-175	7/13/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
B650-EFF-1	7/19/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
B655-EFF-2	7/19/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-10-517	7/7/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
BLM-6-488	7/13/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JER-1-483	7/6/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JER-1-563	7/6/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JER-2-504	7/11/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JER-2-584	7/11/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JER-2-684	7/12/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JP-1-424	7/5/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
JP-1-424	7/5/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JP-2-447	7/5/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JP-3-509	7/8/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
JP-3-689	7/18/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PFE-7	7/20/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
PL-10-484	7/6/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-10-592	7/6/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-1-486	7/12/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
PL-1-486	7/12/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.

Well ID	Event Date	Low-Level Nitrosamine Method QA Narratives
PL-6-545	7/7/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-6-725	7/7/2022	For Low Level Nitrosamine Method, there were no detections in the equipment blank.
PL-6-725	7/7/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
ST-7-453	7/18/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
ST-7-544	7/18/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-7-779	7/19/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
ST-7-779	7/19/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
ST-7-970	7/19/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-5-459	7/20/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-5-809	7/21/2022	For Low Level Nitrosamine Method, there were no detections in the trip blank.
WW-5-809	7/21/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.
WW-5-909	7/21/2022	For Low Level Nitrosamine Method, there were no detections in the field blank.

Well ID	Event Date	SW-846 Method 8270D QA Narratives
100-F-358	**7/11/2022**	**For SW-846 Method 8270D, 1,4-dioxane (0.028 ug/L) was detected in the method blank for analytical batch 402770 below the reporting limit. Affected data are appropriately qualified.**
100-G-223	7/11/2022	For SW-846 Method 8270D, 1,4-dioxane (0.028 ug/L) was detected in the method blank for analytical batch 402770 below the reporting limit. No groundwater data are affected by this method blank contamination.
JER-2-504	7/11/2022	For SW-846 Method 8270D, 1,4-dioxane (0.028 ug/L) was detected in the method blank for analytical batch 402770 below the reporting limit. No groundwater data are affected by this method blank contamination.
JER-2-584	7/11/2022	For SW-846 Method 8270D, 1,4-dioxane (0.028 ug/L) was detected in the method blank for analytical batch 402770 below the reporting limit. No groundwater data are affected by this method blank contamination.
300-F-175	7/13/2022	For SW-846 Method 8270D, 1,4-dioxane (0.03 ug/L) was detected in the field blank (2207130828A) below the reporting limit. No groundwater data are affected by this field blank contamination.
300-F-175	7/13/2022	For SW-846 Method 8270D, 1,4-dioxane (0.041 ug/L) was detected in the method blank for analytical batch 402992. No groundwater data are affected by this method blank contamination.
JER-2-684	7/12/2022	For SW-846 Method 8270D, 1,4-dioxane (0.041 ug/L) was detected in the method blank for analytical batch 402992. No groundwater data are affected by this method blank contamination.
JER-1-563	7/6/2022	For SW-846 Method 8270D, field duplicate samples 2207061442B and 2207061443B the relative percent difference for 1,4-dioxane was 1.1%. Upper acceptance limit for relative percent difference is 25%.
100-G-223	**7/11/2022**	**For SW-846 Method 8270D, the control limits were exceeded for one or more surrogates in the sample 2207111405C. Since the exceedance may indicate a potential bias in the analytical batch, due to no extra volume sample was not able to be re-extracted. Affected surrogate results are appropriately qualified.**
100-F-358	**7/11/2022**	**For SW-846 Method 8270D, the extraction of sample 2207110934C was initially performed within holding time, but were re-extracted due to a QC failure. Efforts were made to re-extract the samples as soon as possible. The re-extraction was performed past the recommended holding time. Both sets of data are reported. Affected data are appropriately qualified to indicate the holding time exceedance.**
100-G-223	7/11/2022	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.
100-G-223	7/11/2022	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.

Well ID	Event Date	Total Metals QA Narratives
700-E-458	**7/11/2022**	**For Total Metals in blind control sample (2207121302A), the percent recoveries for boron (166.7%) and iron (266.7%) were outside of the standard limits (75.0-125.0%). Affected data are appropriately qualified.**
PFE-5	7/20/2022	For Total Metals, field duplicate samples 2207200859 and 2207200900 the relative percent difference for strontium was 2.9%. Upper acceptance limit for relative percent difference is 25%.
PFE-5	7/20/2022	For Total Metals, field duplicate samples 2207200859 and 2207200900 the relative percent difference for magnesium was 3.7%. Upper acceptance limit for relative percent difference is 25%.
PFE-5	7/20/2022	For Total Metals, field duplicate samples 2207200859 and 2207200900 the relative percent difference for calcium was 3.3%. Upper acceptance limit for relative percent difference is 25%.
PFE-5	7/20/2022	For Total Metals, field duplicate samples 2207200859 and 2207200900 the relative percent difference for sodium was 0.7%. Upper acceptance limit for relative percent difference is 25%.
PFE-4A	**7/20/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 403357 below the reporting limit. Affected data are appropriately qualified.**
PFE-5	**7/20/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 403357 below the reporting limit. Affected data are appropriately qualified.**
PFE-7	**7/20/2022**	**For Total Metals, molybdenum (0.004 mg/L) was detected in the method blank for analytical batch 403357 below the reporting limit. Affected data are appropriately qualified.**

Well ID	Event Date	Miscellaneous QA Narratives
PFE-4A	7/20/2022	For SW-846 Method 6850, due to a shipment delay the analysis was cancelled for sample 2207200756. Resampling was conducted on 8/9/2022.
PFE-5	7/20/2022	For SW-846 Method 6850, due to a shipment delay the analysis was cancelled for sample 2207200903. Resampling was conducted on 8/9/2022.
PFE-7	7/20/2022	For SW-846 Method 6850, due to a shipment delay the analysis was cancelled for sample 2207201014. Resampling was conducted on 8/9/2022.

Table 8 – WSTF Blank Sample Detections

Well ID	Event Date	Comment	Analysis	Sample Type	CAS No.	Analyte	Result	Units	QA flag
B655-EFF-2	7/19/2022	Carboy PF1	8260_LL	VOA-FB	75-09-2	Dichloromethane	21	ug/L	FB
JER-1-683	7/7/2022	Carboy G3	8260_LL	VOA-FB	67-63-0	2-Propanol	3.8	ug/L	J FB
JER-2-684	7/12/2022		8260_LL	VOA-FB	67-63-0	2-Propanol	3.7	ug/L	J FB
JER-1-683	7/7/2022	Carboy G3	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.54	ng/L	FB
WW-5-579	7/20/2022	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.48	ng/L	J FB
WW-5-459	7/20/2022	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.45	ng/L	J FB
ST-7-453	7/18/2022	Carboy G5	NDMA_LL	NDMA_LL-FB	62-75-9	N-Nitrosodimethylamine	0.45	ng/L	J FB
ST-7-453	7/18/2022	Carboy G5	8260_LL	VOA-TB	74-87-3	Chloromethane	0.3	ug/L	J TB
300-F-175	7/13/2022	Carboy G3	8270	SVOA_SIM-FB	123-91-1	1,4-Dioxane	0.03	ug/L	J RB FB

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
BLM-15-305	7/6/2022	607	2207061338A	N-Nitrosodimethylamine	9.06	µg/L	0.094	0.047	42	D
BLM-17-493	5/3/2022	607	2205031402A	N-Nitrosodimethylamine	0.47	µg/L	0.0094	0.0047	44	
BLM-17-550	7/6/2022	607	2207060924A	N-Nitrosodimethylamine	0.54	µg/L	0.0094	0.0047	42	
BLM-18-430	7/7/2022	607	2207070926A	N-Nitrosodimethylamine	0.01	µg/L	0.0094	0.0047	42	
BLM-26-404	5/4/2022	607	2205041412A	N-Nitrosodimethylamine	0.13	µg/L	0.0095	0.0048	44	
BLM-26-404	5/4/2022	607	2205041413A	N-Nitrosodimethylamine	0.14	µg/L	0.0095	0.0048	44	
BLM-27-270	6/10/2022	607	2206100917A	N-Nitrosodimethylamine	2.01	µg/L	0.0094	0.0047	58	
BLM-36-350	5/4/2022	607	2205041345Y	N-Nitrosodimethylamine	0.5	µg/L	0.0095	0.0048	44	
BLM-36-350	5/4/2022	607	2205041321Y	N-Nitrosodimethylamine	0.4	µg/L	0.0095	0.0048	44	
BLM-38-620	5/5/2022	NDMA_LL	2205051350Y	N-Nitrosodimethylamine	1.2	ng/L	0.48	0.4		
BW-5-295	5/3/2022	607	2205031407C	N-Nitrosodimethylamine	0.42	µg/L	0.0096	0.0048	44	
BW-7-211	6/15/2022	607	2206151008C	N-Nitrosodimethylamine	0.71	µg/L	0.0094	0.0047	42	
JER-1-563	7/6/2022	NDMA_LL	2207061440B	N-Nitrosodimethylamine	1.18	ng/L	0.5	0.42		
PL-11-470	6/7/2022	NDMA_LL	2206071403B	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		
PL-12-800	5/5/2022	NDMA_LL	2205051042A	N-Nitrosodimethylamine	1.75	ng/L	0.47	0.4		
PL-12-800	5/5/2022	NDMA_LL	2205051043A	N-Nitrosodimethylamine	1.62	ng/L	0.47	0.4		
PL-2-504	6/14/2022	607	2206140912C	N-Nitrosodimethylamine	0.03	µg/L	0.0095	0.0048	42	
ST-1-473	5/12/2022	607	2205121442A	N-Nitrosodimethylamine	0.24	µg/L	0.0097	0.0049	53	
ST-1-541	5/16/2022	607	2205161429A	N-Nitrosodimethylamine	1.28	µg/L	0.0096	0.0048	47	
ST-1-630	5/12/2022	607	2205121017A	N-Nitrosodimethylamine	0.16	µg/L	0.0095	0.0048	53	
ST-3-486	6/8/2022	607	2206081423A	N-Nitrosodimethylamine	0.04	µg/L	0.0098	0.0049	58	
ST-3-586	6/9/2022	607	2206091000A	N-Nitrosodimethylamine	0.01	µg/L	0.0099	0.005	58	
ST-3-666	6/13/2022	607	2206131422A	N-Nitrosodimethylamine	0.08	µg/L	0.0097	0.0049	42	
ST-7-453	7/18/2022	NDMA_LL	2207181402B	N-Nitrosodimethylamine	1.28	ng/L	0.47	0.4		FB
WW-4-419	5/23/2022	NDMA_LL	2205231348C	N-Nitrosodimethylamine	4.68	ng/L	0.48	0.4		
WW-5-809	7/21/2022	NDMA_LL	2207211402B	N-Nitrosodimethylamine	6.09	ng/L	0.48	0.4		
WW-5-909	7/21/2022	NDMA_LL	2207211432B	N-Nitrosodimethylamine	2.21	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
ST-1-541	5/16/2022	8260	2205161426A	Tetrachloroethene (PCE)	7	ug/L	1	0.21		
ST-1-630	5/12/2022	8260	2205121015A	Tetrachloroethene (PCE)	6.7	ug/L	1	0.21		Q

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
600-G-138	7/26/2022	8260	2207261011A	Trichloroethene (TCE)	39	ug/L	1	0.2		
600-G-138	7/26/2022	8260	2207261010A	Trichloroethene (TCE)	41	ug/L	1	0.2		
BLM-17-493	5/3/2022	8260	2205031400A	Trichloroethene (TCE)	57	ug/L	1	0.2		
BLM-17-550	7/6/2022	8260	2207060922A	Trichloroethene (TCE)	65	ug/L	1	0.2		
BLM-18-430	7/7/2022	8260	2207070923A	Trichloroethene (TCE)	14	ug/L	1	0.2		
BLM-18-430	7/7/2022	8260	2207070924A	Trichloroethene (TCE)	14	ug/L	1	0.2		
BLM-26-404	5/4/2022	8260	2205041410A	Trichloroethene (TCE)	21	ug/L	1	0.2		
BLM-36-350	5/4/2022	8260	2205041320Y	Trichloroethene (TCE)	51	ug/L	1	0.2		
PL-12-800	5/5/2022	8260	2205051040A	Trichloroethene (TCE)	6.1	ug/L	1	0.2		
PL-2-504	6/14/2022	8260	2206140910C	Trichloroethene (TCE)	49	ug/L	1	0.2		
ST-1-473	5/12/2022	8260	2205121440A	Trichloroethene (TCE)	100	ug/L	1	0.2		
ST-1-541	5/16/2022	8260	2205161426A	Trichloroethene (TCE)	150	ug/L	1	0.2		
ST-1-630	5/12/2022	8260	2205121015A	Trichloroethene (TCE)	200	ug/L	2.5	0.5		Q
ST-3-586	6/9/2022	8260	2206090957A	Trichloroethene (TCE)	5	ug/L	1	0.2		
ST-3-666	6/13/2022	8260	2206131420A	Trichloroethene (TCE)	5.8	ug/L	1	0.2		Q

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	5/13/2022	607	2205230736	N-Nitrosodimethylamine	0.05	µg/L	0.0095	0.0048	51	
B650-INF-1	7/19/2022	607	2207190857	N-Nitrosodimethylamine	0.06	µg/L	0.0098	0.0049	41	
B650-INF-1	6/10/2022	607	2206100621	N-Nitrosodimethylamine	0.07	µg/L	0.0097	0.0049	58	
PFE-5	7/20/2022	607	2207200858	N-Nitrosodimethylamine	0.24	µg/L	0.0095	0.0048	41	
PFE-7	7/20/2022	NDMA_LL	2207201009	N-Nitrosodimethylamine	1.57	ng/L	0.48	0.4		
PFE-7	7/20/2022	NDMA_LL	2207201008	N-Nitrosodimethylamine	1.5	ng/L	0.48	0.4		

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	5/13/2022	8260	2205130625	Trichloroethene (TCE)	20	ug/L	1	0.2		
B650-INF-1	5/13/2022	8260	2205130627	Trichloroethene (TCE)	20	ug/L	1	0.2		
B650-INF-1	7/19/2022	8260	2207190855	Trichloroethene (TCE)	23	ug/L	1	0.2		
B650-INF-1	6/10/2022	8260	2206100619	Trichloroethene (TCE)	19	ug/L	1	0.2		
PFE-5	7/20/2022	8260	2207200856	Trichloroethene (TCE)	42	ug/L	1	0.2		
PFE-5	7/20/2022	8260	2207200855	Trichloroethene (TCE)	39	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

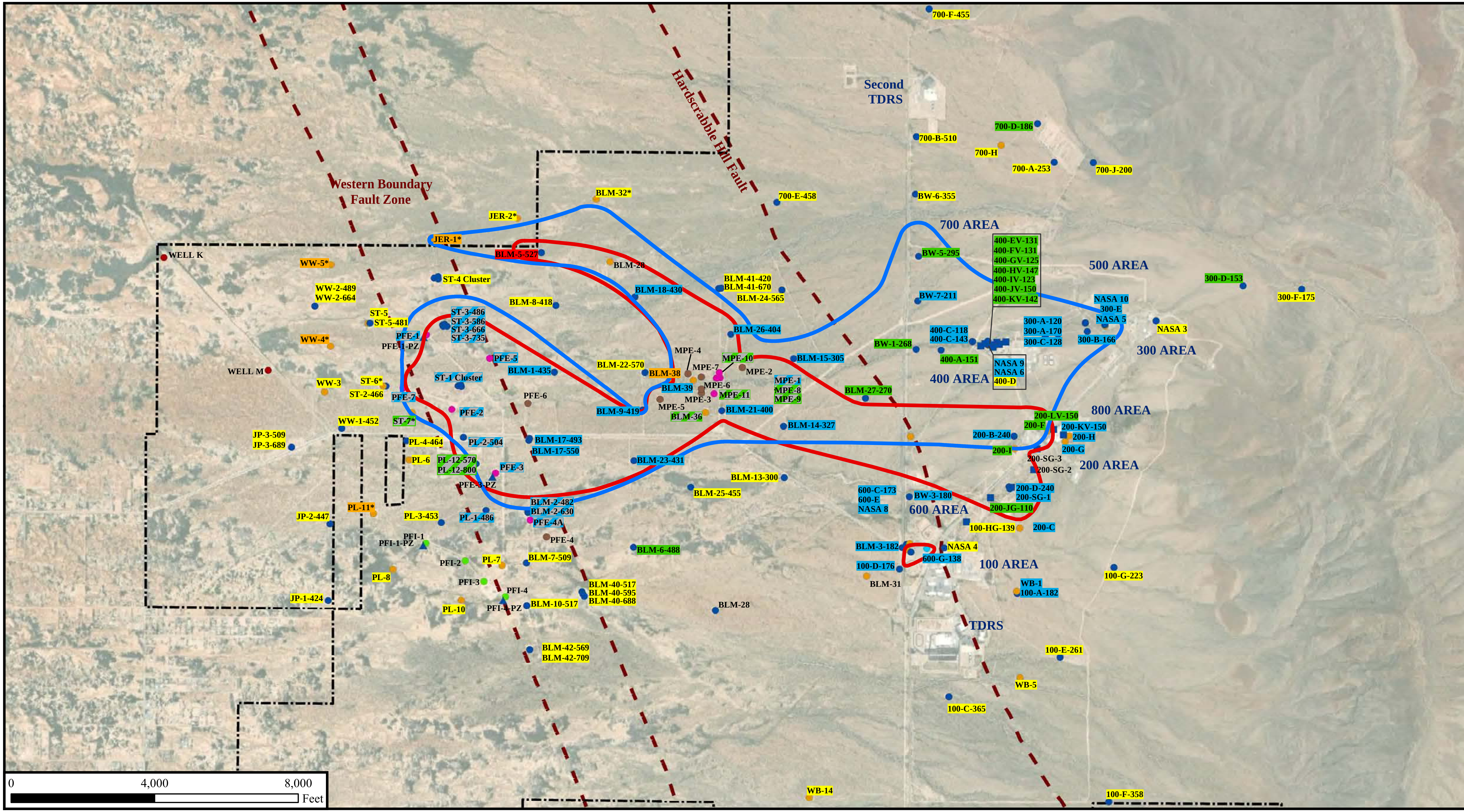
Well ID	Event Date	Analysis Method	Sample	Constituent	Result	Units	Quant Limit	Det Limit	Xtrct Effic	QA Flag
B655-INF-2	6/10/2022	607	2206100543	N-Nitrosodimethylamine	1.78	µg/L	0.0094	0.0047	58	
B655-INF-2	7/19/2022	607	2207190942	N-Nitrosodimethylamine	1.38	µg/L	0.0094	0.0047	41	
B655-INF-2	5/13/2022	607	2205130546	N-Nitrosodimethylamine	1.89	µg/L	0.0095	0.0048	53	
MPE-1	5/17/2022	607	2205170809	N-Nitrosodimethylamine	3.08	µg/L	0.0095	0.0048	47	
MPE-10	5/18/2022	607	2205180837	N-Nitrosodimethylamine	3.28	µg/L	0.0095	0.0048	47	
MPE-11	5/17/2022	607	2205170918	N-Nitrosodimethylamine	0.15	µg/L	0.0096	0.0048	47	
MPE-11	5/17/2022	607	2205170919	N-Nitrosodimethylamine	0.14	µg/L	0.0096	0.0048	47	
MPE-8	5/17/2022	607	2205170846	N-Nitrosodimethylamine	2.1	µg/L	0.0098	0.0049	47	
MPE-9	6/9/2022	607	2206090903	N-Nitrosodimethylamine	3.49	µg/L	0.0096	0.0048	58	

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	5/13/2022	8260	2205130544	Trichloroethene (TCE)	49	ug/L	1	0.2		
B655-INF-2	6/10/2022	8260	2206100541	Trichloroethene (TCE)	41	ug/L	1	0.2		
B655-INF-2	6/10/2022	8260	2206100540	Trichloroethene (TCE)	40	ug/L	1	0.2		
B655-INF-2	7/19/2022	8260	2207190940	Trichloroethene (TCE)	55	ug/L	1	0.2		
MPE-1	5/17/2022	8260	2205170807	Trichloroethene (TCE)	73	ug/L	1	0.2		
MPE-1	5/17/2022	8260	2205170806	Trichloroethene (TCE)	76	ug/L	1	0.2		
MPE-10	5/18/2022	8260	2205180835	Trichloroethene (TCE)	55	ug/L	1	0.2		
MPE-11	5/17/2022	8260	2205170916	Trichloroethene (TCE)	5.2	ug/L	1	0.2		
MPE-8	5/17/2022	8260	2205170844	Trichloroethene (TCE)	68	ug/L	1	0.2		
MPE-9	6/9/2022	8260	2206090901	Trichloroethene (TCE)	70	ug/L	1	0.2		

Appendix E
Time-Concentration Plots



Time Concentration Plot Interpretations for Third Quarter 2022

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

October 2022

Appendix E:

Reporting Period: 3Q/2022

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	2022	0.43 DL	2010	0.21 DL	2022	0.63 DL	2010	0.2 DL	2022	0.005 DL	NP	2012	0.004 DL	NP	2022	N/A		N/A	
100-G-223 Conv	2005	Non Detect	0.48 DL	2010	0.24 DL	2022	0.43 DL	2010	0.21 DL	2022	0.63 DL	2010	0.2 DL	2022	0.005 DL	NP	2012	0.004 DL	NP	2022	N/A		N/A	
300-F-175 Conv	2005	Non Detect	0.48 DL	2010	0.24 DL	2022	0.43 DL	2010	0.21 DL	2022	0.63 DL	2010	0.2 DL	2022	0.005 DL	NP	2016	0.004 DL	NP	2022	N/A		N/A	
NASA 3 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	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	2022	1.00 DL	2010	0.21 DL	2022	1.00 DL	2010	0.2 DL	2022	0.05 RL	NP	1992	0.004 DL	NP	2022	N/A		N/A	
100-D-176 Conv	1997	Natural Migration (Decreasing)	1.60 DL	2003	0.24 DL	2021	2.00 DL	1999	0.21 DL	2021	9.60	1999	3.00	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
100-HG-139 MSVGM	2011	Non Detect	0.79 J	2011	0.24 DL	2022	0.33 J	2015	0.21 DL	2022	10	2014	0.2 DL	2022	0.005 DL	NP	2020	0.004 DL	NP	2022	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	2022	2.50 RL	1996	0.21 DL	2022	9.00	1998	2.10	2022	0.1	NP	1988	0.004 DL	NP	2022	N/A		N/A	
600-E WestBay	1998	Natural Migration (Decreasing)	1.60 DL	2002	0.24 DL	2022	2.00 DL	1999	0.21 DL	2022	2.00 DL	1999	0.62 J	2022	0.005 DL	NP	2016	0.004 DL	NP	2022	N/A		N/A	
600-G-138 Conv	2011	Natural Migration (Decreasing)	5.10	2017	0.48 J	2022	0.3 DL	2018	0.21 DL	2022	130	2012	41	2022	0.1 DL	NP	2021	0.004 DL	NP	2022	0.96 RB FB	2012	0.96 RB FB	2012
BW-3-180 Conv	1988	Natural Migration (Decreasing)	10	1988	0.44 J	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
NASA 4 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2022	2.50 RL	1995	0.21 DL	2022	3.50	2009	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	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	3.50	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.57 J	2022	0.05 RL	NP	1993	0.004 DL	NP	2022	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	90	2022	15 QD	1989	1.90	2022	290 QD	1989	47	2022	1.60	25	1993	0.3	44	2022	N/A		N/A	
200-C WestBay	1993	Natural Migration (Decreasing)	51	1996	12	2022	2.50 RL	1996	0.21 DL	2022	4.30	2003	1.90	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
200-D-240 Conv	1988	Natural Migration (Decreasing)	240 QD	1995	53	2022	2.50 RL	1995	0.34 J	2022	110	1990	15	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
200-F WestBay	1995	Natural Migration (No Overall Trend)	41	2005	4.70	2022	2.50 RL	1996	0.21 DL	2022	34	2009	21	2022	0.41 J A	1	2021	0.004 DL	NP	2022	N/A		N/A	
200-G WestBay	1995	Natural Migration (Decreasing)	55	1995	4.60 QD	2021	2.50 RL	1996	0.21 DL	2021	4.80	2004	2.10	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	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	0.004 DL	NP	2021	N/A		N/A	
200-I WestBay	1997	Natural Migration (No Overall Trend)	2.40 J	1999	0.27 J	2021	2.00 DL	1999	0.55 J	2021	35	2019	29	2021	0.021 J	42	2006	0.004 DL	NP	2021	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	2021	2.50 RL	1995	0.21 DL	2021	41	1991	3.30	2021	0.05 RL	NP	1997	0.004 DL	NP	2021	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	240	2022	2.50 RL	1996	0.21 DL	2022	7.00	1988	1.00 J	2022	48 QD	21	1995	3.30	47	2022	N/A		N/A	
300-B-166 Conv	1988	Natural Migration (Decreasing)	1600	1988	180	2022	2.50 RL	1996	0.21 DL	2022	8.00	1988	0.32 J	2022	14	39	1991	6.70	49	2022	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	8.10	2022	2.50 RL	1996	0.21 DL	2022	9.30	1997	1.20	2022	49 A	1	2021	0.015 J	45	2022	N/A		N/A	
400-A-151 Conv	1989	Natural Migration (No Overall Trend)	450	1990	230	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.9 J	2022	280	18	1991	13	45	2022	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	200	2021	2.50 RL	1996	0.21 DL	2021	2.50 RL	1996	1.40	2021	93	15	1989	6.30	54	2021	N/A		N/A	
400-EV-131 MSVGM	2017	Natural Migration (No Overall Trend)	520	2017	420	2022	0.3 DL	2018	0.21 DL	2022	13	2017	1.60	2022	3.30	46	2020	1.80	44	2021	N/A		N/A	
400-FV-131 MSVGM	2017	Natural Migration (No Overall Trend)	290	2021	230	2022	0.3 DL	2018	0.21 DL	2022	1.90	2021	1.40	2022	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	2022	0.3 DL	2018	0.21 DL	2022	1.80	2022	1.60	2022	5.70	44	2021	5.70	44	2021	N/A		N/A	
400-HV-147 MSVGM	2017	Natural Migration (No Overall Trend)	240	2021	150	2022	0.3 DL	2018	0.21 DL	2022	2.00	2017	0.54 J	2022	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	

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	670	2022	0.3 DL	2018	0.21 DL	2022	1.50	2017	0.8 J	2022	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	2022	2.50 RL	1996	0.21 DL	2022	5.00	1989	1.00	2022	130	18	1991	12	43	2022	N/A		N/A	
BW-5-295 Conv	1989	Natural Migration (No Overall Trend)	360	1989	85	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.35 J	2022	1.90	49	1997	0.95	44	2022	N/A		N/A	
BW-7-211 Conv	1989	Natural Migration (Decreasing)	2400	1991	120	2022	2.50 RL	1995	0.21 DL	2022	13	1989	1.10	2022	17	34	1994	1.70	42	2022	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	150	2021	2.50 RL	1996	0.21 DL	2021	5.00	1990	0.31 J	2021	95	21	1996	28 D	54	2021	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	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
700-B-510 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	
700-D-186 Conv	1990	Natural Migration (No Overall Trend)	2.50 RL	1995	0.5 J	2022	2.50 RL	1995	0.21 DL	2022	2.50 RL	1995	0.47 J	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
700-E-458 Conv	1990	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	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	

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	2022	0.62 DL	2004	0.21 DL	2022	1.90 RB TB EB	2021	0.2 DL	2022	0.005 DL	NP	2013	0.004 DL	NP	2022	N/A		N/A	
700-J-200 Conv	1999	Non Detect	1.60 DL	2003	0.16 DL	2022	0.62 DL	2004	0.21 DL	2022	3.70	2005	0.29 J	2022	0.005 DL	NP	2017	0.004 DL	NP	2022	N/A		N/A	
BLM-24-565 Conv	1991	Non Detect	2.50 RL	1995	0.24 DL	2022	2.50 RL	1995	0.21 DL	2022	2.50 RL	1995	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2021	N/A		N/A	
BLM-32 Westbay	1997	Non Detect	1.60 DL	2002	0.24 DL	2022	2.00 DL	1999	0.21 DL	2022	2.00 DL	1999	0.2 DL	2022	0.016 J	36	2004	0.004 DL	NP	2022	21	2015	0.63	2022
BLM-41-420 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2022	0.3 DL	2013	0.21 DL	2022	1.00	2013	0.2 DL	2022	0.005 DL	NP	2015	0.004 DL	NP	2021	5.40	2017	5.40 FB	2015
BLM-41-670 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2022	0.28 DL	2018	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.005 DL	NP	2013	0.004 DL	NP	2021	5.50 FB	2017	5.50 FB	2017
BW-6-355 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.32	37	2004	0.004 DL	NP	2022	N/A		N/A	
JER-1 Westbay	2004	Fluctuating LL NDMA	0.6 DL	2004	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.72	2011	0.2 DL	2022	0.014 J	41	2005	0.004 DL	NP	2021	360	2009	1.18	2022
JER-2 Westbay	2004	Non Detect	0.6 DL	2004	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.63 DL	2010	0.2 DL	2022	0.016 J	43	2005	0.004 DL	NP	2021	290 QD	2006	0.49	2022

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	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1996	0.004 DL	NP	2022	N/A		N/A	
BLM-13-300 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	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	2022	0.3 DL	2017	0.21 DL	2022	0.22 DL	2017	0.2 DL	2022	0.005 DL	NP	2018	0.004 DL	NP	2022	1.10	2017	1.10	2017
BLM-40-595 FLUTe	2013	Non Detect	0.27 DL	2018	0.24 DL	2022	0.28 DL	2018	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.005 DL	NP	2019	0.004 DL	NP	2021	0.67 FB	2014	0.4 DL	2022
BLM-40-688 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2022	0.3 DL	2016	0.21 DL	2022	0.22 DL	2016	0.2 DL	2022	0.005 DL	NP	2015	0.004 DL	NP	2021	0.74	2016	0.74	2016
BLM-6-488 Conv	1990	Natural Migration (No Overall Trend)	3.10 J	1999	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	14	1999	2.20	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	45 FB	2001	0.4 DL	2022

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-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	
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	0.004 DL	NP	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	98 Q	2022	9.20	2002	2.20 Q	2022	180	1995	61	2022	1.20	18	2002	0.43	44	2022	N/A		N/A	
BLM-15-305 Conv	1989	Natural Migration (Decreasing)	770	1991	88	2022	2.50 RL	1996	0.21 DL	2022	22	1989	1.40	2022	150 A	8	1989	22 D	42	2022	N/A		N/A	
BLM-18-430 Conv	1989	Natural Migration (Decreasing)	120 QD	2005	19	2022	2.50 RL	1996	0.48 J	2022	58	2009	14	2022	0.15 QD	31	2009	0.023	42	2022	N/A		N/A	
BLM-21-400 Conv	1991	Natural Migration (Decreasing)	320	1996	75	2022	12	1995	2.50	2022	220	1991	52	2022	5.60	16	1995	0.85	46	2022	N/A		N/A	
BLM-22-570 Conv	1990	Non Detect	2.50 RL	1995	0.24 DL	2022	2.50 RL	1995	0.21 DL	2022	2.50 RL	1995	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
BLM-23-431 Conv	1990	Natural Migration (Decreasing)	240	1995	44	2022	8.00	1991	1.60	2022	240	1995	54	2022	1.10	33	2006	0.47	49	2022	N/A		N/A	
BLM-26-404 Conv	1991	Natural Migration (Decreasing)	110	2008	67	2022	2.50 RL	1996	0.49 J	2022	28	2008	21	2022	1.20	50	1991	0.32	44	2022	N/A		N/A	
BLM-27-270 Conv	1991	Natural Migration (No Overall Trend)	500	2010	350	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.97 J	2022	13	41	2006	3.50	58	2022	N/A		N/A	
BLM-36 WestBay	2000	Pumping Related Migration (No Overall Trend)	98	2011	30	2022	4.40	2011	2.40	2022	97	2008	51	2022	2.00	43	2007	1.10	44	2022	N/A		N/A	
BLM-38 WestBay	2000	Fluctuating LL NDMA	1.60 DL	2003	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.7 DL	2003	0.2 DL	2022	0.024 J	33	2002	0.004 DL	NP	2022	1.20	2022	1.20	2022
BLM-39 WestBay	2000	Natural Migration (Decreasing)	340	2005	4.00	2022	10	2007	0.65 J	2022	330 QD	2002	12	2022	9.70	19	2002	0.022	44	2022	N/A		N/A	
BLM-5-527 Conv	1988	Natural Migration (Incr easing)	23	2020	16	2022	2.50 RL	1996	0.62 J	2022	29	2020	27	2022	0.26	43	2022	0.26	43	2022	220 G	2017	220 G	2017

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-8-418 Conv	1988	Non Detect	2.50 RL	1996	0.27 J	2022	2.50 RL	1996	0.21 DL	2022	3.80 QD	2001	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	N/A		N/A	
BLM-9-419 Conv	1989	Natural Migration (Decreasing)	320	1991	3.50	2022	12	1989	0.21 DL	2022	240	1989	2.50	2022	8.80	16	1995	0.005 DL	NP	2022	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	55	2022	31	1989	2.70	2022	430	1989	57	2022	11 A Q	7	1989	1.10	44	2022	N/A		N/A	
BLM-17-550 Conv	1990	Natural Migration (Decreasing)	440	1991	80	2022	20	1990	3.00	2022	390	1991	65	2022	8.10	16	1995	1.30	42	2022	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	2022	8.00	1991	0.21 DL	2022	310 QD	1988	0.38 J	2022	1.30	31	2002	0.004 DL	NP	2021	N/A		N/A	
PL-1-486 Conv	1988	Pumping Related Migration (Decreasing)	190	1996	0.26 J	2022	4.60	2004	0.21 DL	2022	180	2004	0.25 J	2022	0.093	43	2005	0.004 DL	NP	2022	260 QD	2002	0.4 DL	2022
PL-2-504 Conv	1989	Pumping Related Migration (Decreasing)	230	1996	31	2022	2.50 RL	1996	0.85 J	2022	180	2004	49	2022	0.45 QD	58	2021	0.071	42	2022	300 G RB Q	2020	300 G RB Q	2020
ST-1-473 Conv	1989	Pumping Related Migration (Decreasing)	610	1996	51	2022	13	2010	1.10	2022	370	2005	100	2022	1.70	27	2009	0.45	53	2022	N/A		N/A	
ST-1-541 Conv	1992	Pumping Related Migration (Decreasing)	790	1995	180	2022	37	1995	7.00	2022	650	1995	150	2022	4.80 QD	37	2003	2.70	47	2022	N/A		N/A	
ST-1-630 Conv	1992	Pumping Related Migration (Decreasing)	410	2006	180 Q	2022	19 QD	2007	6.70 Q	2022	440	2000	200 Q	2022	1.90	40	2019	0.3	53	2022	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
[1]ST-3-486	1991	Pumping Related Migration (Decreasing)	800	1996	2.70	2022	19	2003	0.21 DL	2022	690	1991	2.90	2022	4.40	45	2011	0.068	58	2022	N/A		N/A	
ST-3-586 Conv	1992	Pumping Related Migration (Decreasing)	640 T TB Q	1996	2.80	2022	15	2007	0.25 J	2022	320	2005	5.00	2022	3.80 QD	37	2003	0.017	58	2022	N/A		N/A	
ST-3-666 Conv	1992	Pumping Related Migration (Decreasing)	280	2009	3.80 Q	2022	15	2009	0.34 J Q	2022	320	2009	5.80 Q	2022	3.70	30	2006	0.19	42	2022	N/A		N/A	
ST-3-735 Conv	1992	Pumping Related Migration (Decreasing)	240	2005	13	2021	14	2007	0.96 J	2021	320	2005	25	2021	7.80 QD	32	2009	0.94	50	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	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	4.40	2012	0.2 DL	2022	0.095 RL	NP	1988	0.004 DL	NP	2022	5.90	2020	0.4 DL	2022
BLM-7-509 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.09 J	32	1996	0.004 DL	NP	2022	0.76 FB	2018	0.4 DL	2022
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	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	21	2005	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	2.70 RB FB	2005	0.4 DL	2022
PL-6 Westbay	1992	Non Detect	4.10 J	1996	0.24 DL	2022	5.60	1996	0.21 DL	2022	4.90 J	1996	0.2 DL	2022	0.64	28	1999	0.004 DL	NP	2022	23	2001	0.4 DL	2022
PL-7 Westbay	1993	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	4.90	2021	0.85	2022
ST-2-466 Conv	1989	Non Detect	2.50 RL	1995	0.24 DL	2022	2.50 RL	1995	0.21 DL	2022	2.50 RL	1995	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	2.60 RB	2004	2.60 RB	2004
ST-4-481 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	1.80 FB	2012	0.4 DL	2022
ST-4-589 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2021	1.10 RB Q	2008	0.4 DL	2022
ST-4-690 Conv	1992	Non Detect	3.00 J	1998	0.24 DL	2022	2.50 RL	1995	0.21 DL	2022	10	1998	0.2 DL	2022	0.05 RL	NP	1997	0.005 DL	NP	2022	2.70	2008	0.41 DL	2022

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-5 Westbay	1992	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.005 DL	NP	2022	7.20	2017	0.4 J	2022
ST-5-481 Conv	1992	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.005 DL	NP	2022	0.7 FB	2002	0.7 FB	2002
ST-6 Westbay	1998	Non Detect	21 EB	2005	0.38 J	2022	2.00 DL	1999	0.21 DL	2022	67	2004	0.5 J	2022	0.012	90	2017	0.004 DL	NP	2021	28 RB FB Q	2005	0.4 DL	2022
ST-7 Westbay	1999	Pumping Related Migration (No Overall Trend)	1.70	2022	1.50	2022	0.62 DL	2004	0.21 DL	2022	1.90	2022	1.60	2022	0.005 DL	NP	2013	0.004 DL	NP	2021	3.80 FB	2002	0.41 DL	2022
WW-1-452 Conv	1988	Non Detect	5.00 RL	1988	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.3 T	30	2006	0.004 DL	NP	2022	3.20 RB FB	2012	0.4 DL	2022

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	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2022	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	2022	0.24 DL	2022	0.21 DL	2022	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.004 DL	NP	2021	0.004 DL	NP	2021	1.60 RB * TB FB	2021	0.4 DL	2022
BLM-42-709 Conv	2020	Non Detect	0.24 DL	2022	0.24 DL	2022	0.21 DL	2022	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.004 DL	NP	2020	0.004 DL	NP	2021	1.50 RB * FB	2021	1.00	2022
JP-1-424 Conv	1988	Non Detect	5.50	2001	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	2.50 RL	1996	0.2 DL	2022	0.061 J	36	1998	0.005 DL	NP	2021	15 RB QD	2004	0.4 DL	2022
JP-2-447 Conv	1988	Non Detect	2.50 RL	1996	0.24 DL	2022	2.50 RL	1996	0.21 DL	2022	4.50	2001	0.2 DL	2022	0.05 RL	NP	1997	0.004 DL	NP	2021	14	2000	0.4 DL	2022
JP-3-509 Conv	2013	Non Detect	0.27 DL	2019	0.24 DL	2022	0.28 DL	2019	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.004 DL	NP	2017	0.004 DL	NP	2021	0.85 * TB	2021	0.4 DL	2022
JP-3-689 Conv	2014	Non Detect	0.27 DL	2019	0.24 DL	2022	0.28 DL	2019	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.005 DL	NP	2014	0.004 DL	NP	2021	1.80 TB FB	2021	0.4 DL	2022
PL-10 Westbay	2002	Non Detect	1.60 DL	2003	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.62 DL	2004	0.2 DL	2022	0.005 DL	NP	2021	0.005 DL	NP	2021	6.10	2019	0.43 J	2022
PL-11 FLUTe	2017	Fluctuating LL NDMA	0.45 J	2019	0.31 J	2022	0.28 DL	2018	0.21 DL	2022	0.22 J	2019	0.2 DL	2022	0.005 DL	NP	2017	0.004 DL	NP	2021	5.90 SP	2019	1.50	2022
PL-12-570 Conv	2020	Pumping Related	17	2020	4.00	2022	0.46 J	2020	0.21 DL	2022	20	2020	3.80	2022	0.004 DL	NP	2020	0.004 DL	NP	2021	3.60	2020	0.62 TB	2022

Reporting Period: 3Q/2022

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)																						
PL-12-800 Conv	2020	Pumping Related Migration (No Overall Trend)	14	2020	5.00	2022	0.24 J	2021	0.21 DL	2022	17	2020	6.10	2022	0.004 DL	NP	2021	0.004 DL	NP	2021	4.60 FB	2021	1.80	2022
PL-8 Westbay	2000	Non Detect	1.60 DL	2002	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.7 DL	2003	0.2 DL	2022	0.005 DL	NP	2015	0.004 DL	NP	2022	12 FB	2002	0.4 DL	2022
WW-2-489 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2022	0.28 DL	2018	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.005 DL	NP	2014	0.004 DL	NP	2021	0.41 J FB	2016	0.4 DL	2022
WW-2-664 Conv	2013	Non Detect	0.27 DL	2018	0.24 DL	2022	0.28 DL	2018	0.21 DL	2022	0.2 DL	2022	0.2 DL	2022	0.005 DL	NP	2014	0.004 DL	NP	2021	1.80 RB * FB	2021	0.4 DL	2022
WW-3 Westbay	2001	Non Detect	1.60 DL	2002	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.7 DL	2003	0.2 DL	2022	0.012 J	40	2004	0.004 DL	NP	2021	95 RB *	2007	0.4 DL	2022
WW-4 Westbay	2001	Fluctuating LL NDMA	1.60 DL	2002	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.7 DL	2003	0.2 DL	2022	0.005 DL	NP	2016	0.004 DL	NP	2022	35	2016	4.68	2022
WW-5 Westbay	2001	Fluctuating LL NDMA	1.60 DL	2003	0.24 DL	2022	0.62 DL	2004	0.21 DL	2022	0.62 DL	2004	0.2 DL	2022	0.005 DL	NP	2016	0.004 DL	NP	2021	6.50 *	2021	6.09	2022

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	200	2022	8.70	2010	3.60	2022	180	2010	76	2022	25	30	2009	6.60	47	2022	N/A		N/A	
MPE-10 Conv*	2004	Pumping Related Migration (No Overall Trend)	150	2017	82	2022	3.50	2020	2.50	2022	70	2021	55	2022	8.50	40	2021	7.00	47	2022	N/A		N/A	
MPE-11 Conv*	2004	Pumping Related Migration (No Overall Trend)	65	2008	9.70	2022	1.60	2008	0.26 J	2022	41	2008	5.20	2022	1.60	40	2007	0.32	47	2022	N/A		N/A	
MPE-8 Conv*	2003	Pumping Related Migration (No Overall Trend)	200	2020	150	2022	4.20	2021	2.90	2022	88	2021	68	2022	6.50	40	2021	4.50	47	2022	N/A		N/A	
MPE-9 Conv*	2004	Pumping Related Migration (No Overall Trend)	250	2015	76	2022	5.60	2018	2.80	2022	130	2018	70	2022	13	35	2019	6.00	58	2022	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
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	2022	7.60	2007	2.40	2022	220	2007	58	2022	0.39	38	2021	0.34	44	2022	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	0.91 J	2022	8.40	2007	0.21 DL	2022	240	2004	1.20	2022	0.26	36	2010	0.004 DL	NP	2022	N/A		N/A	
²PFE-5	2000	Pumping Related Migration (Decreasing)	120	2009	21	2022	7.70	2006	1.90	2022	180	2009	42	2022	2.40	33	2006	0.58	41	2022	N/A		N/A	
PFE-7 Conv*	2001	Pumping Related Migration (Decreasing)	32	2004	4.20	2022	0.81 J	2004	0.21 DL	2022	41	2004	4.40	2022	0.022	44	2004	0.004 DL	NP	2022	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.

J = Concentration values between the detection limit and practical quantitation limit.

FB = Detected in field blank

EB = Detected in equipment blank

NP = NDMA Method 607 extraction efficiency not provided where the analytical result is non-detect (eg, 0.004DL or 0.05RL)

TB = Detected in trip blank

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.

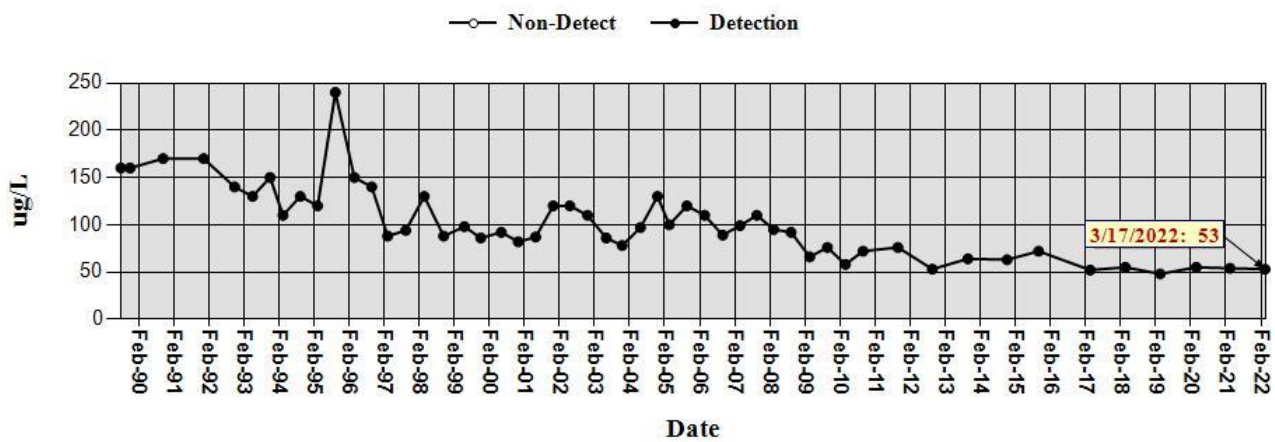
DL = Maximum detection limit and most recent year they were used are reported in the table. Detection limits can change over time, typically decreasing as analytical techniques improve.

[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.

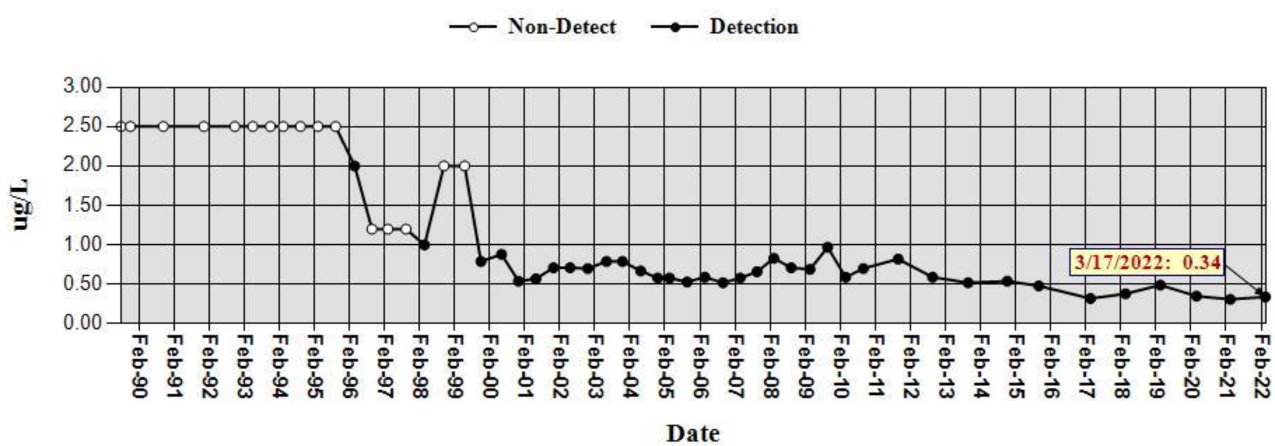
Well ID: 200-D-240
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



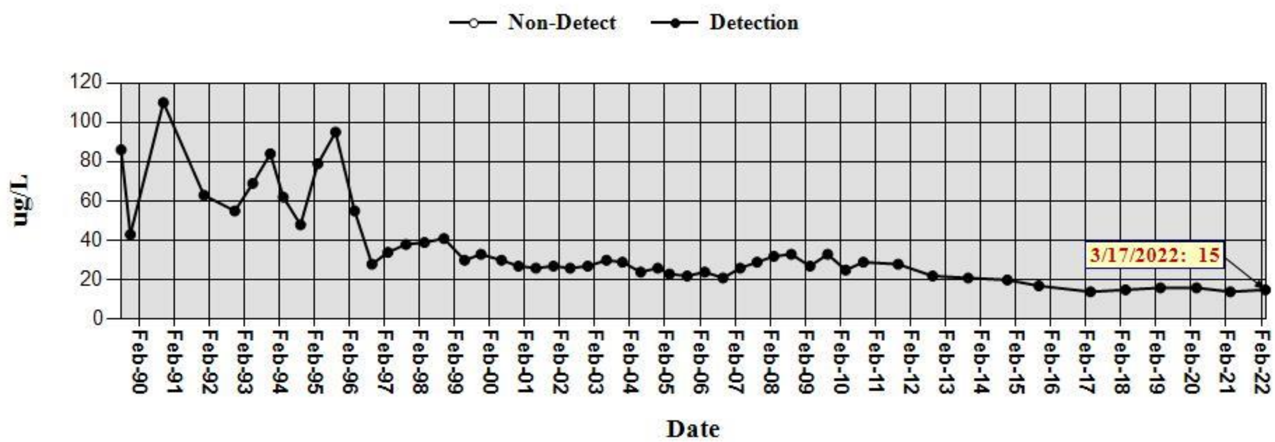
Well ID: 200-D-240
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: 200-D-240
CAS RN: 79-01-6 Trichloroethene

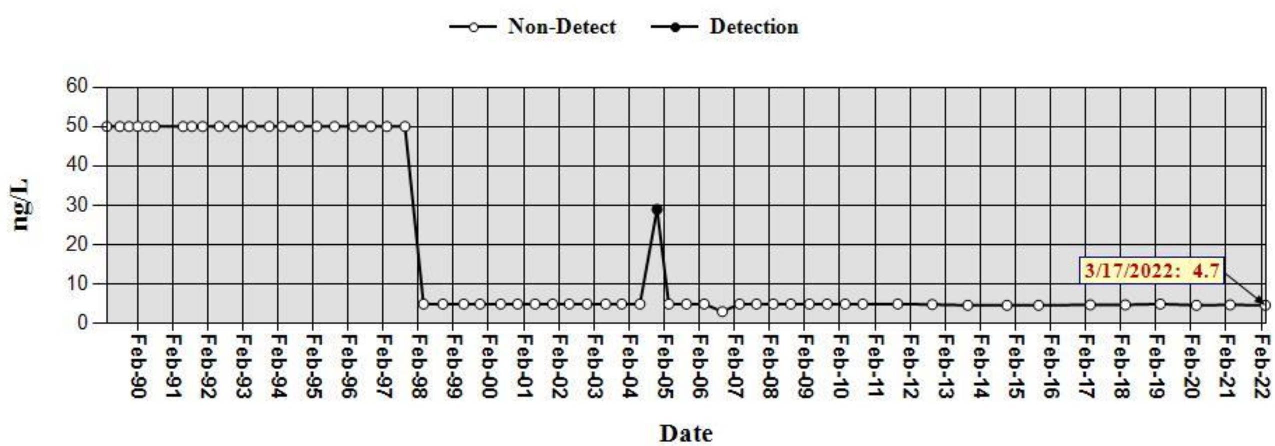
Analysis: 8260



Well ID: 200-D-240
CAS RN: 62-75-9 N-Nitrosodimethylamine

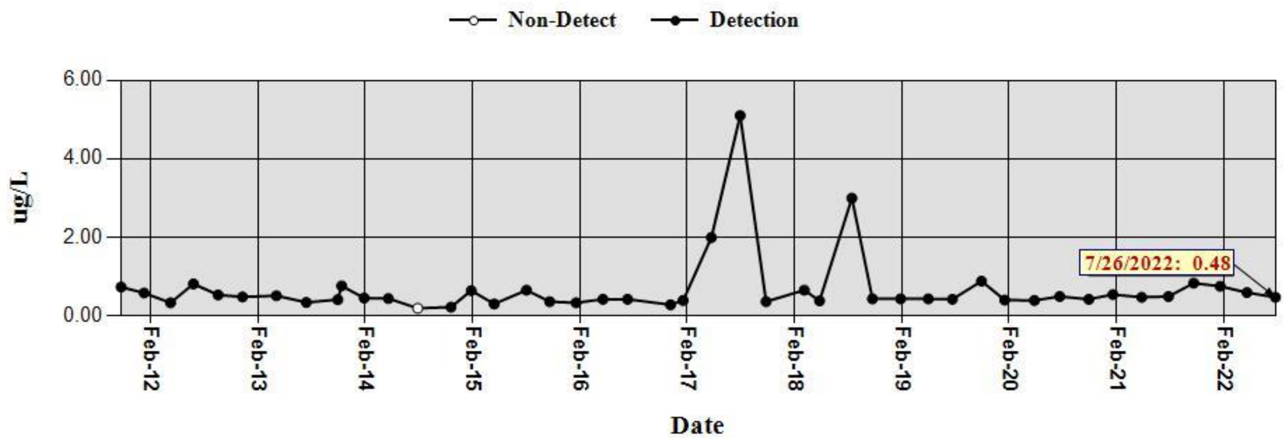
Analysis: 607

Results are Corrected for Extraction Efficiency



Well ID: 600-G-138
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



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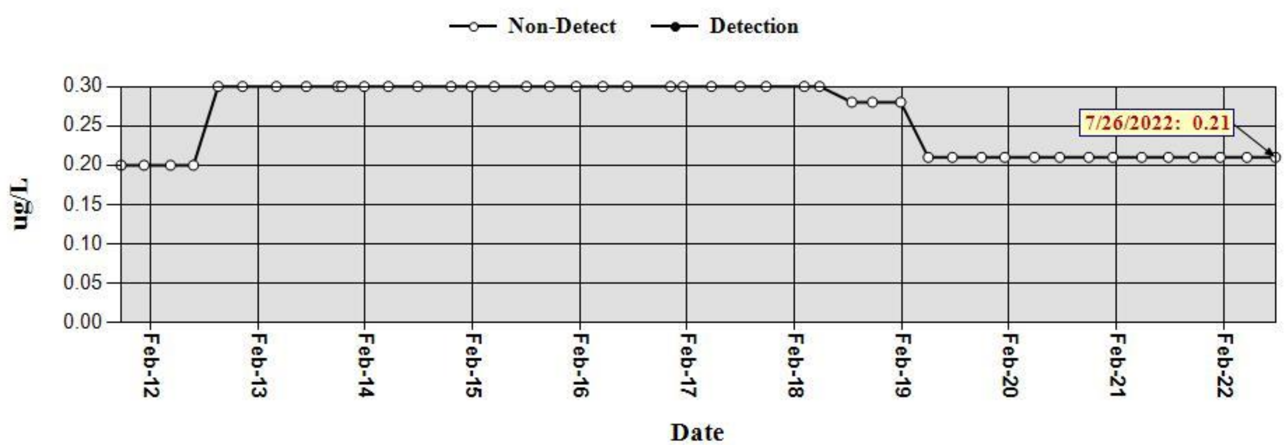
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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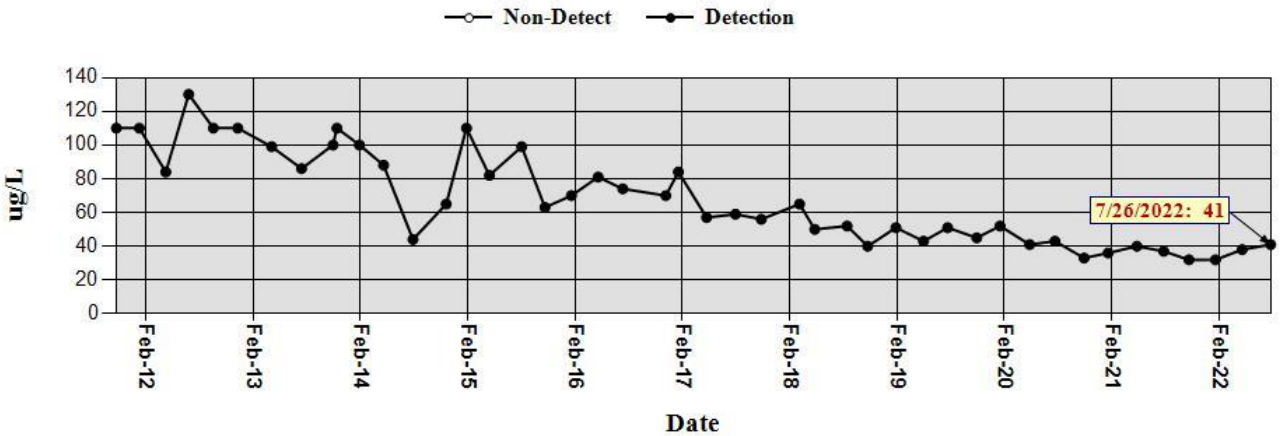
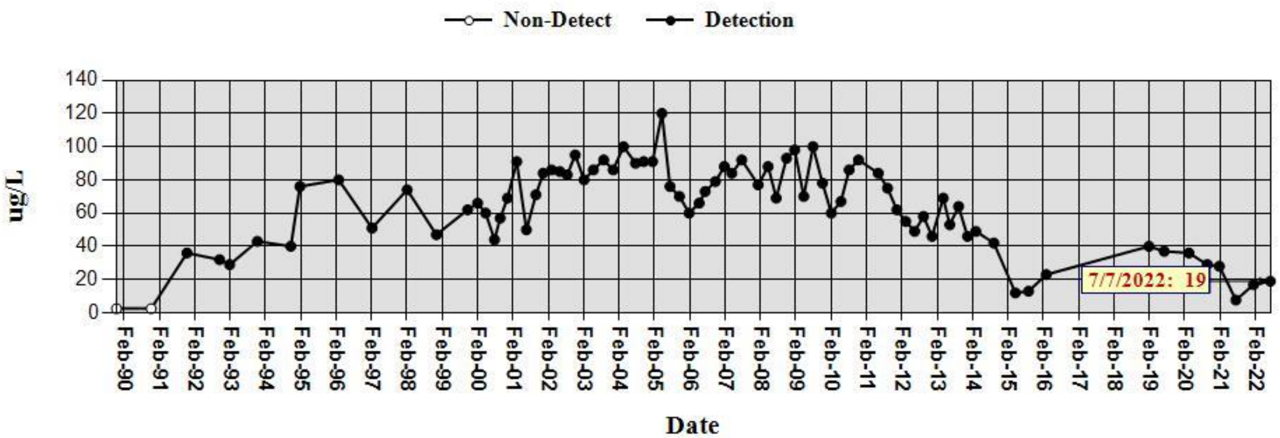
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



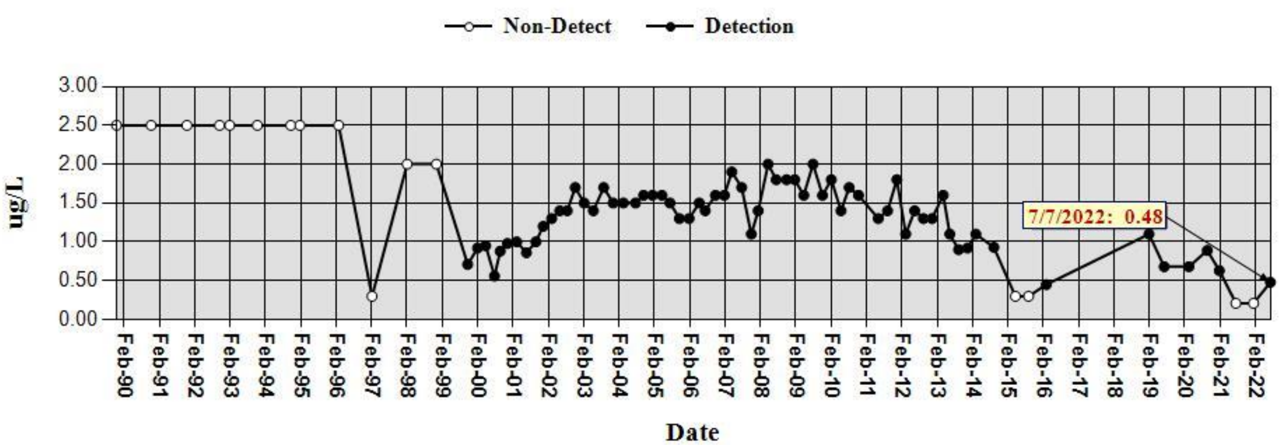
Well ID: BLM-18-430
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: BLM-18-430
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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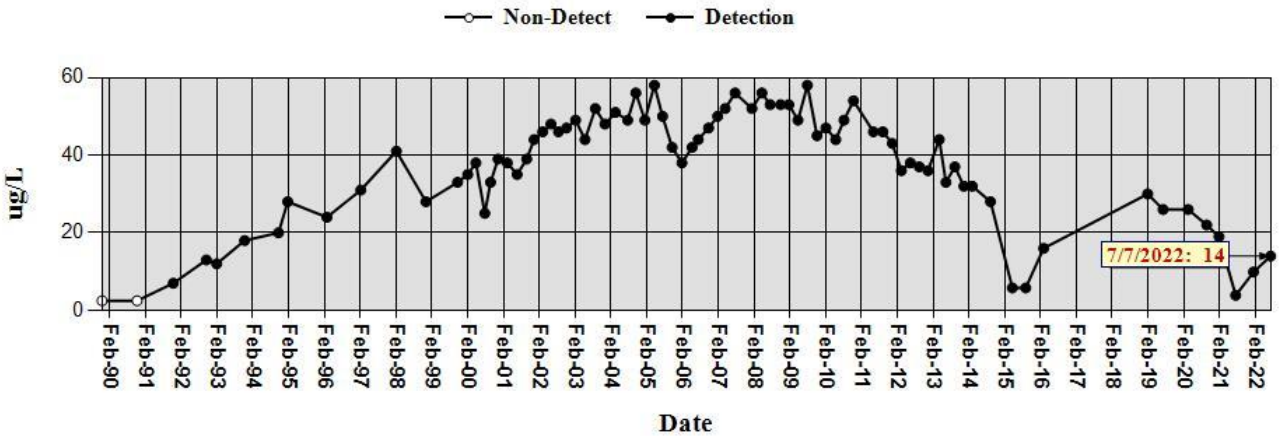
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



Well ID: BLM-18-430
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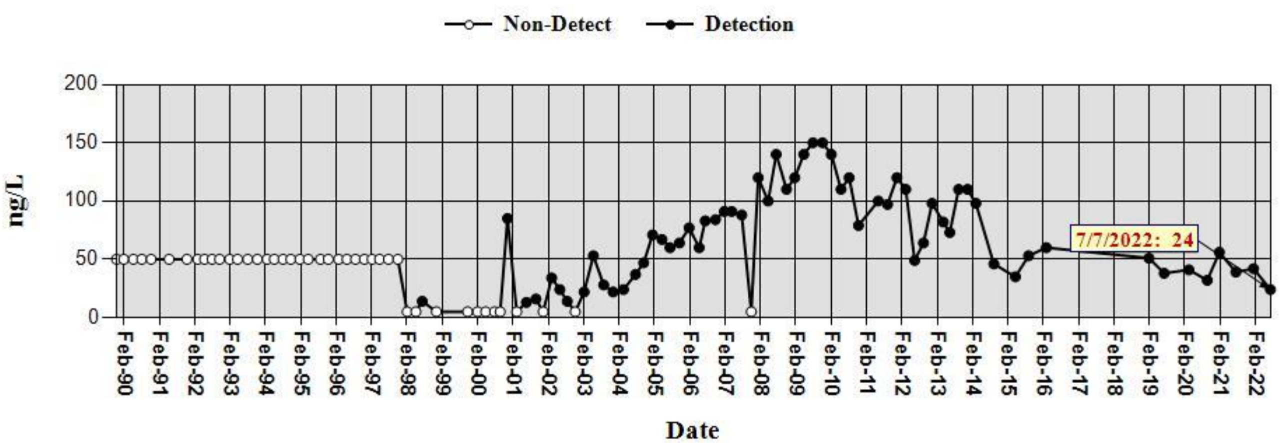
Analysis: 607

Results are Corrected for Extraction Efficiency



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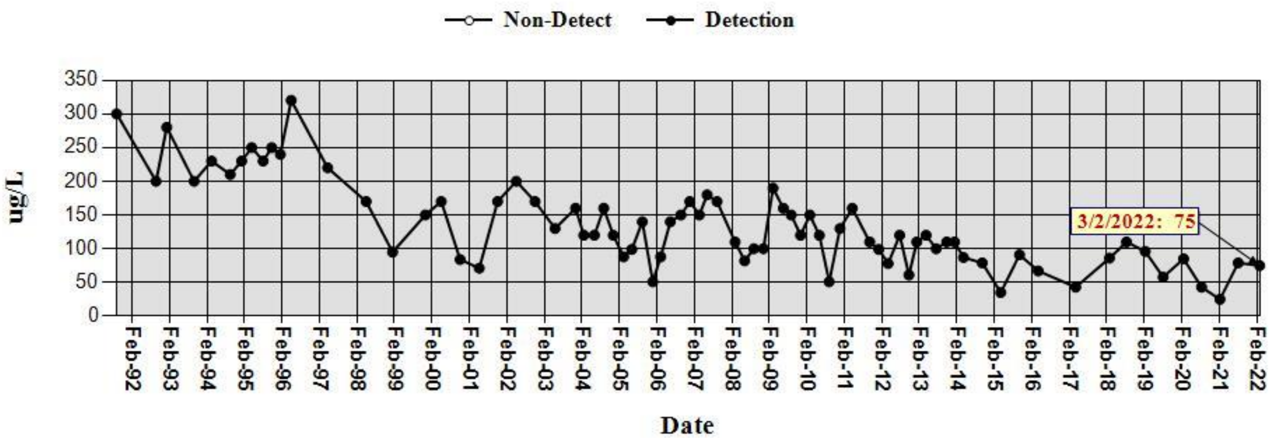
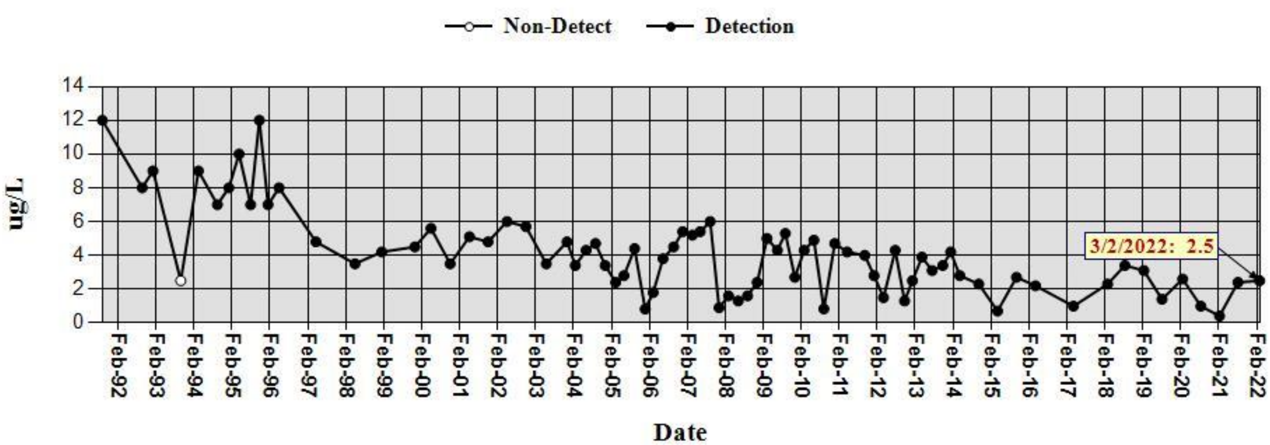
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



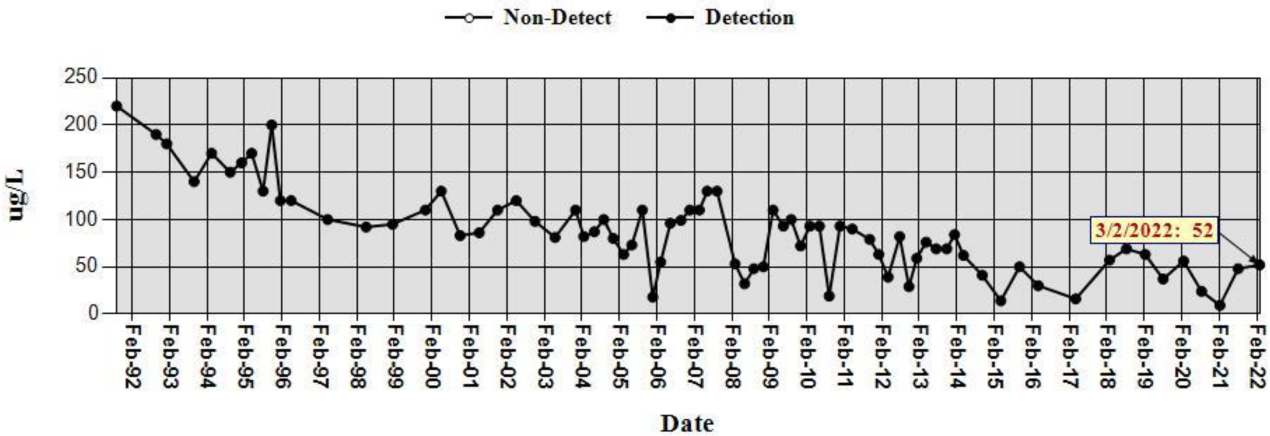
Well ID: BLM-21-400
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: BLM-21-400
CAS RN: 79-01-6 Trichloroethene

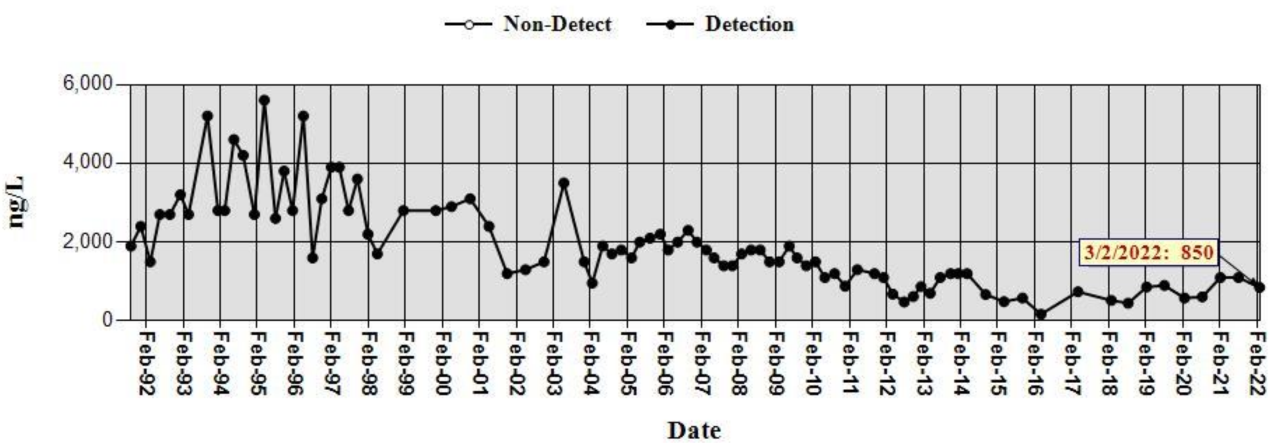
Analysis: 8260



Well ID: BLM-21-400
CAS RN: 62-75-9 N-Nitrosodimethylamine

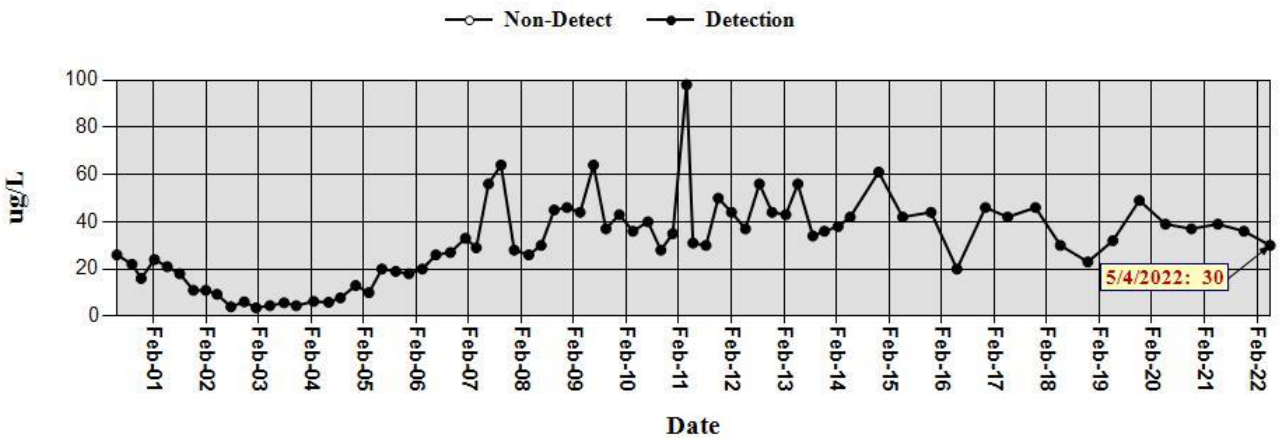
Analysis: 607

Results are Corrected for Extraction Efficiency



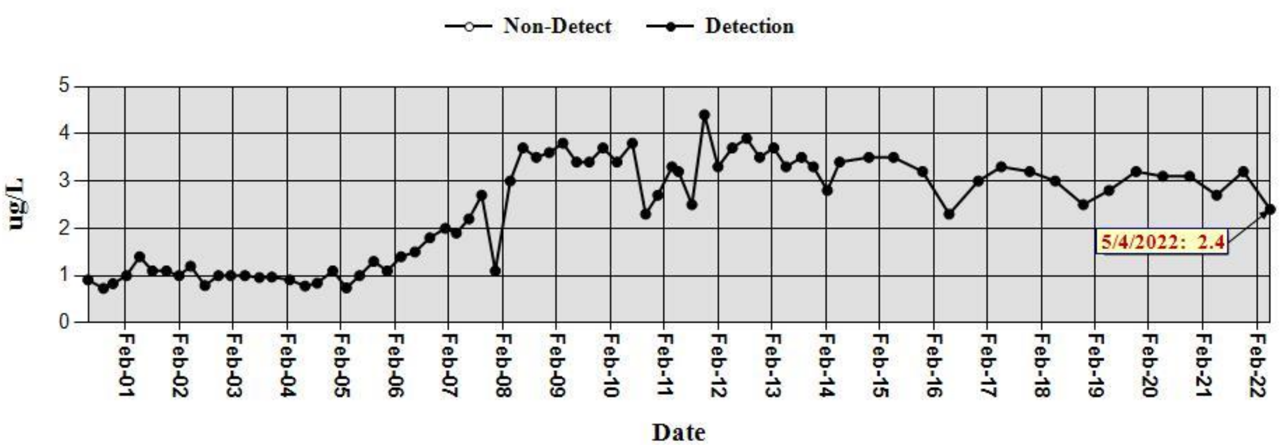
Well ID: BLM-36-350
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



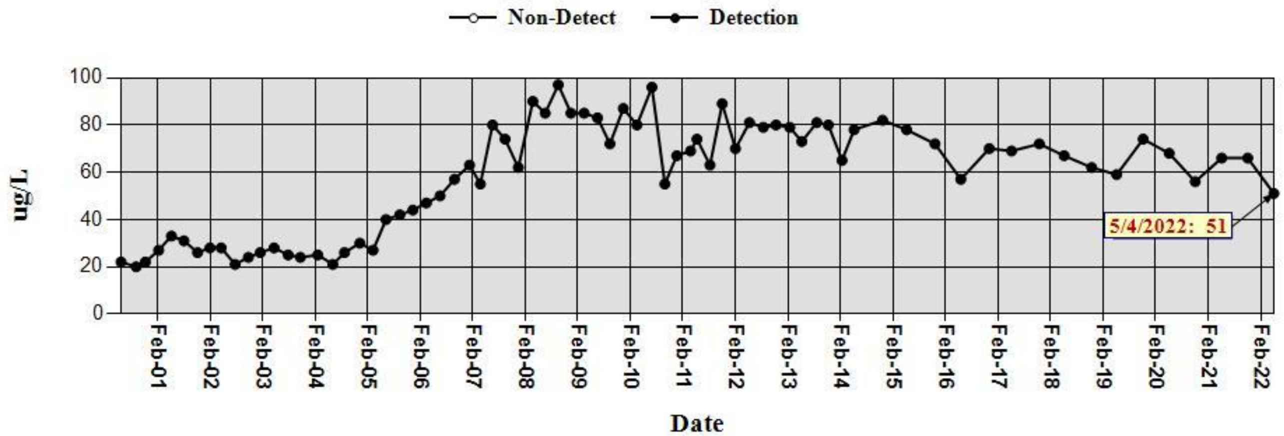
Well ID: BLM-36-350
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: BLM-36-350
CAS RN: 79-01-6 Trichloroethene

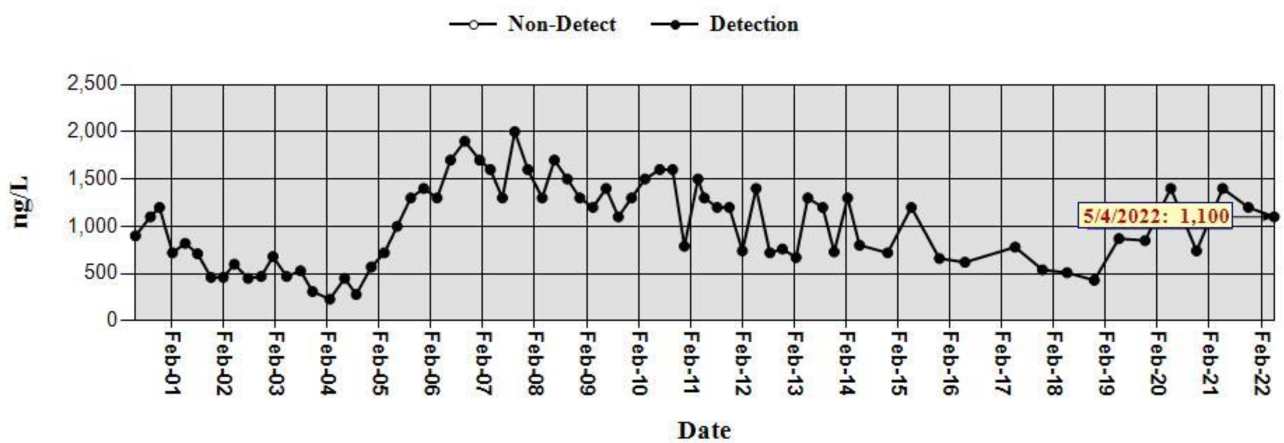
Analysis: 8260



Well ID: BLM-36-350
CAS RN: 62-75-9 N-Nitrosodimethylamine

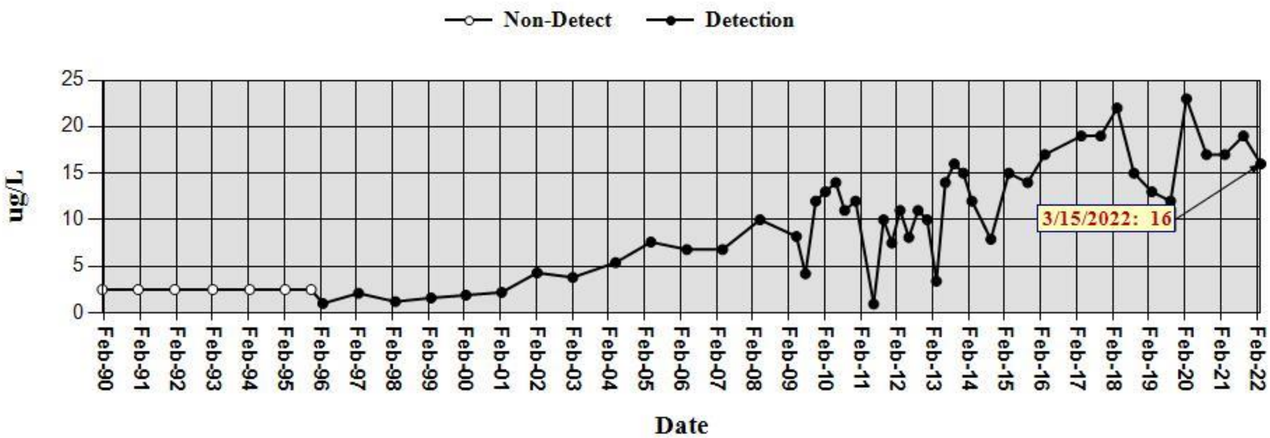
Analysis: 607

Results are Corrected for Extraction Efficiency



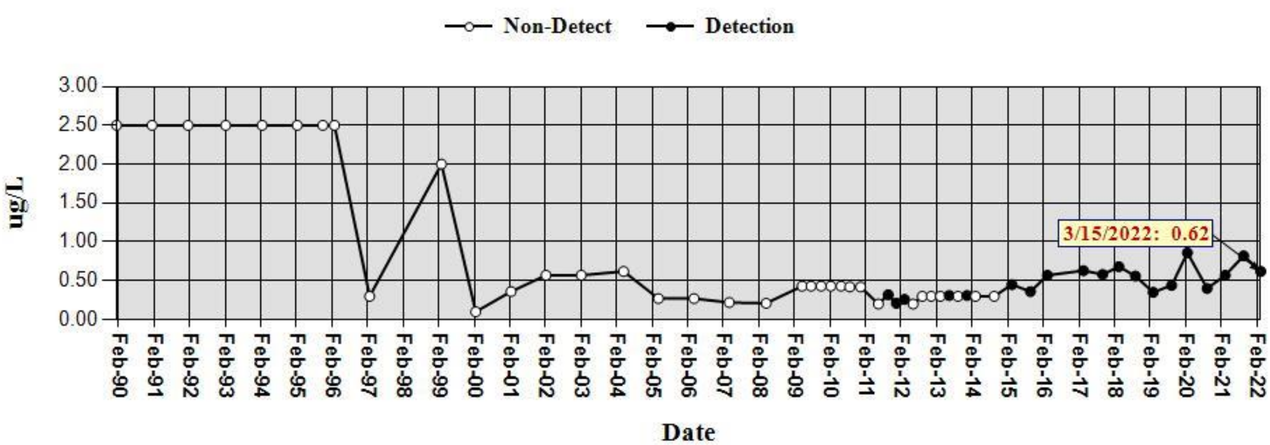
Well ID: BLM-5-527
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



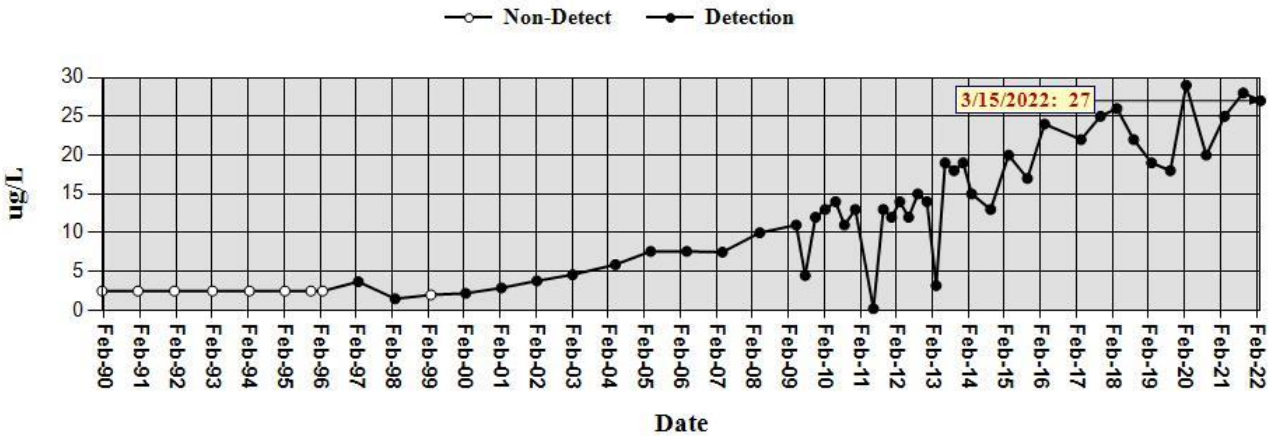
Well ID: BLM-5-527
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



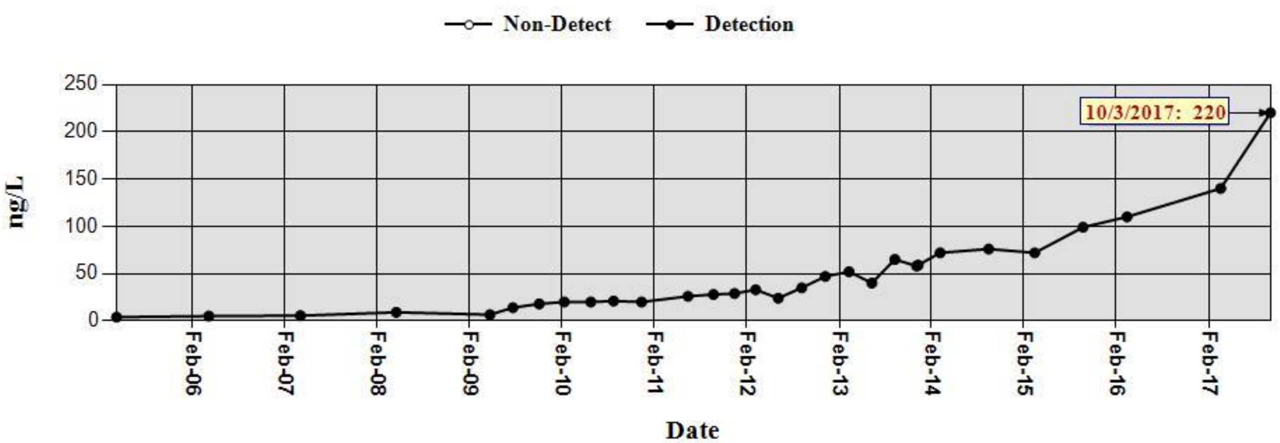
Well ID: BLM-5-527
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



Well ID: BLM-5-527
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: NDMA_LL



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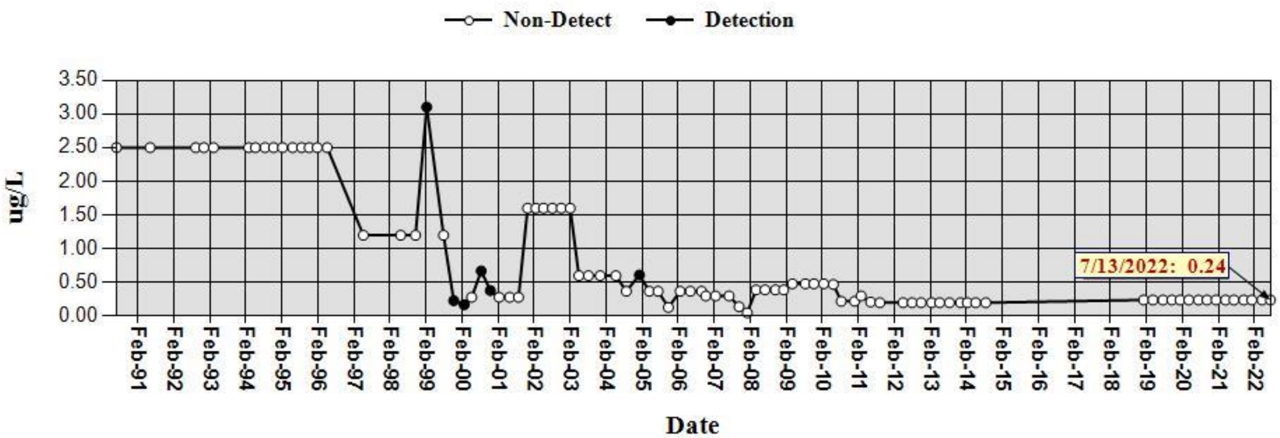
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: BLM-6-488
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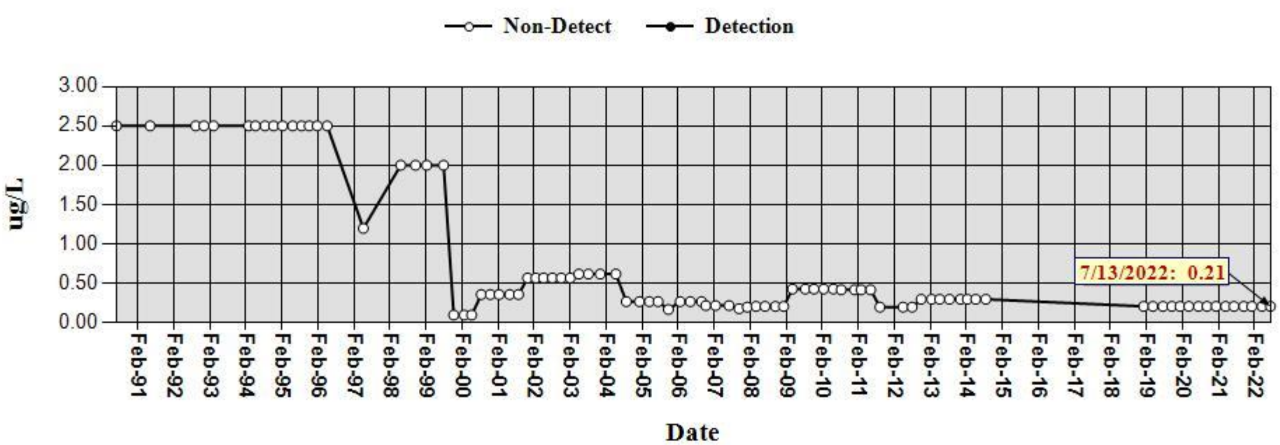
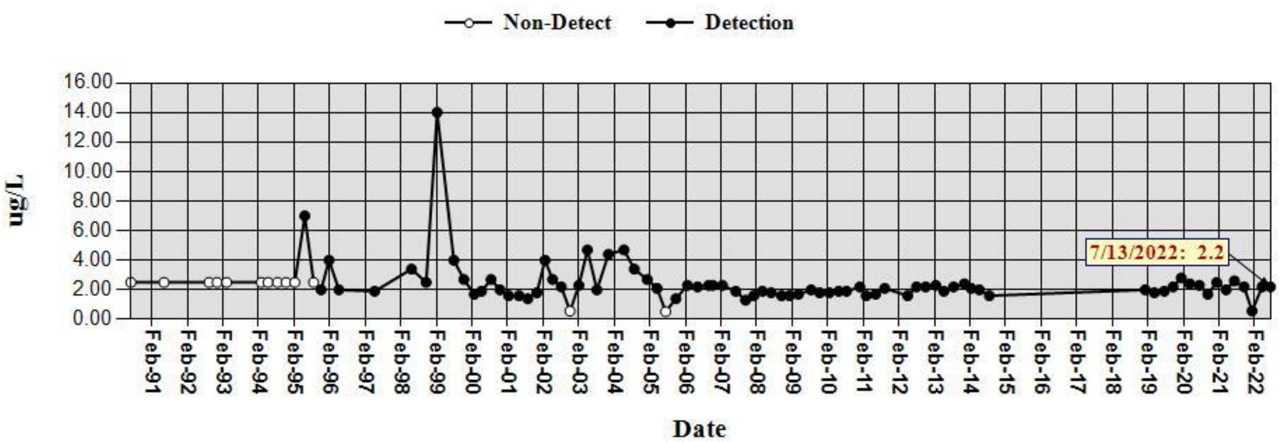
Analysis: 8260



Well ID: BLM-6-488
CAS RN: 79-01-6 Trichloroethene

Analysis: 8260



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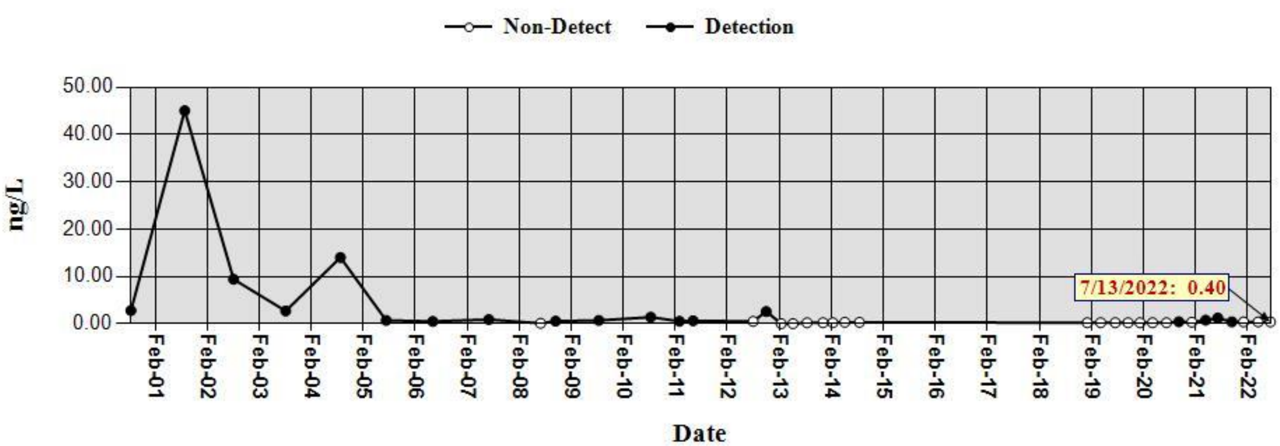
Analysis: NDMA_LL



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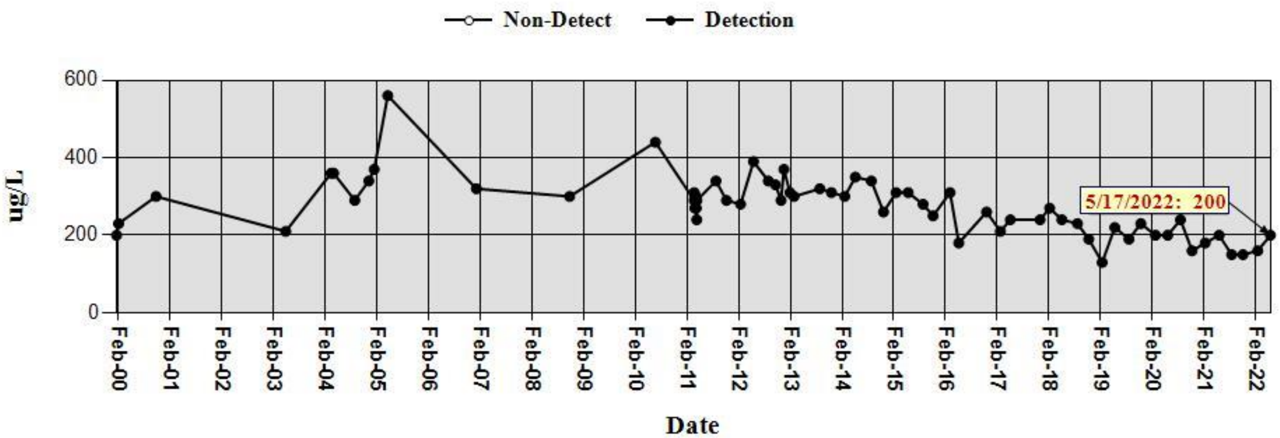
Analysis: 8260



Well ID: MPE-1
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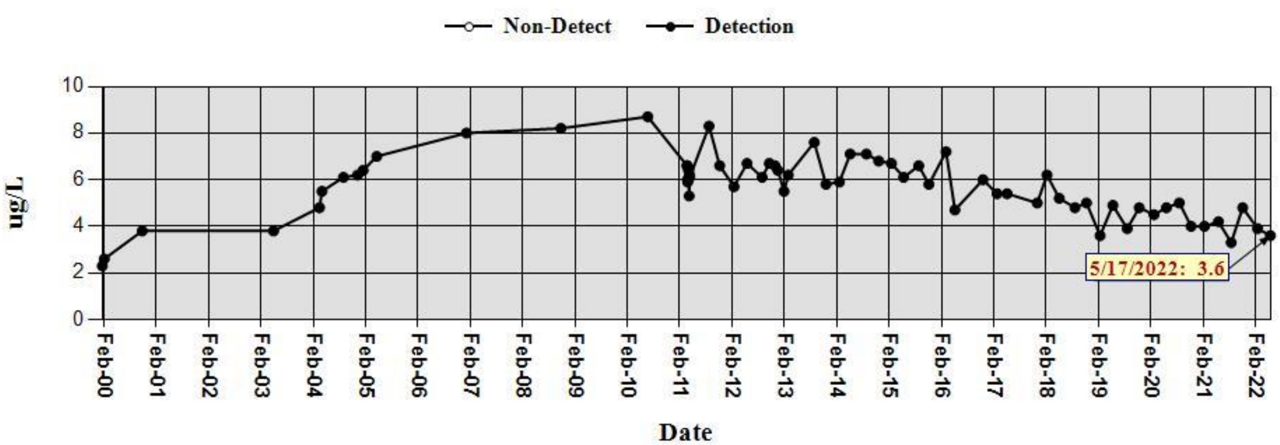
Analysis: 8260



Well ID: MPE-1
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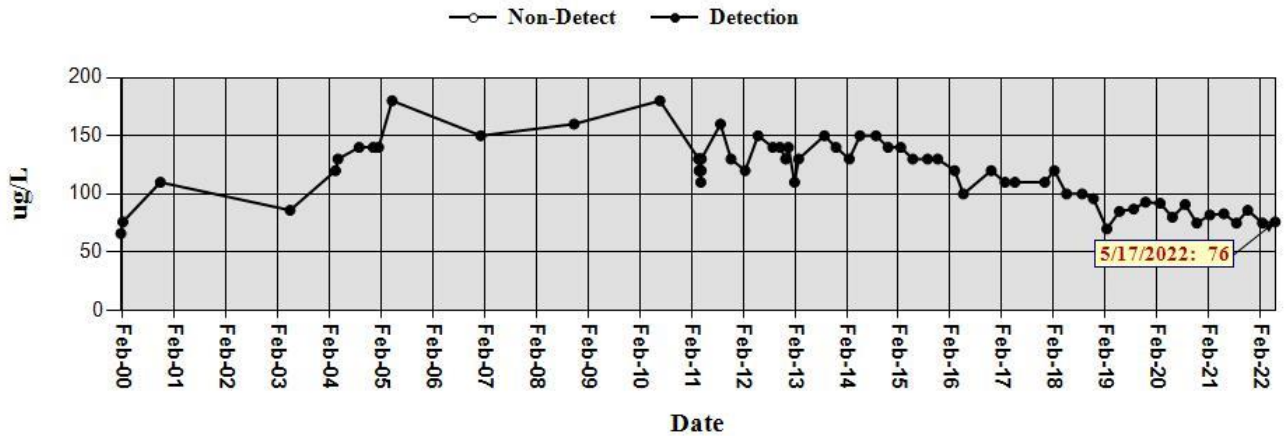
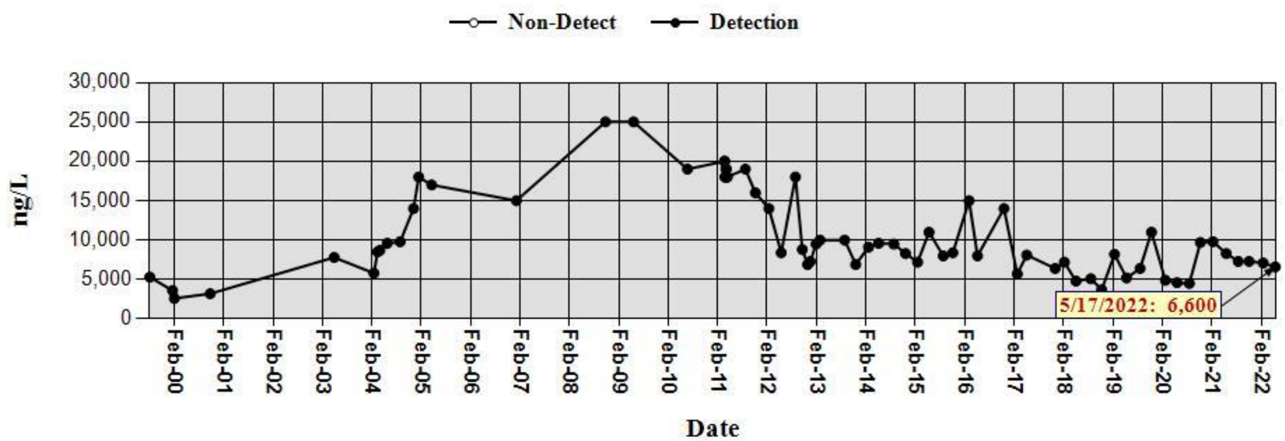
Analysis: 8260



Well ID: MPE-1
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



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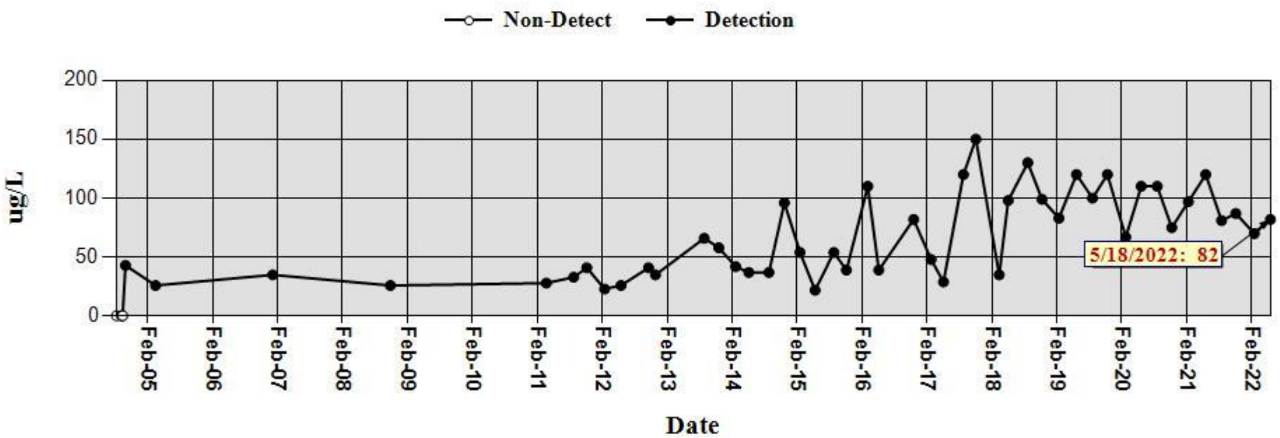
Analysis: 8260



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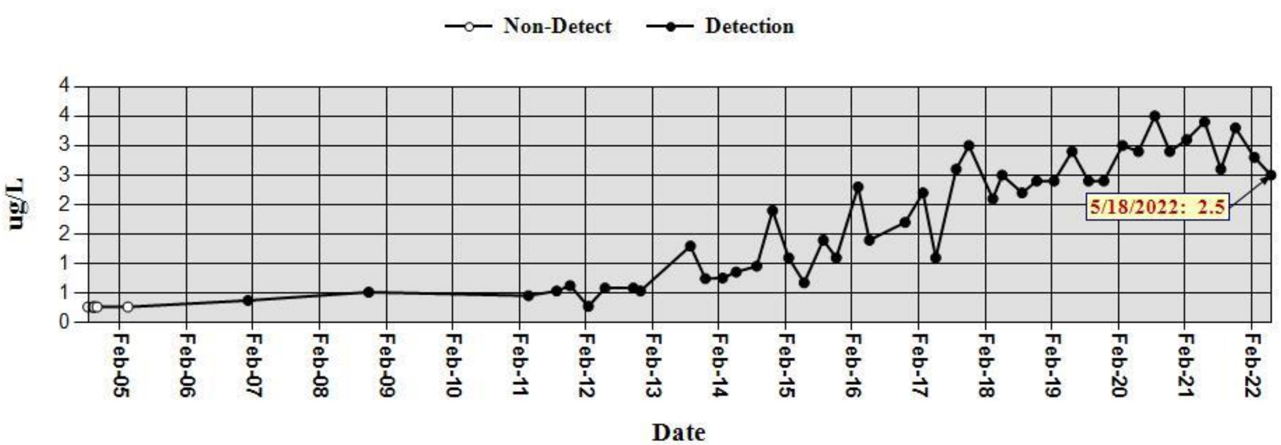
Analysis: 8260



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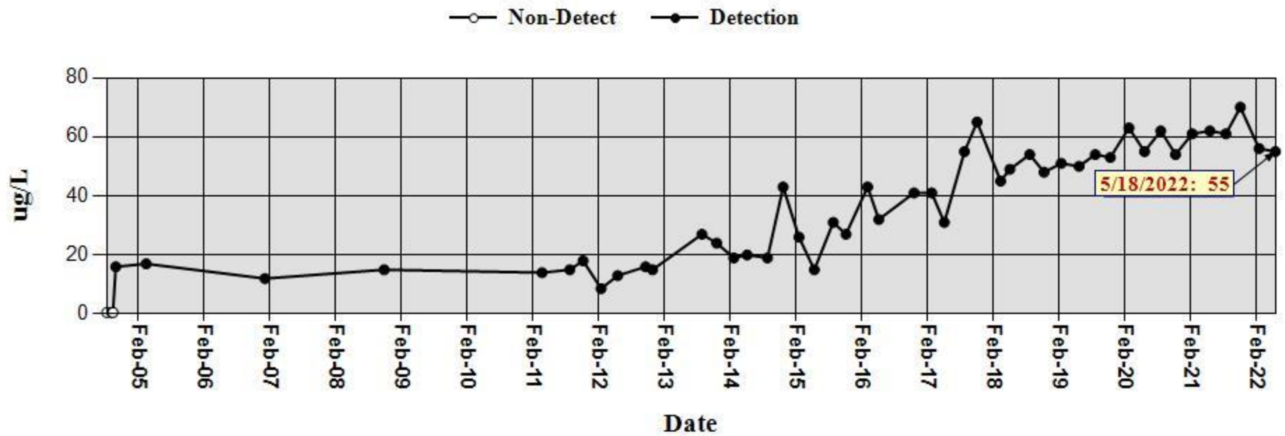
Analysis: 8260



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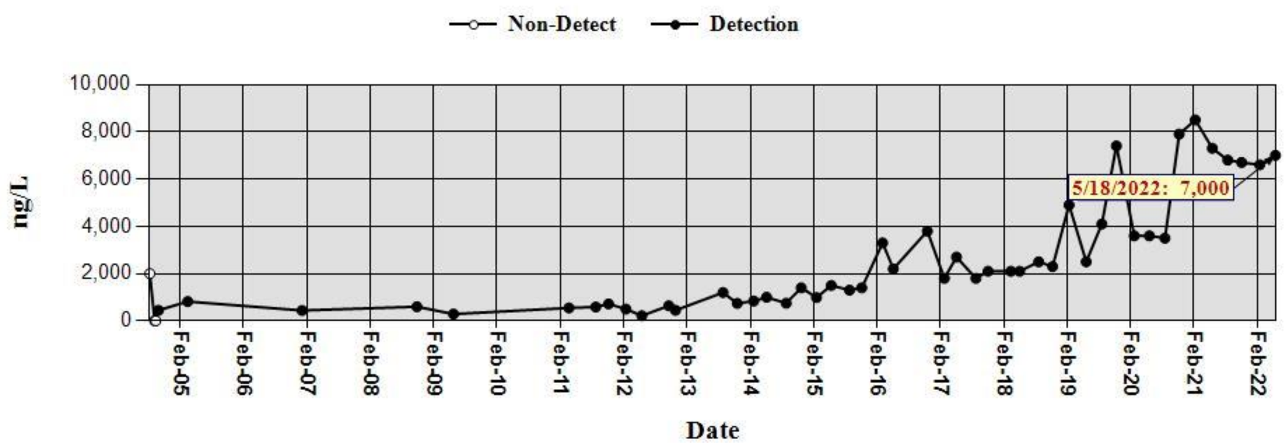
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



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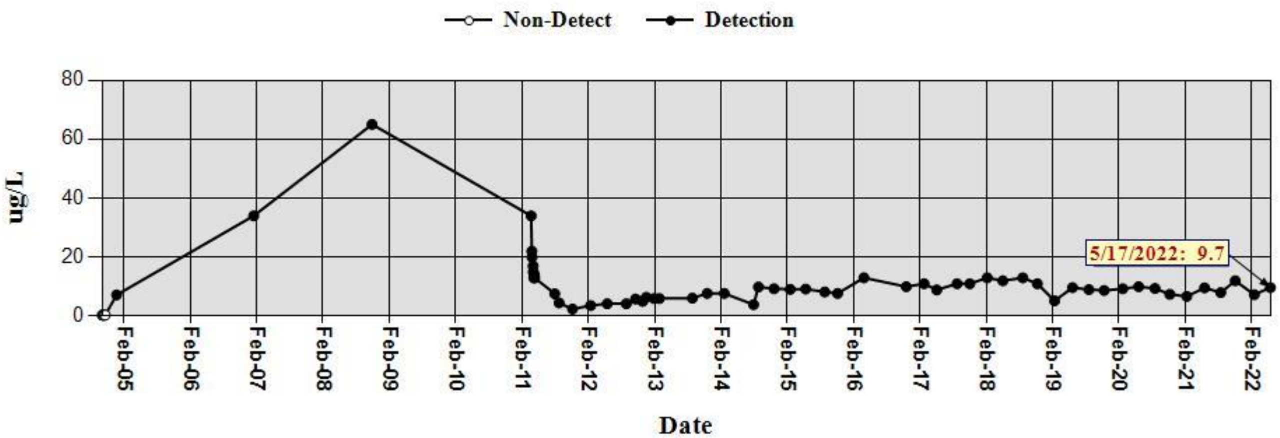
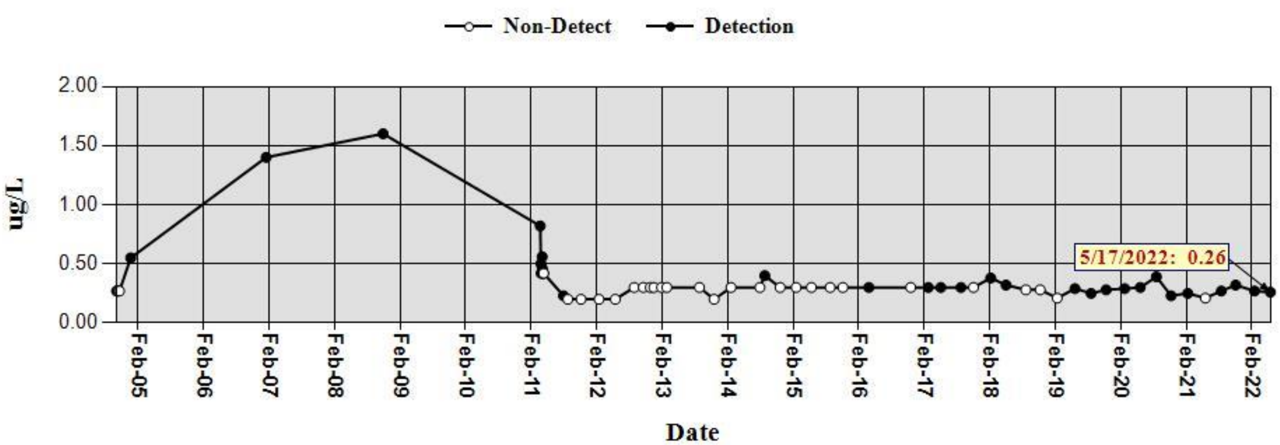
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



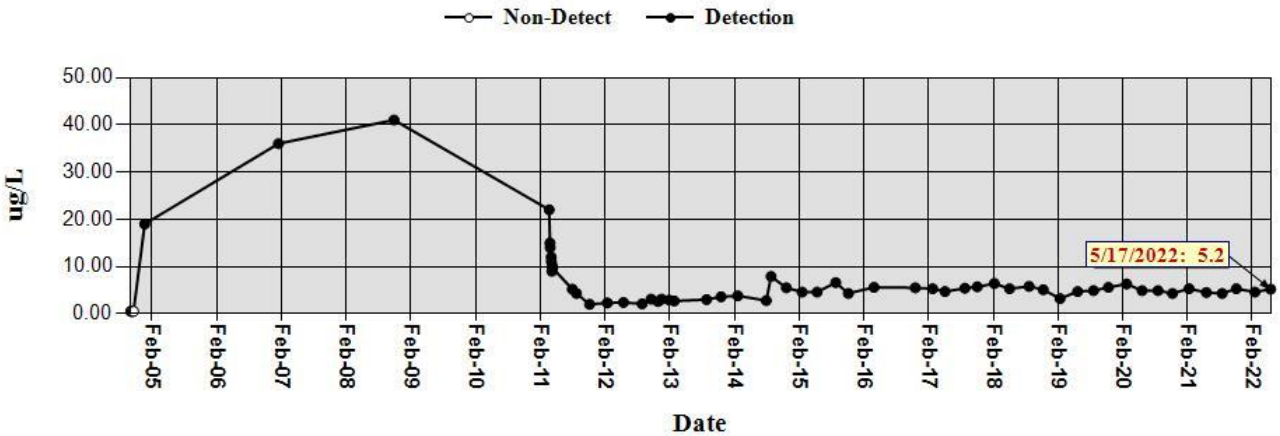
Well ID: MPE-11
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: MPE-11
CAS RN: 79-01-6 Trichloroethene

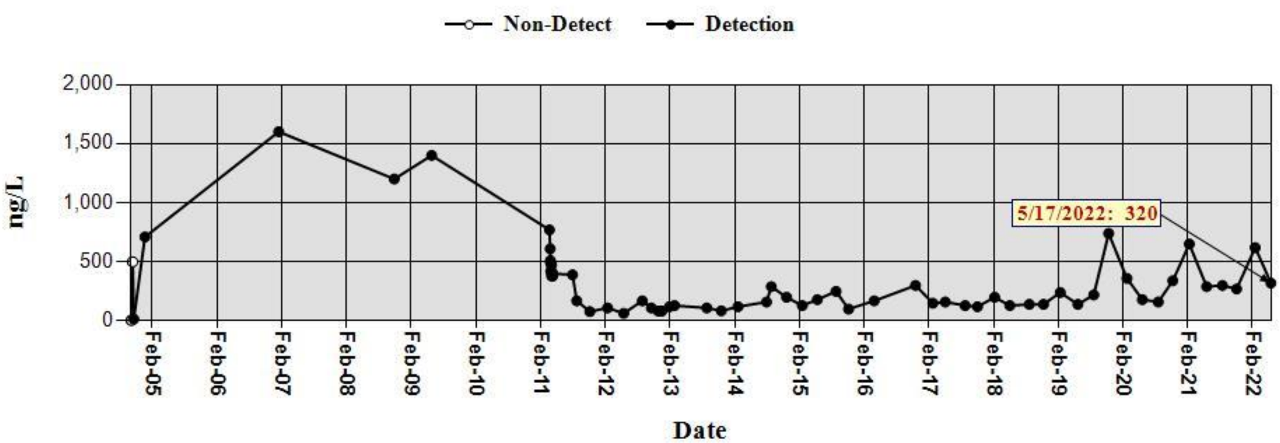
Analysis: 8260



Well ID: MPE-11
CAS RN: 62-75-9 N-Nitrosodimethylamine

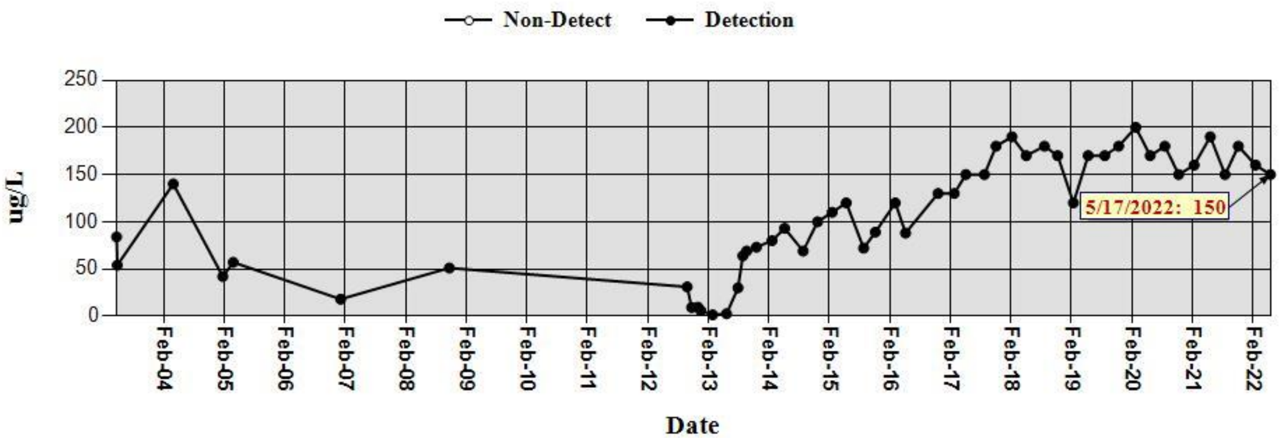
Analysis: 607

Results are Corrected for Extraction Efficiency



Well ID: MPE-8
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



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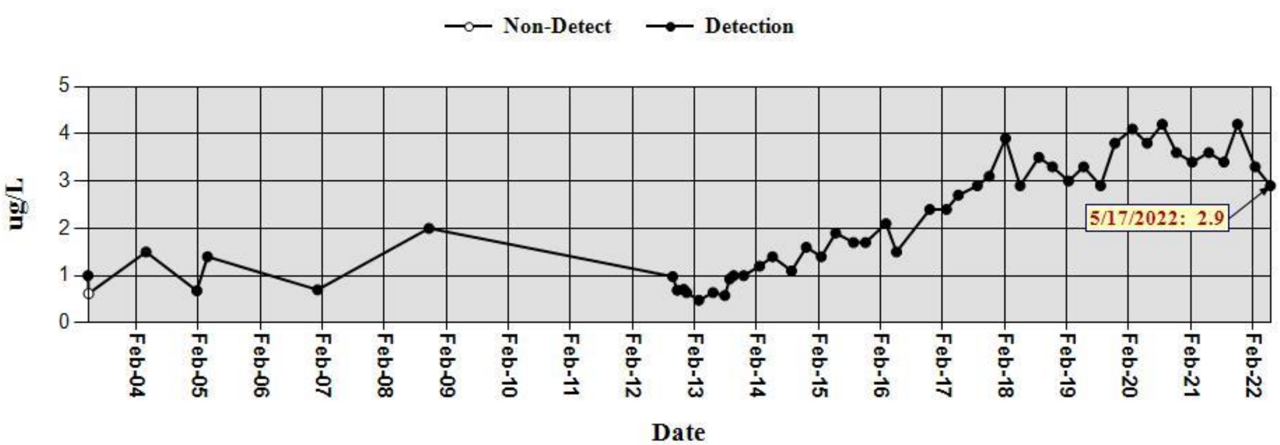
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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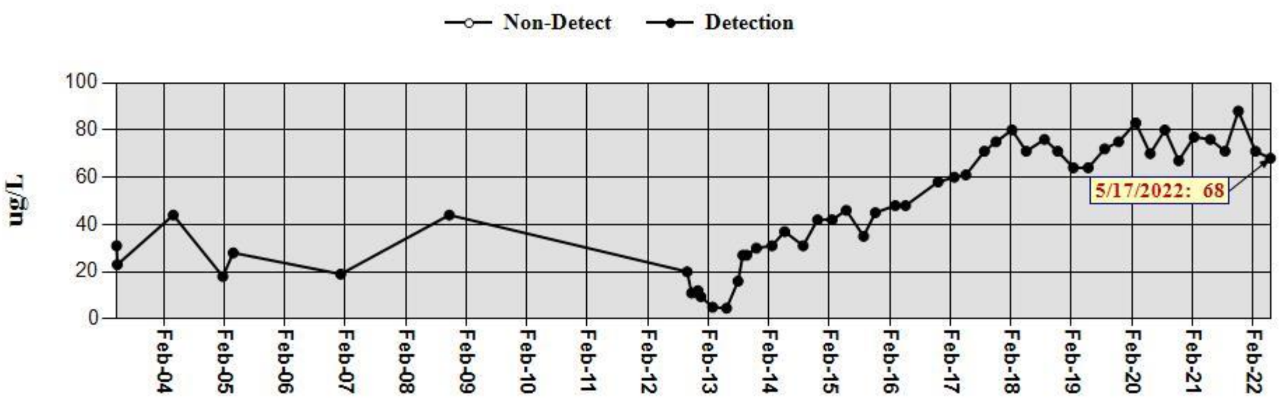
Analysis: 8260



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Analysis: 607

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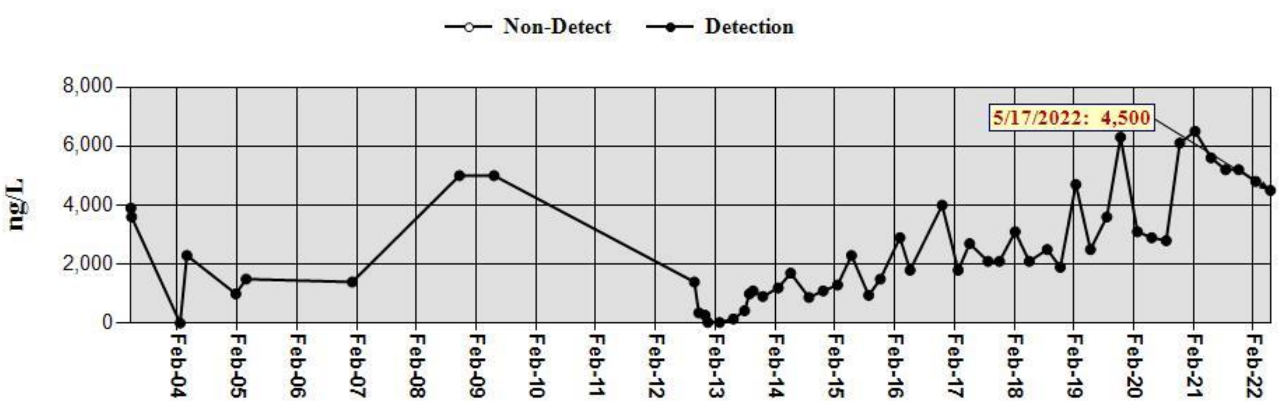

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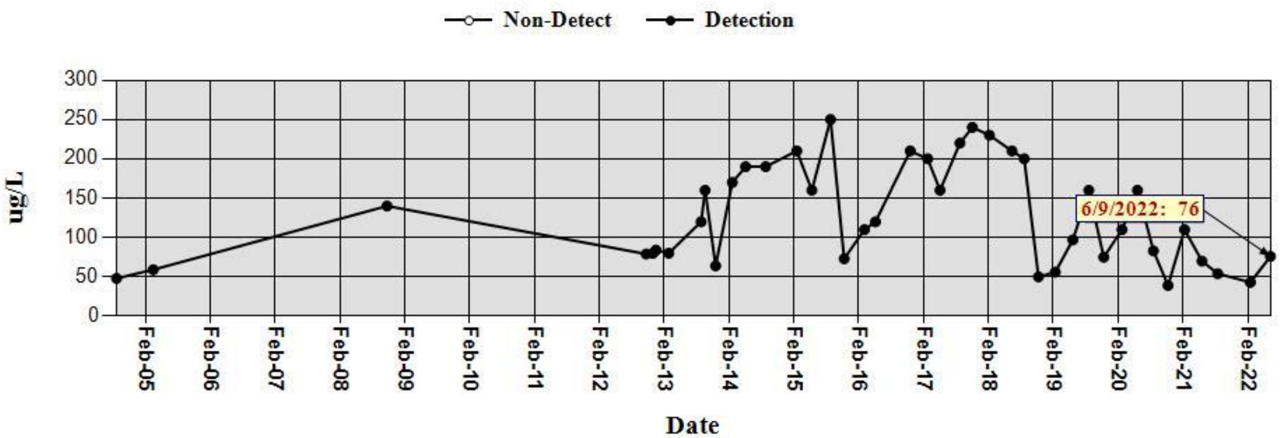
Analysis: 8260



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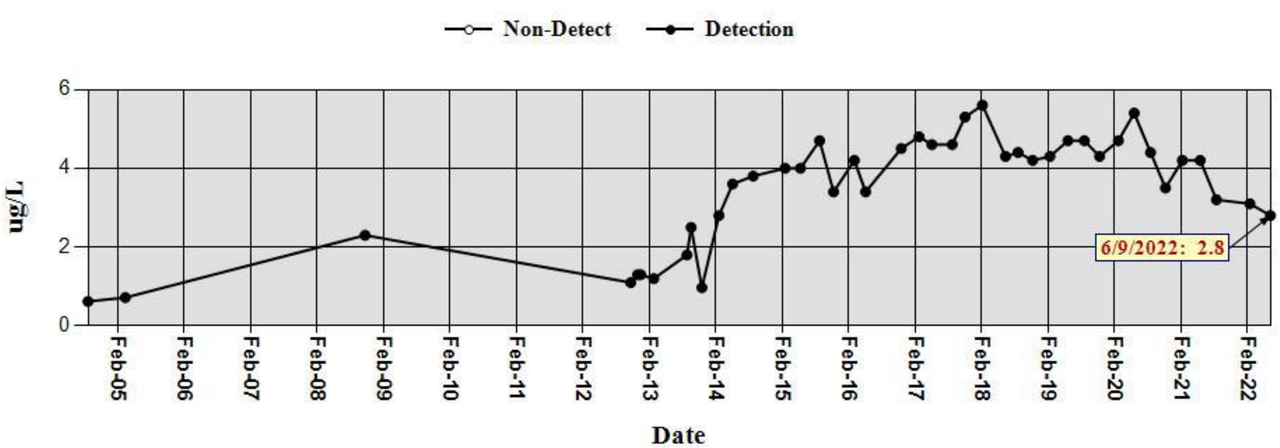
Analysis: 8260



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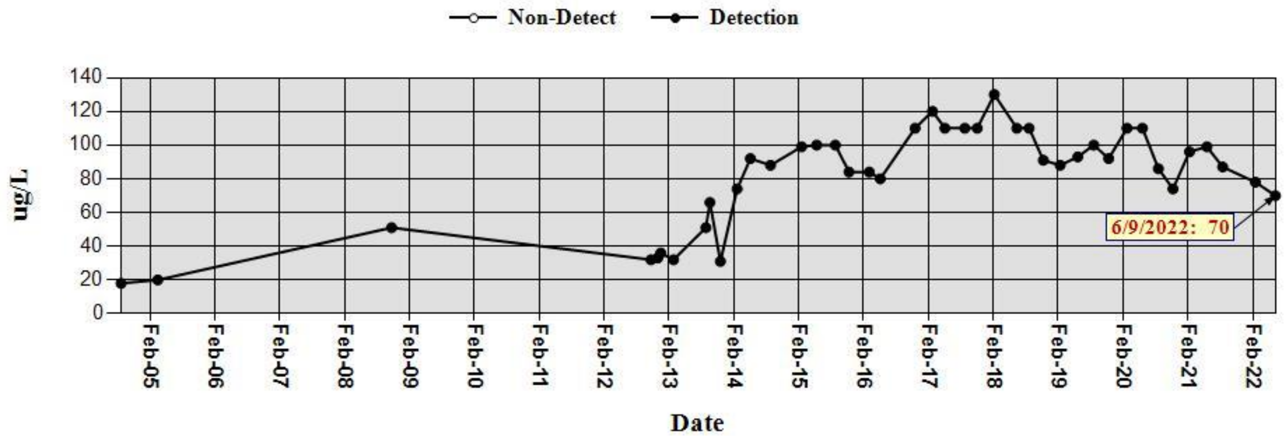
Analysis: 8260



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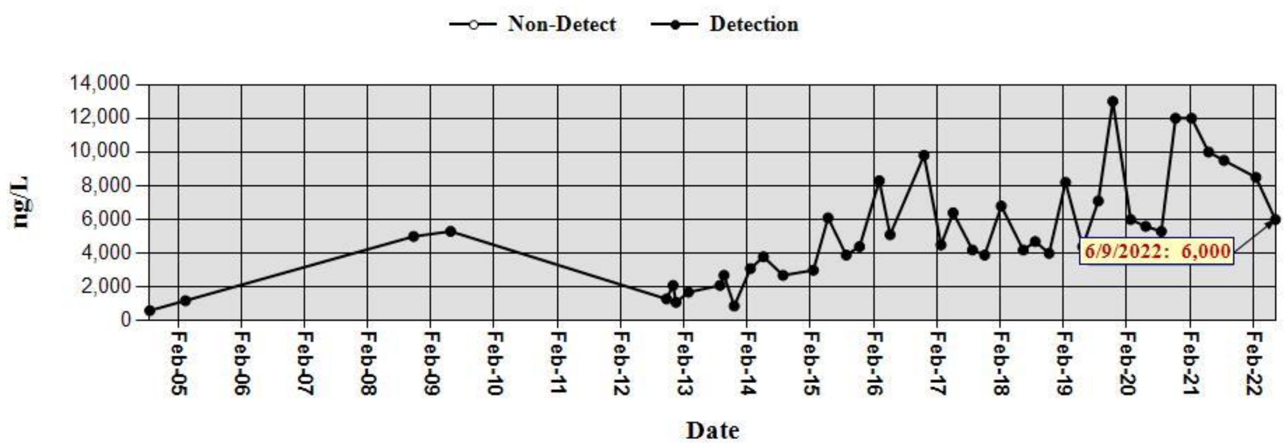
Analysis: 607

Results are Corrected for Extraction Efficiency



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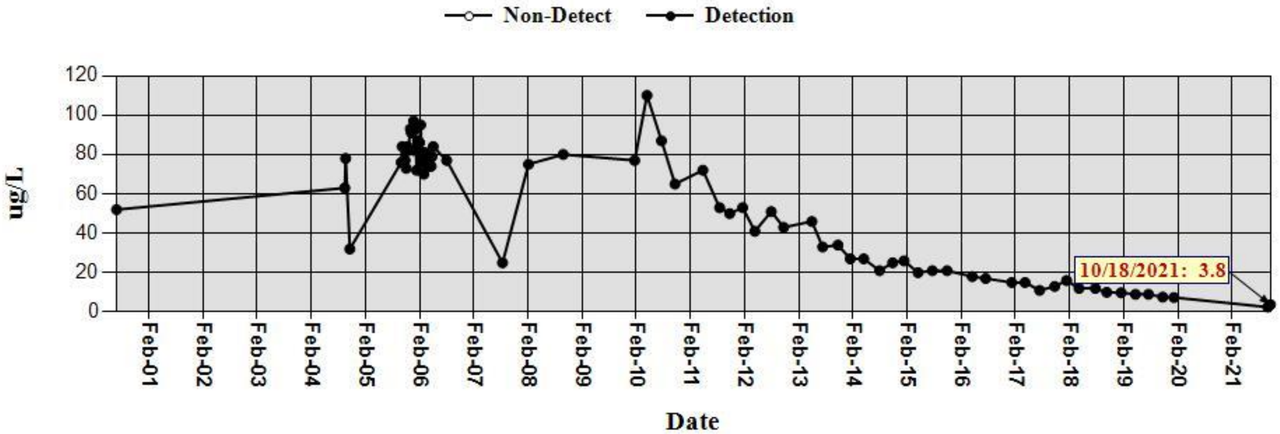
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



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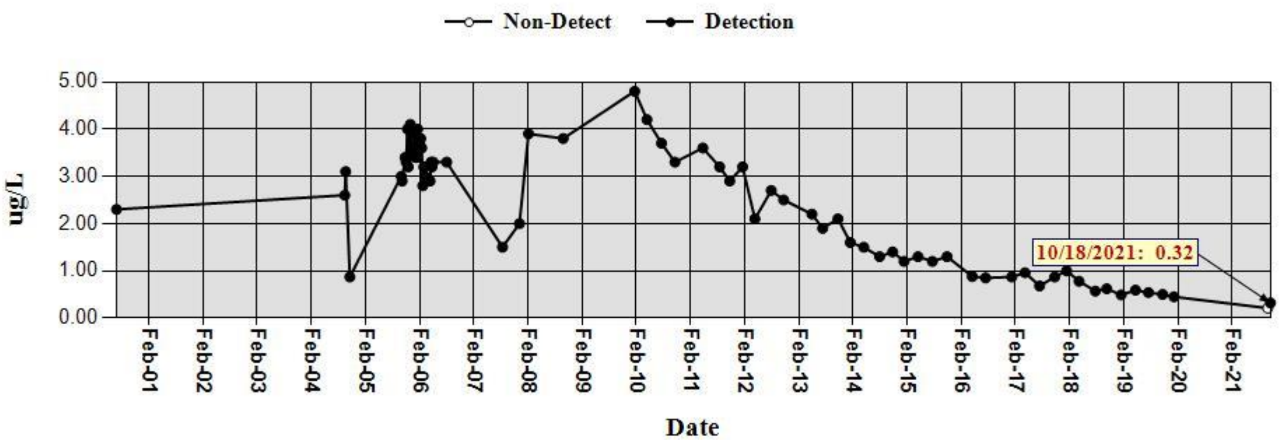
Analysis: 8260



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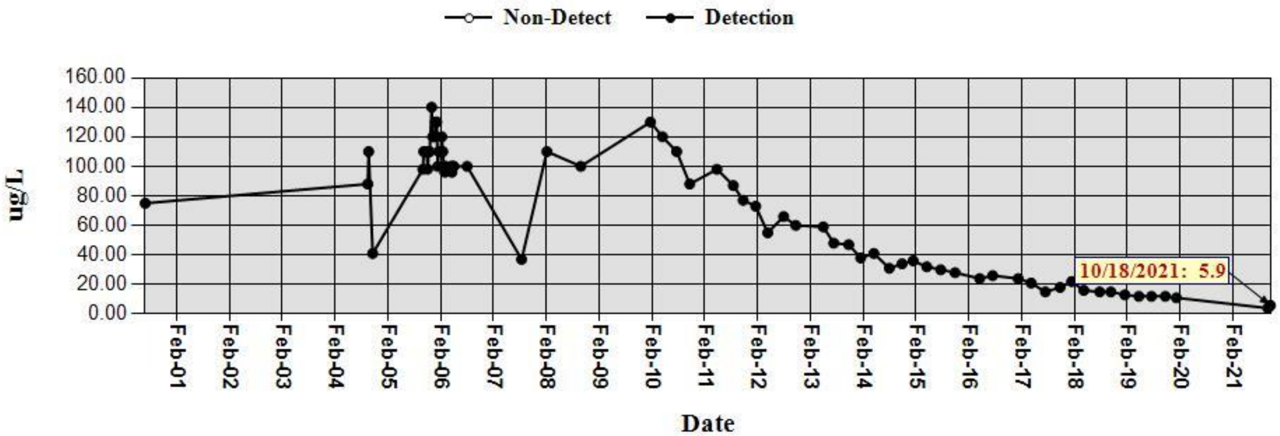

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Analysis: 607

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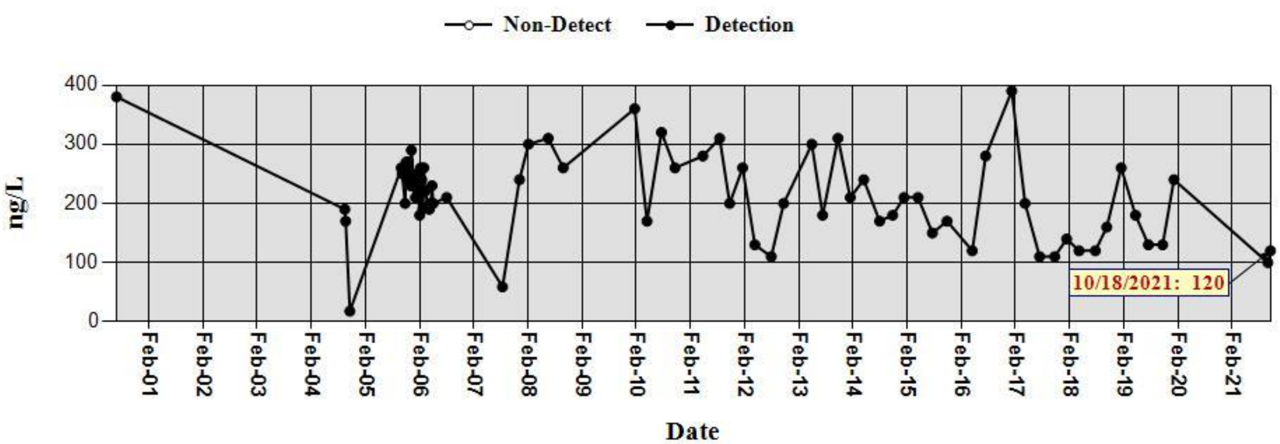

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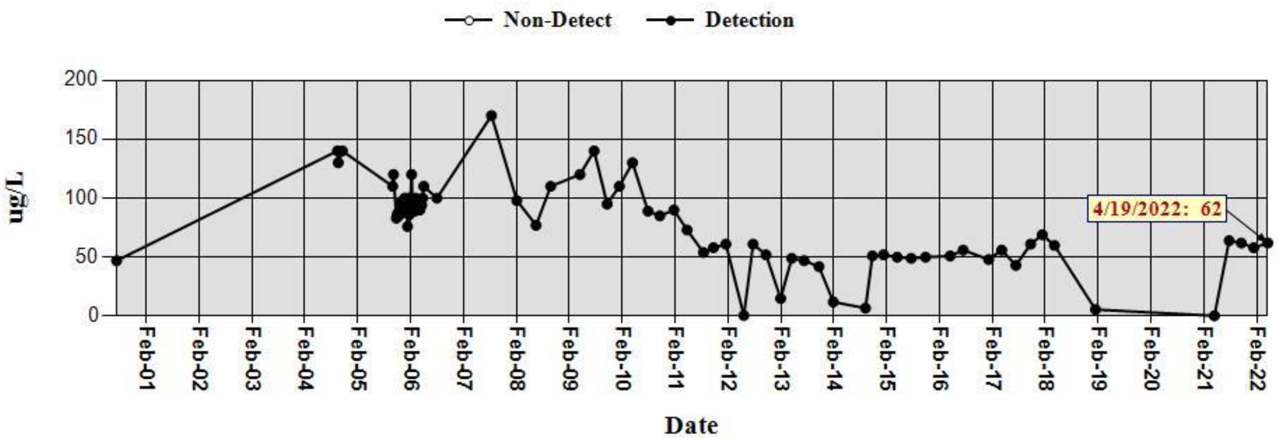
Analysis: 8260



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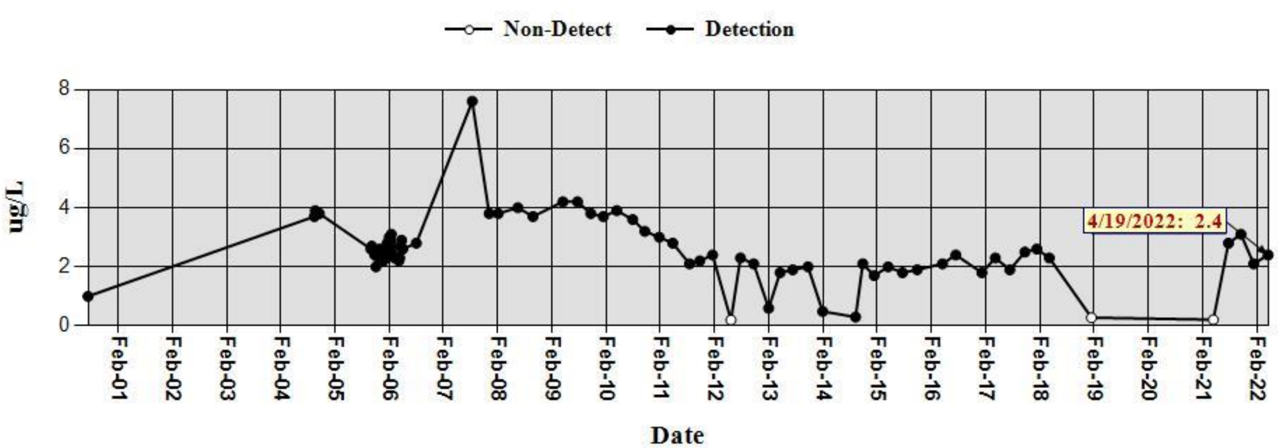
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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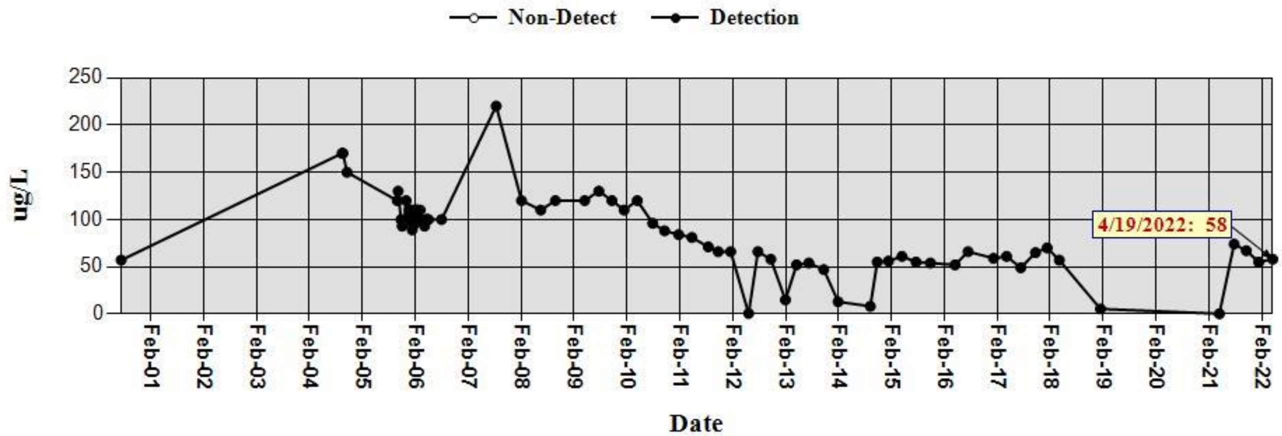
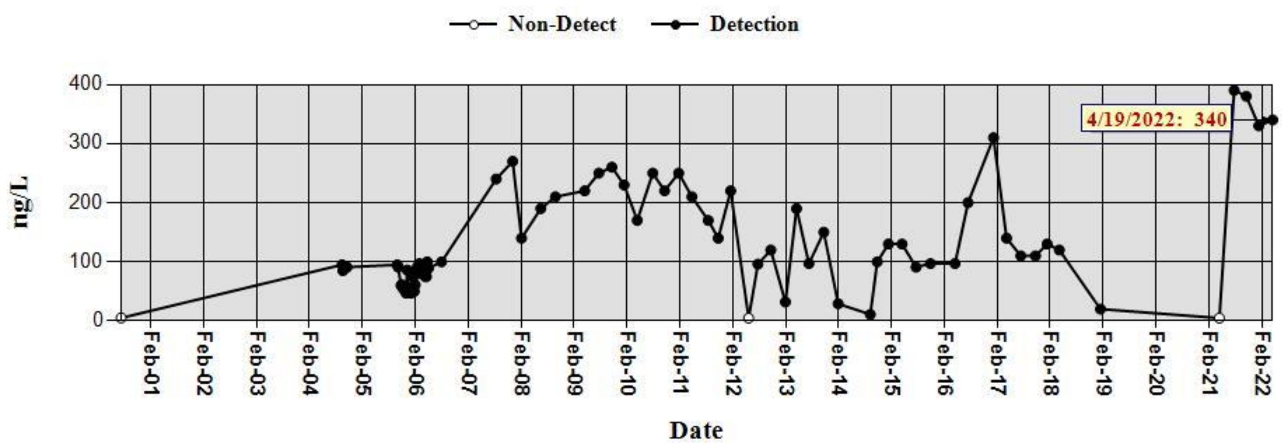
Analysis: 8260



Well ID: PFE-2
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



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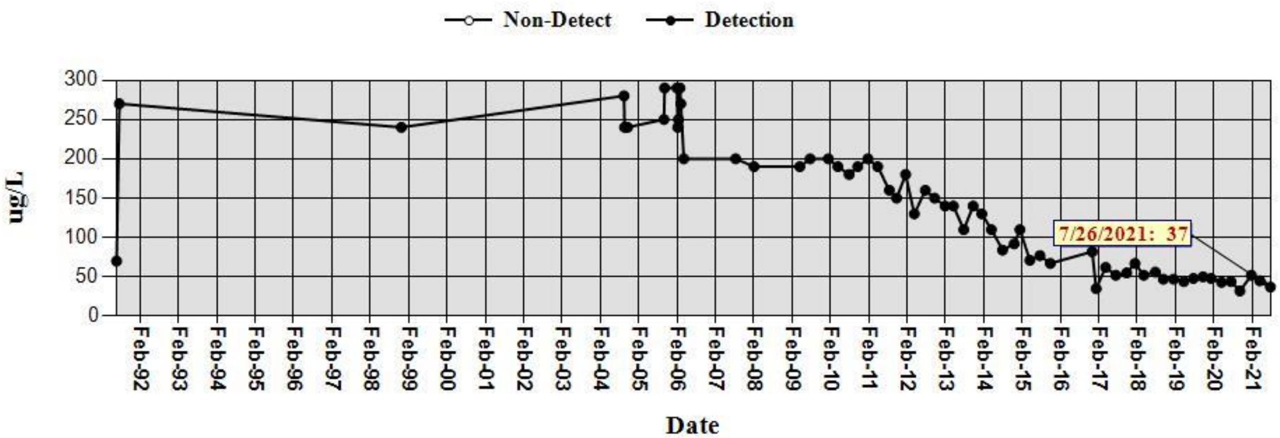
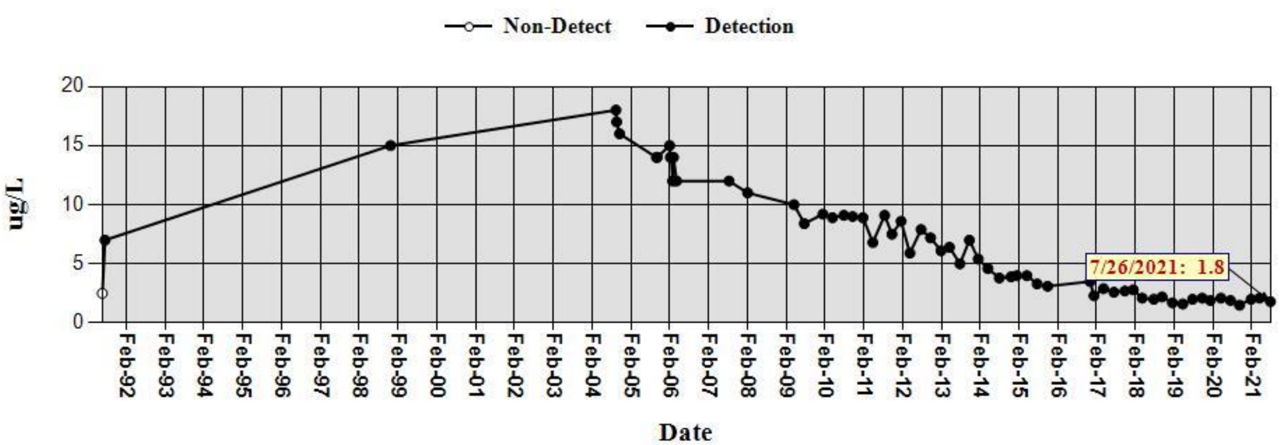
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: PFE-3
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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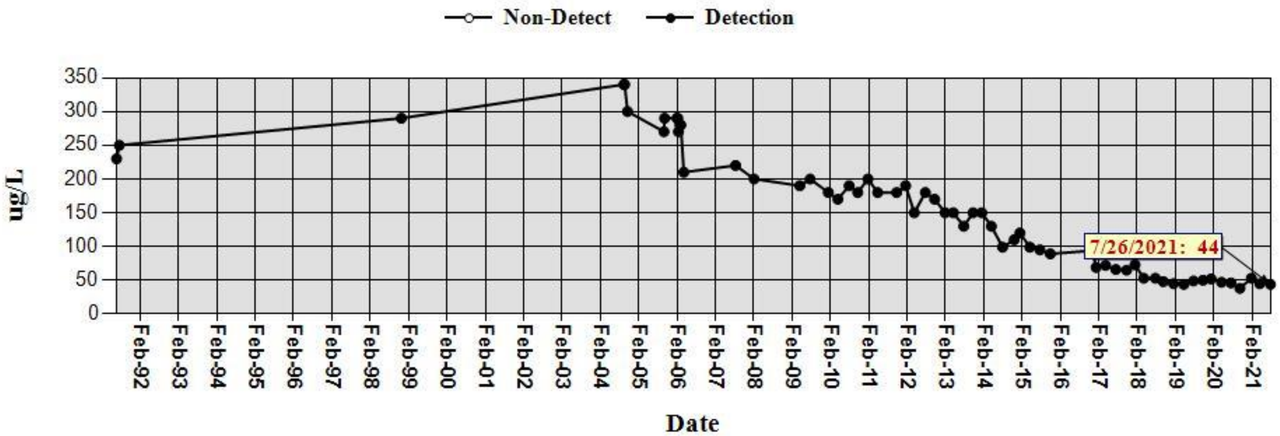
Analysis: 8260



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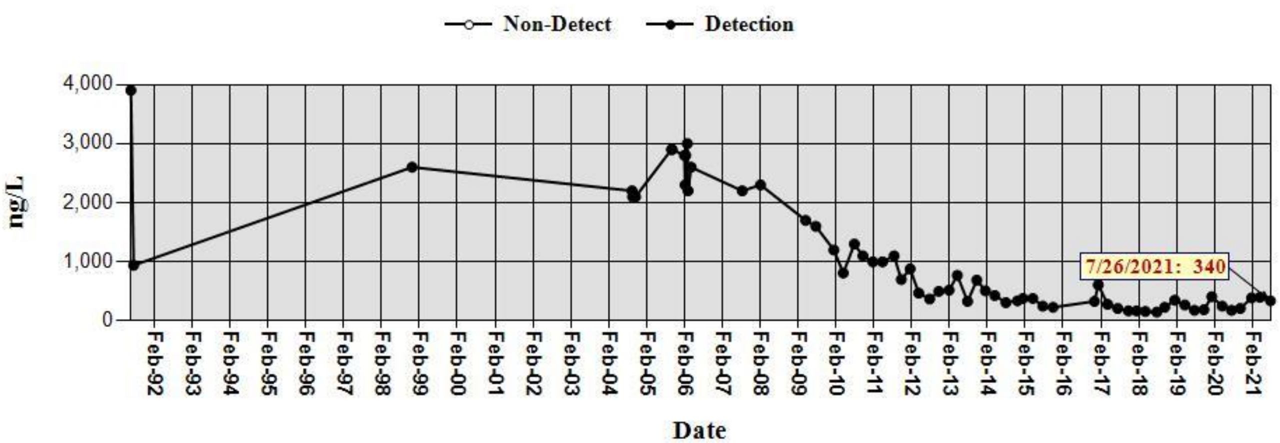
Analysis: 607

Results are Corrected for Extraction Efficiency



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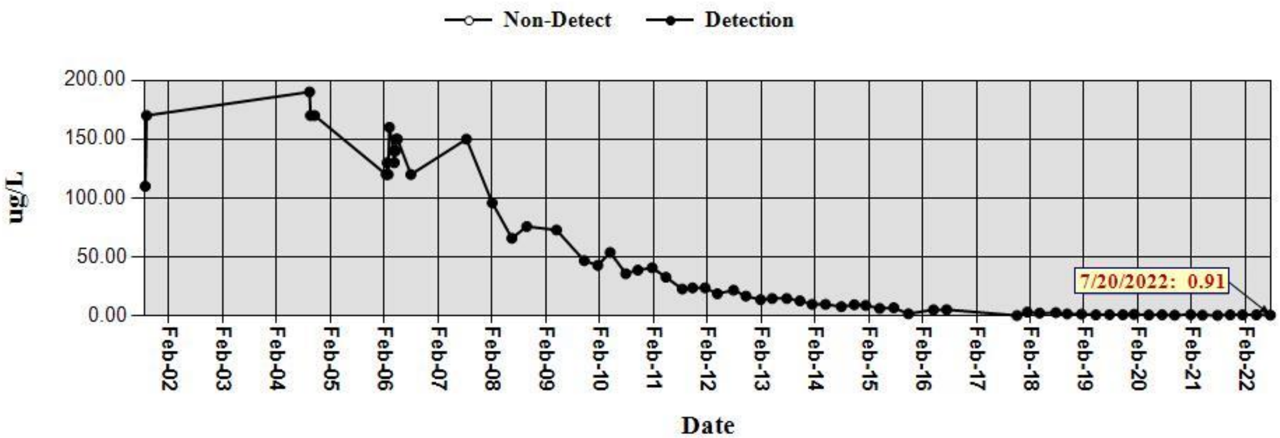
Analysis: 8260



Well ID: PFE-4A
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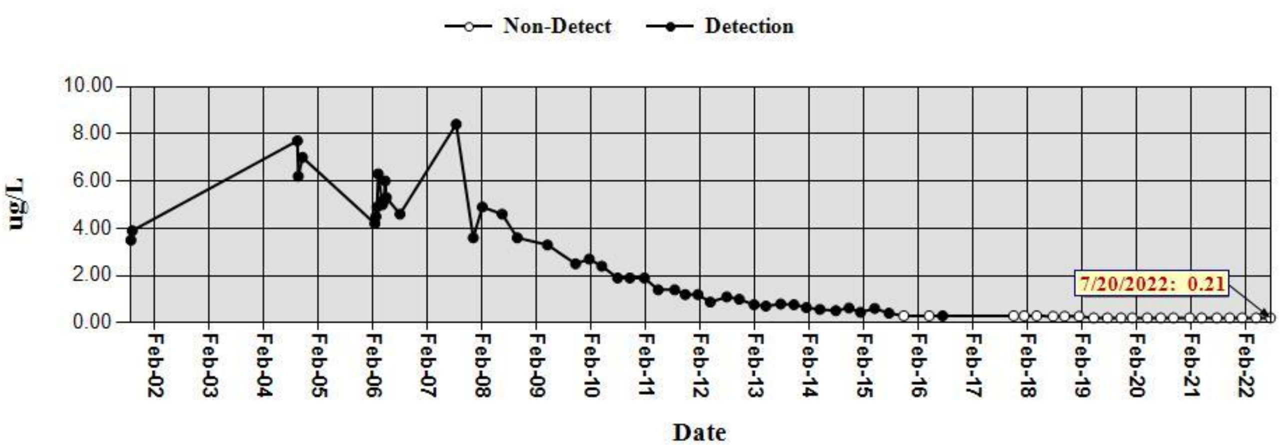
Analysis: 8260



Well ID: PFE-4A
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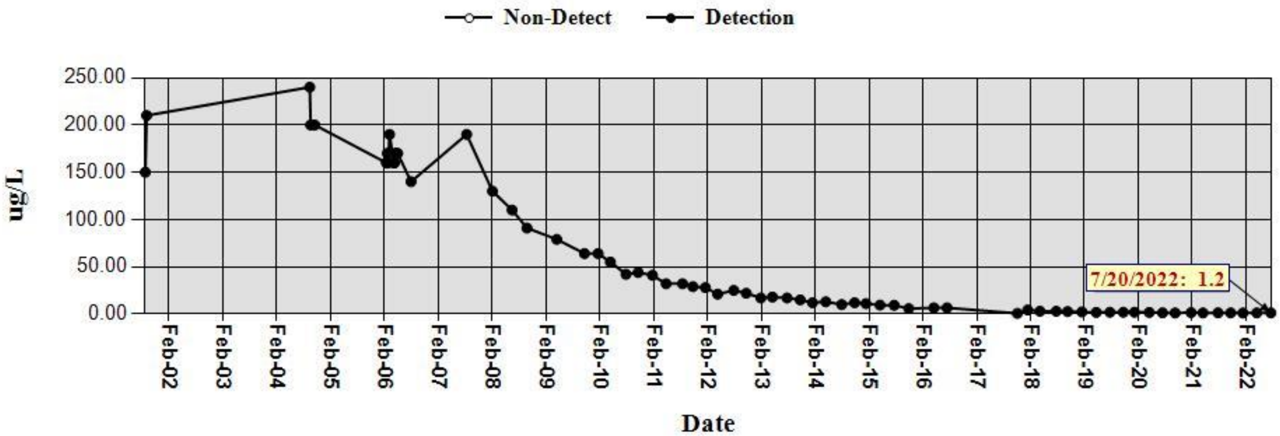
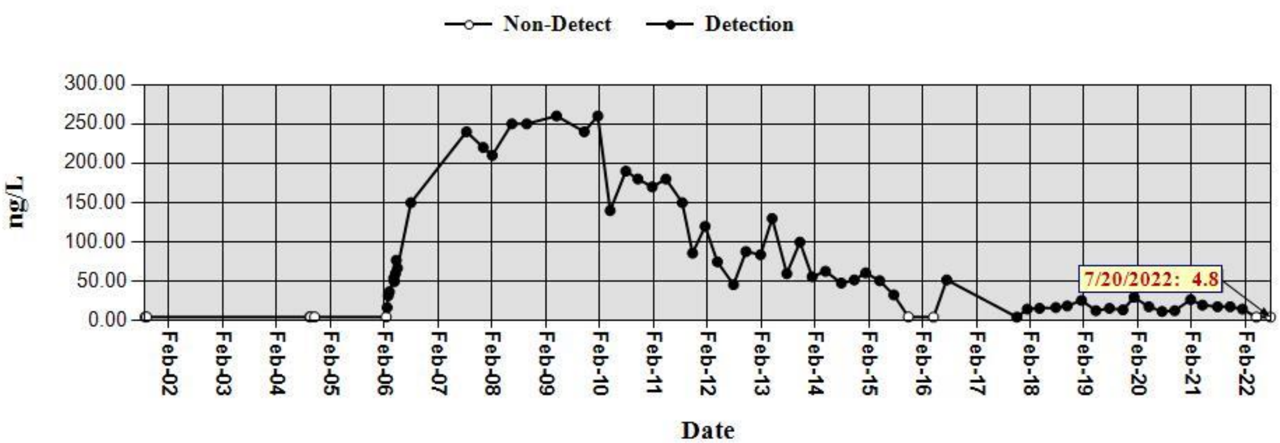
Analysis: 8260



Well ID: PFE-4A
CAS RN: 62-75-9 N-Nitrosodimethylamine

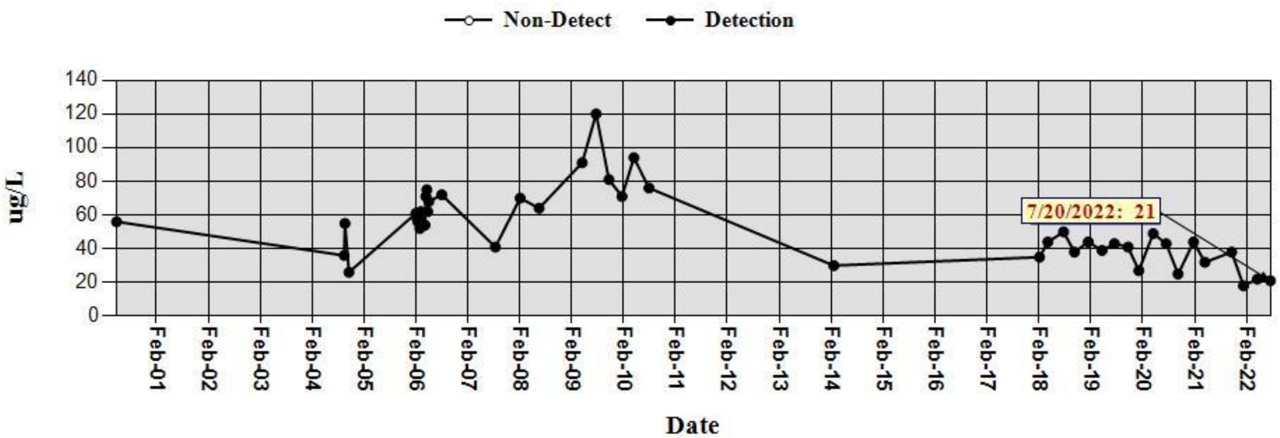
Analysis: 607

Results are Corrected for Extraction Efficiency



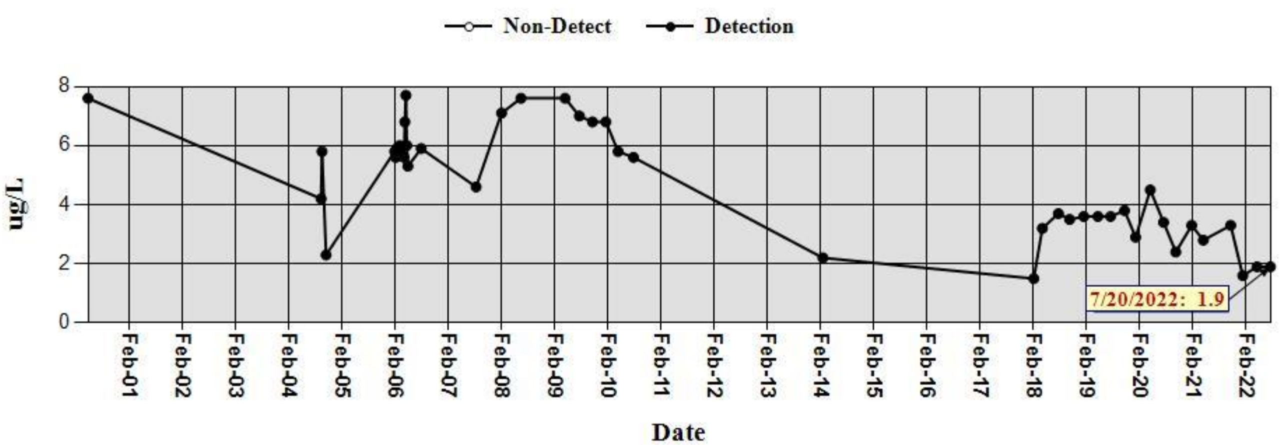
Well ID: PFE-5
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



Well ID: PFE-5
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



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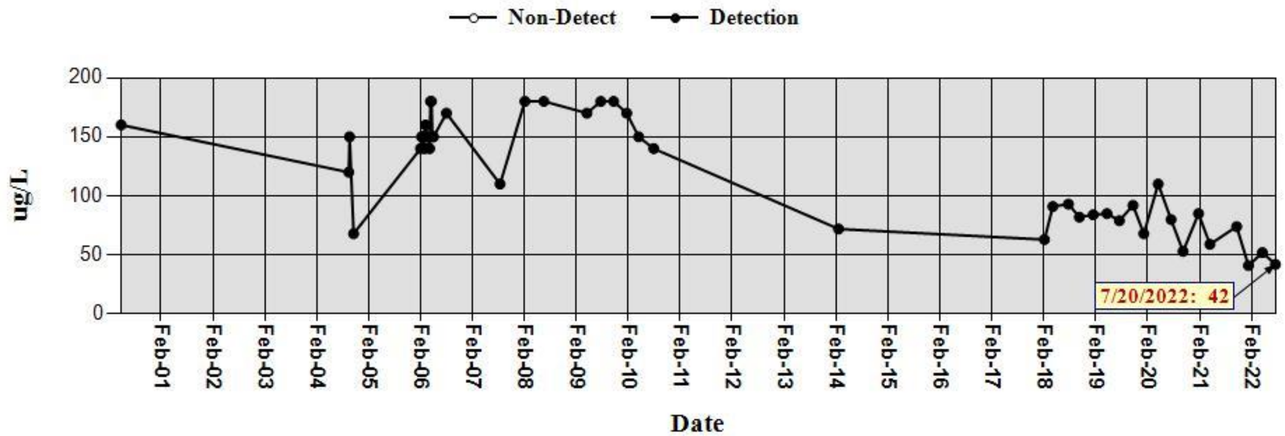
Analysis: 8260



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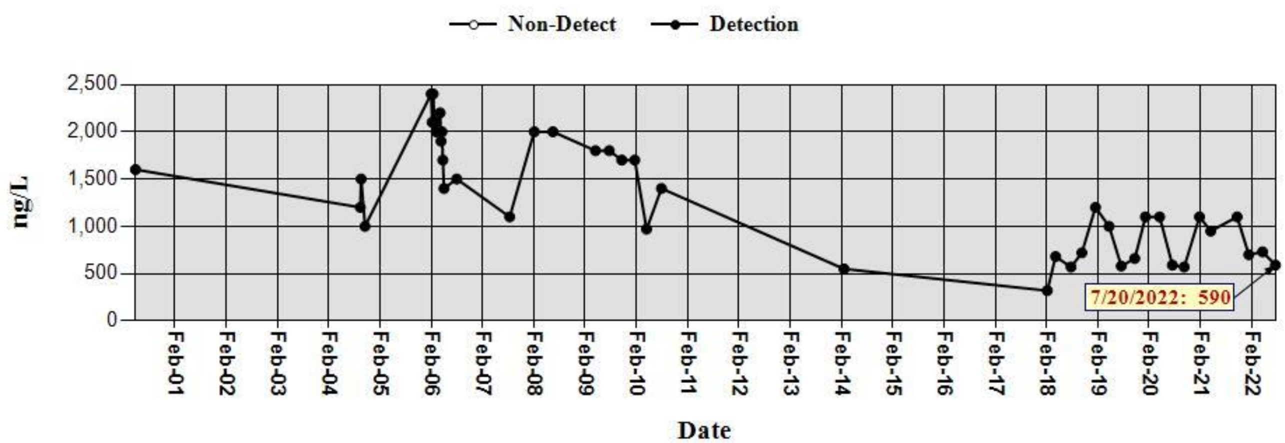
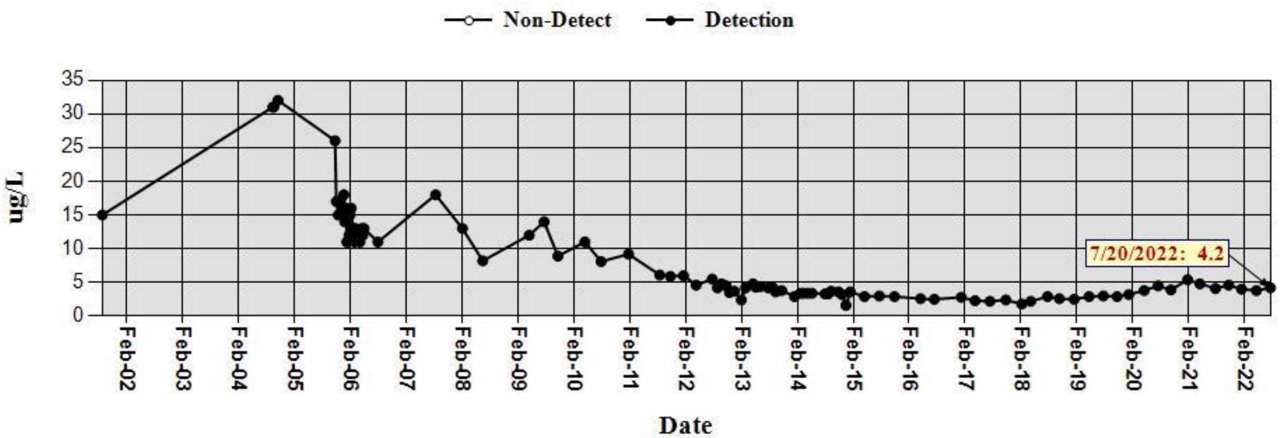
Analysis: 607

Results are Corrected for Extraction Efficiency



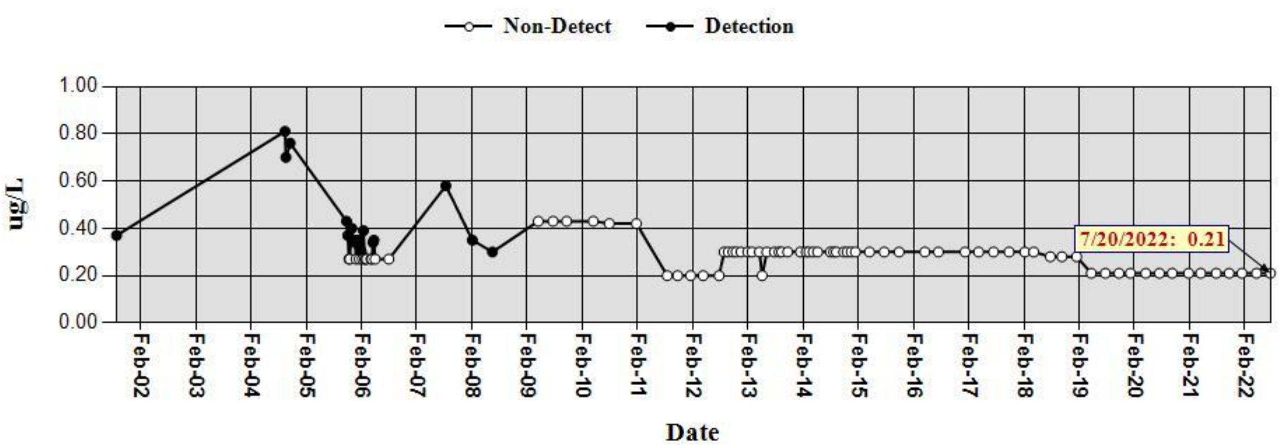
Well ID: PFE-7
CAS RN: 75-69-4 F11 - Trichlorofluoromethane

Analysis: 8260



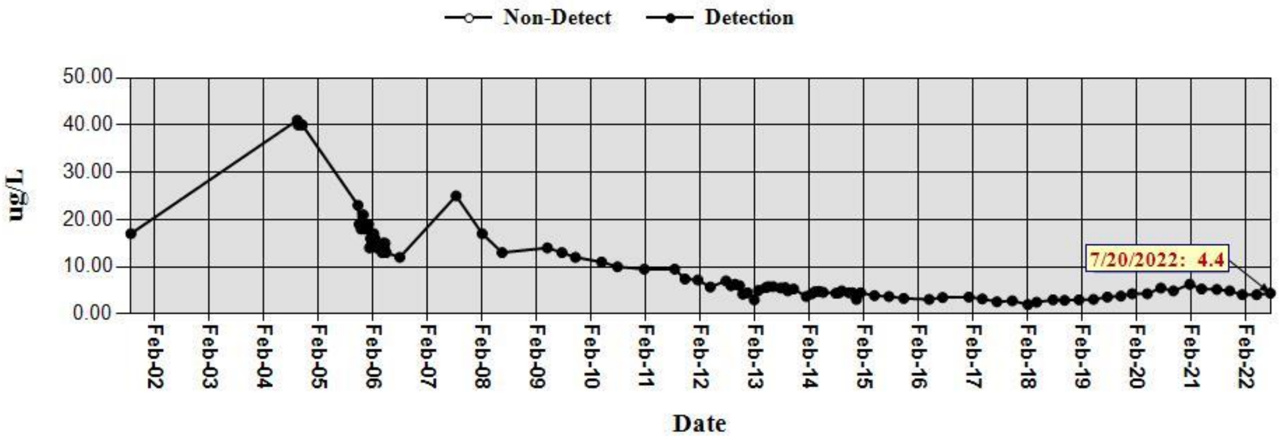
Well ID: PFE-7
CAS RN: 127-18-4 Tetrachloroethene

Analysis: 8260



Well ID: PFE-7
CAS RN: 79-01-6 Trichloroethene

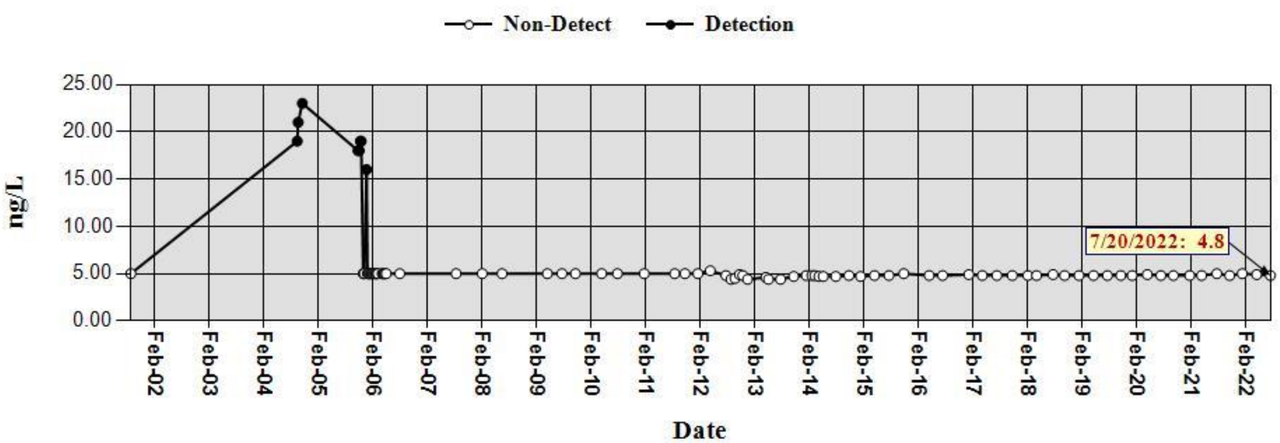
Analysis: 8260



Well ID: PFE-7
CAS RN: 62-75-9 N-Nitrosodimethylamine

Analysis: 607

Results are Corrected for Extraction Efficiency



Appendix F
Summary of Groundwater Monitoring Projects and Source Area Investigations

Appendix F Summary of Groundwater Monitoring Projects and Source Area Investigations

1.0 Groundwater Monitoring Well Abandonment, Installation, and Reconfiguration

1.1 Well Abandonment and Replacement

There was no fieldwork related to well abandonment or replacement in the third quarter of 2022.

1.1.1 Wells BLM-42 and PL-12

In 2019, NASA plugged and abandoned (P&A) wells BLM-37 and PL-5 in accordance with the *Work Plan for Abandonment of NASA WSTF Monitoring Well BLM-37 and Replacement with Monitoring Well BLM-42* (NASA, 2018a) and the *NASA WSTF Drilling Work Plan for Groundwater Monitoring Well PL-12* (NASA, 2017a). NASA replaced these wells with BLM-42 and PL-12, respectively. NASA submitted the *Well Completion Report for BLM-42* on May 4, 2020 (NASA, 2020e). NMED reviewed the report 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, 2020f). NMED reviewed the report and issued an approval on May 6, 2021 (NMED, 2021k).

A comprehensive summary of activities and correspondence related to wells BLM-42 and PL-12 was provided in the *Periodic Monitoring Report – Third Quarter 2021* (NASA, 2021z).

1.1.2 Well BLM-30

NASA plans to abandon well BLM-30 in the fourth quarter of 2022 and install replacement well BLM-43 at a future date. See also Section 1.4.2.

1.1.3 Well BLM-28

NASA plans to abandon well BLM-28 in the fourth quarter of 2022 and install replacement well 600C-001-GW at a future date. See also Section 1.4.1.

1.1.4 Well NASA 9

In June 2020, NASA attempted to remove the dedicated low-flow bladder pump from well NASA 9 to extend the tubing and lower the pump intake due to declining water levels. During removal activities, the tubing bundle separated from the pump, and the pump then dropped into the 5-foot (ft) well sump. During attempts to recover the pump using special fishing tools, NASA discovered that the inside of the 2-inch stainless-steel casing was obstructed with small roots just above and below the static water level. Numerous attempts to lock onto the top of the pump with the fishing tool were unsuccessful and the bladder pump could not be retrieved. On November 15, 2021, NMED approved the 2021 Groundwater Monitoring Plan (GMP) with a modification that directed NASA to submit a work plan for abandoning and replacing well NASA 9 (NMED, 2021q). NASA prepared and submitted the *Work Plan for Abandonment of NASA WSTF NASA 9 and Replacement with Monitoring Well 400-001-GW* on April 29, 2022 (NASA, 2022i). NASA plans to abandon well NASA 9 in the fourth quarter of 2022 and install replacement well 400-001-GW following NMED approval of the drilling work plan.

1.2 Well Abandonment

There was no fieldwork related to well abandonment in the third quarter of 2022. NASA continued project planning and procurement activities for the abandonment of several inactive monitoring wells.

1.2.1 200-SG Wells

On September 13, 2018, NMED approved NASA's April 24, 2018 GMP update for 2018 (NMED, 2018a; NASA, 2018b) with modifications, one of which required NASA to provide additional information on wells 200-SG-2 and 200-SG-3 and provide the rationale for not including them in the sampling schedule. NASA's December 3, 2018 response provided the required information and indicated that NASA would evaluate wells 200-SG-2 and 200-SG-3 for potential future sampling (NASA, 2018d). In April 2019, NASA evaluated the performance of the two wells, and determined that the groundwater levels in each are inadequate to allow for the collection of representative samples. NASA also determined that the relatively low concentrations of WSTF COC in these wells are not representative of groundwater within the Gardner Spring Arroyo in which monitoring well 200-D-109 is installed.

In their January 25, 2021 *Approval with Modifications of the NASA Groundwater Monitoring Plan 2020 Update*, NMED directed NASA to prepare and submit a work plan for abandonment of monitoring wells 200-SG-2 and 200-SG-3 and installation of replacement wells, to be submitted for review no later than November 30, 2021 (NMED, 2021b). NASA submitted the *Well Plugging Plan of Operations for Multiport Soil Vapor Groundwater Monitoring Wells 200-SG-2 and 200-SG-3* for NMED review on November 30, 2021 (NASA, 2021bb). NMED approved the work plan on January 10, 2022 (NMED, 2022a). NASA plans to plug and abandon these wells in the fourth quarter of 2022 and does not intend to replace these wells.

1.2.2 Additional Wells

In addition to wells 200-SG-2, 200-SG-3, BLM-28, BLM-30, and NASA 9, NASA plans to abandon seven other inactive wells in the fourth quarter of 2022. On September 7, 2022, NASA provided a copy of the plugging plan for well 400-C-118 to NMED while submitting the *Well Plugging Plan of Operations for NASA Wells NASA 9 and LRG-17519-POD4* (NASA, 2022m) to the New Mexico Office of the State Engineer. On September 20, 2022, NASA submitted the *Plugging and Abandonment of WSTF Wells 400-KV-142, 400-LV-125, BLM-2-482, NASA 8, PFE-4, and PFE-6* (NASA, 2022o), notifying NMED of the intent to plug and abandon six wells as indicated in plugging plans submitted to the New Mexico Office of the State Engineer.

1.3 Well Installation

There was no fieldwork related to well installation in the third quarter of 2022.

1.3.1 New Well 600C-001-GW

On April 25, 2022, NMED (NMED, 2022g) approved NASA's August 31, 2021 *Work Plan for Drilling and Installation of Monitoring Well 600C-001-GW* (NASA, 2021v, pp1-2). NASA performed project planning activities during the third quarter of 2022.

1.4 Westbay Well Reconfiguration

Prior to calendar year 2020, NASA had 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.

1.4.1 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, 2021u, p1). NMED approved the work plan with modifications on April 25, 2022 (NMED, 2022g). NASA performed project planning activities during the third quarter of 2022.

1.4.2 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. NMED directed NASA to perform geophysical logging and to provide a well completion report for BLM-43 no later than November 30, 2021. NASA submitted the *Response to Approval with Modifications Work Plan for Abandonment of NASA WSTF Well BLM-30 and Replacement with Monitoring Well BLM-43* on February 3, 2021 (NASA, 2021a) and corresponded with the New Mexico Office of the State Engineer (NASA, 2021d) on the plugging plan for well BLM-30 and application for a permit to drill well BLM-43 on March 15, 2021. On September 28, 2021, NASA submitted the *Request for Extension of Time for Submittal of the Completion Report for Monitoring Well BLM-30 Abandonment and Installation of Replacement Monitoring Well BLM-43* (NASA, 2021y). NMED approved the request on October 27, 2021, which extended the due date for submittal of the report to November 30, 2022 (NMED, 2021p). NASA submitted the *Request for Second Extension of Time for Submittal of the Completion Report for Monitoring Well BLM-30 Abandonment and Installation of Replacement Monitoring Well BLM-43* on April 26, 2022 (NASA, 2022f). NMED approved the request on June 6, 2022 (NMED, 2022g), extending the due date for submittal of the well completion report to April 28, 2023.

1.4.3 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, 2021n, p5). NMED approved the work plan on January 28, 2022 (NMED, 2022b) with modifications and direction to submit a well reconfiguration report no later than March 30, 2023 and a revised work plan no later than March 11, 2022. NASA submitted the *Response to Approval with Modifications of NASA WSTF Well Reconfiguration Work Plan for Well BW-4* on March 8, 2022 (NASA, 2022c). NASA plans to abandon the lower portion of the borehole in late 2022 and complete reconfiguration of the well in early 2023.

1.4.4 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, 2020c, pp2-13). 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, 2021t, p14). NASA followed that with submittal of the *Abbreviated Investigation Work Plan for Groundwater Data Representativeness, Phase 2: FLUTe Well Evaluation* on November 2, 2021 (NASA, 2021aa). NMED approved the work plan on August 8, 2022 (NMED, 2022l). NASA has performed the required fieldwork and is reviewing analytical to support preparation of the investigation report.

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, 2020a). On November 30, 2020, NASA submitted a *Request for Fourth Extension of Time for Well Reconfiguration Work Plan* (NASA, 2020r). 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, 2021g, pp2-4). NMED continued reviewing the work plan in the third quarter of 2022.

2.0 Source Area Investigations

2.1 200 Area

At the start of 2020, NMED approved a request for extension on January 16, 2020 for NASA to respond to 12 comments and submit a revised investigation report by February 3, 2020 (NMED, 2020b). 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). NMED disapproved the report on September 20, 2022 and directed NASA to address three multipart comments and submit a revised report no later than April 28, 2023 (NMED, 2022m).

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 May 30, 2019 *300 Area Supplemental Abbreviated Drilling Work Plan* (NASA, 2019f) was the first document submitted. NMED disapproved the work plan on March 19, 2021 (NMED, 2021g) and 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). NMED continued reviewing the work plan in the third quarter of 2022.

2.3 400 Area

Prior to 2020, NASA's last submittal for the 400 Area was the December 30, 2019 400 *Area Closure Investigation Report* (NASA, 2019q; revised). NMED disapproved report on March 19, 2021 (NMED, 2021h) and 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, Response Table). NASA also submitted the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* on May 29, 2019 (NASA, 2019d) and the related *300 Area Supplemental Abbreviated Drilling Work Plan* (NASA, 2019f) 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* on March 15, 2021 (NMED, 2021f), and 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, 2021q, Response Table). NMED continued reviewing the plans in the third quarter of 2022.

2.4 600 Area Perched Groundwater Investigations

2.4.1 600 Area Perched Groundwater Extraction

NASA initiated extraction of perched groundwater from monitoring well 600-G-138 on April 19, 2013 in accordance with the NMED-approved *600 Area Perched Groundwater Extraction Pilot Test Work Plan* (NASA, 2012). NASA has continued to extract groundwater in accordance with the plan and submit annual status reports. NASA submitted the Interim Status Report for *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 8* on April 29, 2021 (NASA, 2021f). NMED approved the report on December 8, 2021 (NMED, 2021r). NASA submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 9* on April 26, 2022 (NASA, 2022*e).

2.4.2 600 Area Perched Groundwater Investigation.

At the start of 2020, a 600 Area Perched Groundwater investigation and report was scheduled in accordance with the *Abbreviated Investigation Work Plan for 600 Area Perched Groundwater* (NASA, 2016b). This work plan was subsequently changed per NASA's August 7, 2019 *Request to Remove Electrical Resistivity Component of the 600 Area Perched Groundwater Geophysical Survey based on Geophysical Subcontractor Input Received during the Procurement Process* (NASA, 2019j) and NMED's August 23, 2019 approval (NMED, 2019e).

In 2019, a seismic reflection and reflection survey was completed in accordance with the AIWP and work scope modification (NASA, 2019o). NASA provided the *Synopsis of the Findings of the 600 Area Closure Geophysical Seismic Refraction Tomography and Reflection Surveys with Revised Soil Boring Locations Submitted for NMED Approval* on December 19, 2019 (NASA, 2019p). Because of an indeterminate review period for that 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, 2020d). NMED approved the extension on July 1, 2020 to 150 days after NMED provides comments (NMED, 2020e).

On December 22, 2020, NMED issued its *Approval with Modifications 600 Area Closure Geophysical Survey Status Report* (NMED, 2020l) and established a due date for the 600 Area Perched Groundwater Investigation Report of December 31, 2021. On May 18, 2021, NASA provided the *Response to NMED Approval with Modifications for the 600 Area Closure Geophysical Survey Status Report – Comment 2*

(Further Investigation) (NASA, 2021j) in which NASA proposed a different approach for collection of geophysical data up- and down-gradient of the 600 Area 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 borings to the predicted depths from the geophysical survey before expanding the geophysical survey. NMED concurred with the approach on July 6, 2021 (NMED, 2021n). During the remainder of 2021, NASA performed planning and procurement activities in preparation for investigation fieldwork, which was initiated in January 2022 as described in Section 6.4.4 of the report.

NASA suspended extraction of perched groundwater from monitoring well 600-G-138 for much of January 2022 to reduce the impact on the perched groundwater aquifer and maximize the potential of locating perched groundwater during the perched groundwater investigation. NASA completed soil boring installation field activities for the perched groundwater investigation in accordance with NMED's *Approval with Modifications 600 Area Closure Geophysical Survey Status Report* (NMED, 2020m). The off-site subcontract drilling company installed all six soil borings between January 4 and January 27, 2022 in the vicinity of the 600 Area Closure to depths of approximately 145 to 180 feet bgs. The soil borings were located in potential bedrock lows identified using the geophysical seismic survey performed previously as part of the investigation. The soil borings transcended the alluvial overburden into the top of the andesite bedrock in search of perched groundwater on the alluvial-bedrock interface. NASA identified perched groundwater at one location adjacent to the north corner of the Closure and installed groundwater well 600A-001-GW. NASA also installed a conventional monitoring well 600A-002-GW downgradient to the west of the Closure in andesite bedrock. This boring encountered the deeper fractured bedrock aquifer at the projected total depth of the soil boring and was subsequently drilled deeper than the planned depth to facilitate installation of the groundwater monitoring well. The remaining four soil borings did not encounter perched groundwater and were plugged and abandoned in accordance with the NMED-approved work plan. NASA performed colloidal borescope evaluations at the two new wells 600A-001-GW and 600A-002-GW, existing perched groundwater monitoring well 600-G-138, and 12 other conventional wells in the fractured bedrock aquifer with significant locations relative to the evaluation of regional flow.

NASA developed new conventional monitoring wells 600A-001-GW and 600A-002-GW, and in May 2022, NASA performed initial sampling in accordance with the current NMED-approved Groundwater Monitoring Plan. NASA prepared and submitted the *Request for a "Contained-in" Determination for Contaminated Media Associated with the 600 Area Perched Groundwater Abbreviated Investigation Work Plan* on March 22, 2022 (NASA, 2022d). NMED approved the request and granted a "*no longer contained in determination*" on April 18, 2022 (NMED, 2022e). NASA prepared and submitted the *600 Area Perched Groundwater Investigation Report* on June 29, 2022 (NASA, 2022j) and provided the fee for review of the report on August 9, 2022 (NASA, 2022k). NASA shipped the soil cuttings generated from the drilling activities off-site on June 15, 2022 for disposal as solid waste.

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

2.5.1 100 Area Lagoons

On May 29, 2019, NASA submitted the *NASA WSTF (White Sands Test Facility) 100 Area Wastewater Lagoons Closure (SWMU 2) Interim Status Report* (NASA, 2019e). NMED responded to that report on May 14, 2020 (NMED, 2020d) 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, 2020j). NMED disapproved the report on July 5, 2022 (NMED, 2022j). NASA continued reviewing and addressing NMED comments in the third quarter of 2022.

2.5.2 200 Area Lagoons

NASA submitted the *NASA White Sands Test Facility (WSTF) 200 Area Wastewater Lagoons Closure (SWMU 8) Investigation Report* to NMED on November 25, 2019 (NASA, 2019n). NMED disapproved the report on June 6, 2022 (NMED, 2022h). NASA continued reviewing and addressing NMED comments in the third quarter of 2022.

2.5.3 600 Area Lagoons

NASA submitted the *NASA White Sands Test Facility (WSTF) 600 Area Wastewater Lagoons Closure (SWMU 34) Investigation Report* to NMED on November 26, 2019 (NASA, 20190). NMED disapproved the report on June 16, 2022 (NMED, 2022i). NASA continued reviewing and addressing NMED comments in the third quarter of 2022.

2.5.4 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 White Sands Test Facility (WSTF) STGT Wastewater Lagoons Closure (AOC 51) Investigation Report* on October 13, 2020 (NASA, 2020o, p42). NMED disapproved the report on July 25, 2022 (NMED, 2022k). NASA continued reviewing and addressing NMED comments in the third quarter of 2022.

2.6 SWMU 10 (200 Area Hazardous Waste Transmission Lines)

NASA provided the *Response to Disapproval of the NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report* to NMED on July 30, 2019 (NASA, 2019i). On November 16, 2020, NMED disapproved the revised report (NMED, 2020j) and directed NASA to address 16 comments and perform resampling along the HWTL by August 30, 2021. On May 19, 2021, NASA requested that the due date for submittal of a revised report be extended from August 30, 2021 to November 30, 2021 (NASA, 2021l). NMED approved this extension on July 6, 2021 (NMED, 2021o). 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, 2021w). NMED approved the request on January 25, 2022 (NMED, 2022c), extending the due date for submittal of the report to February 28, 2022. During the third quarter of 2022, NMED continued reviewing the *Response* to *Second Disapproval of NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report and Risk Assessment Report* (March 4, 2022) (NASA, 2022a) and the *Response to Second Disapproval of NASA WSTF 200 Area HWTL (SWMU 10) IR Risk Assessment Report* (March 4, 2022) (NASA, 2022b).

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

Preliminary investigation fieldwork was performed at the 600 Area BLM Off-Site Soil Pile in November and December 2015. NASA submitted the *NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* on February 25, 2016 (NASA, 2016a). NMED disapproved three revisions of the report prior to 2020. NMED provided the *Approval with Modifications 600 Area Bureau of Land*

Management Off-Site Soil Pile (SWMU 16) Revised Investigation Report 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 submitted the *Response to Approval with Modifications of NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile) Investigation Report* on July 20, 2021 (NASA, 2021r) and then 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, 2021x, p9). NMED continued reviewing the work plan in the third quarter of 2022.

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, 2019g) and issued the *Approval with Modifications Revised 800 Area Below Grade Storage Tank (SWMU 19) Investigation Report* on August 27, 2020 (NMED, 2020h).

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* (NASA, 2019h, the revised IR) on January 29, 2021 and directed NASA to address six comments no later than May 30, 2021 (NMED 2021c). NASA addressed the six comments and submitted the *Response to Second Disapproval of NASA White Sands Test Facility (WSTF) Septic Tanks (SWMUs 21–27) Investigation Report* on May 18, 2021 (NASA, 2021k, Response Table). NMED continued reviewing the revised report in the third quarter of 2022.

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 NASA's October 28, 2019 request 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, 2019l). 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, 2020c), 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, 2020k). NMED continued reviewing the reports in the third quarter of 2022.

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

Anticipating closure of Test Stand 302 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, 2020k) on August 17, 2020. NMED disapproved the work plan on May 9, 2022 (NMED, 2022f). NMED directed NASA to address the comments and submit a revised work plan no later than September 15, 2022. NASA addressed NMED's 13 comments and submitted the *Response to Disapproval of NASA WSTF 300 Area Test Stand 302 Cooling Water Pond (SWMU 33) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* on September 14, 2022 (NASA, 2022n).

2.12 SWMU 47 (500 Area Fuel Storage Area)

NASA submitted the 500 Area Fuel Storage (SWMU 47) Investigation Work Plan on September 26, 2018 (NASA, 2018c). NMED disapproved the work plan on August 8, 2019 (NMED, 2019d) and directed NASA to address 14 comments and submit a revised work plan by November 25, 2019. NASA submitted the *Response to Disapproval of 500 Area (SWMU 47) Investigation Work Plan* on November 21, 2019 (NASA, 2019m). NMED disapproved the revised work plan on March 19, 2021 and directed NASA to address five comments and submit a revised IWP no later than July 31, 2021 (NMED, 2021i). NASA addressed NMED's comments and submitted the *Response to Second Disapproval of 500 Area Fuel Storage (SWMU 47) Investigation Work Plan* on June 29, 2021 (NASA, 2021o, Response Table). NMED continued reviewing the revised work plan in the third quarter of 2022.

2.13 SWMU 49 (700 Area Landfill)

NASA submitted the *NASA White Sands Test Facility (WSTF) SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan (IWP) and Historical Information Summary (HIS)* on December 28, 2017 (NASA, 2017b). NMED disapproved the work plan (NMED, 2018b) and directed NASA to address eight comments and submit a revised work plan by May 31, 2019. NASA submitted the *Response to NMED Disapproval SWMU 49 (700 Area Landfill) Phase I Investigation Work Plan and Historical Information Summary* on March 28, 2019 (NASA, 2019b). NMED approved the work plan with modification on June 6, 2019 (NMED, 2019c). The planned investigation includes Phase 1A and Phase 1B soil vapor sampling and surface geophysics. In November 2019 and December 2019, NASA deployed 159 passive soil vapor samplers and completed the Phase 1A soil vapor survey. NASA and the subcontracted geophysics firm performed the EMI and magnetic gradient field surveys between February 24 and 28, 2020.

Because of project delays created by 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, 2020g). NMED approved the request on July 1, 2020 (NMED, 2020f), extending the date for submittal of the Phase 1 investigation report to March 31, 2021. Meanwhile, NASA completed procurement of the ground penetrating radar and passive seismic surveys as described in the NMED-approved landfill investigation work plan. 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 approved the request on March 15, 2021 (NMED, 2021e), extending the due date for submittal of the Phase 1 investigation report to April 29, 2022. NMED continued reviewing NASA's April 29, 2022 *700 Area Landfill Closure (SWMU 49) Phase I Investigation Report* on (NASA, 2022h) during the third quarter of 2022.

2.14 SWMU 50 (First TDRSS Diesel Release)

NASA submitted the *First Tracking Data Relay Satellite System (TDRSS) Diesel Release (SWMU 50) Investigation Report* on March 14, 2019 (NASA, 2019a). NMED disapproved the report on July 8, 2020 (NMED, 2020g) and directed NASA to address 17 NMED comments and submit a revised report no later than October 30, 2020. NASA submitted the *Response to Disapproval of First Tracking Data Relay Satellite System (TDRSS) Diesel Release (SWMU 50) Investigation Report and Risk Screen Evaluation Report* on November 9, 2020 (NASA, 2020p). NMED continued reviewing the report in the third quarter of 2022.

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, 2020m). 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, 2020n. p7). 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, 2020q) 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 PSTB, 2021), the NMED PSTB approved NASA's *Second TDRSS UST Minimum Site Assessment Work Plan* of November 18, 2020 (NASA, 2020r, pp3-6). NASA submitted the *Second TDRSS UST Minimum Site Assessment Report* to the NMED 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, 2021d).

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.

The NMED HWB disapproved the Second TDRSS UST Minimum Site Assessment Report on March 1, 2022 and directed NASA to address four NMED comments and submit a revised report no later than May 6, 2022 (NMED, 2022d). NASA submitted the *Response to Disapproval of NASA WSTF Second TDRSS Underground Storage Tank (SWMU 52) Release Assessment Report* on April 26, 2022 (NASA, 2022g). NMED continued reviewing the revised report in the third quarter of 2022.

2.16 Newly Identified SWMU

NASA identified the location of a former 500 Area oxidizer as a potential new SWMU. On October 16, 2019, NASA submitted the *Fifteen-Day Notification of a Newly Identified SWMU within the WSTF 500 Area* (NASA, 2019k). NMED acknowledged receipt of NASA's fifteen-day notification on November 13, 2019 (NMED, 2019f) 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, 2020h, p4). NMED approved the report on December 20, 2021 and directed NASA to prepare and submit an investigation work plan for the unit no later than August 31, 2022 (NMED, 2021s). NASA completed preparation of the historical investigation summary and investigation work plan for the former oxidizer burner in the 500 Area. The unit will be identified as a SWMU in the Permit at an appropriate time. NASA submitted the *500 Area Former Oxidizer Burner (FOB) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* on August 25, 2022 (NASA, 2022l).

3.0 References

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From:	Nietubyc, Elizabeth M. (WSTF-RE-ENV)[NAVARRO RESEARCH AND ENGINEERING, INC.]
To:	Sandoval, Melanie, ENV
Cc:	Hudson, Jeffrey C. (WSTF-RE-ENV)[NAVARRO RESEARCH AND ENGINEERING, INC.]; John, Melissa J. (WSTF-RE-ENV)[NAVARRO RESEARCH AND ENGINEERING, INC.]
Subject:	RE-22-138: NMED PMR 3Q2022
Date:	Thursday, October 27, 2022 2:32:58 PM
Attachments:	image001.png

Ms. Sandoval,

Please find, in NASA BOX (under the NMED GWQB > Period Monitoring Reports folder), the NASA WSTF Periodic Monitoring Report for Third Quarter 2022.

If you have any questions or comments concerning this submittal, please contact Antonette Doherty at 575-202-5406 or at antonette.l.sanchez@nasa.gov.

Below is the link to the report for your convenience:

https://nasa-ext.box.com/s/rq29s5natc8snnujtvk45m4zqyvrij3o

Thank You,

Betty Nietubyc
Navarro Research and Engineering, Inc.

Environmental Department
NASA White Sands Test Facility (WSTF)
Mail Code: 101EN; Bldng. 101; Rm. 110
Phone: 575-524-5464

NAVARRO

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