

APPENDIX D.2.1

**Data Quality Assessment Report
Spring 2019 Sampling Event**

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ACRONYMS AND ABBREVIATIONS

ADR	Automated Data Review
AOC	Area of Concern
CCV	Continuing Calibration Verification
DoD	U.S. Department of Defense
DQA	Data Quality Assessment
DQO	Data Quality Objective
EDD	Electronic Data Deliverable
FCR	Field Change Request
FWGWMP	Facility-wide Groundwater Monitoring Program
ICV	Initial Calibration Verification
LCS	Laboratory Control Sample
LOD	Level of Detection
LOQ	Level of Quantitation
MDL	Method Detection Level
MPC	Measurement Performance Criteria
MPR	Monthly Progress Report
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PAH	Polycyclic Aromatic Hydrocarbon
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PCB	Polychlorinated Biphenyl
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
REIMS	RVAAP Environmental Information Management System
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan
RPD	Relative Percent Difference
RVAAP	Ravenna Army Ammunition Plant
SVOC	Semi-volatile Organic Compound
TestAmerica	TestAmerica Laboratories, Inc.
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound

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D.2.1 PROJECT QUALITY ASSURANCE SUMMARY

D.2.1.1 PURPOSE OF THIS REPORT

Environmental data must be evaluated relative to their known limitations and intended use. As can be expected in environmental media, some analytical results and data points require the user to be cautioned relative to the quality of the project information presented. The data verification/validation process and this data quality assessment (DQA) are performed to assist current and future data users in interpreting these data.

The purpose of this DQA report is to document the following:

- The quality control (QC) procedures followed to ensure data generated by Leidos, during the implementation of the spring 2019 sampling event to support the Facility-wide Groundwater Monitoring Program (FWGWMP) at the former Ravenna Army Ammunition Plant (RVAAP), meet project requirements;
- The quality of the data collected; and
- Any problems encountered during the course of the study and their solutions.

This DQA report provides an assessment of the analytical information generated during the implementation of the *Facility-wide Groundwater Monitoring Program Plan RVAAP-66 Facility-wide Groundwater Addendum for 2019* (Leidos 2019; herein referred to as the 2019 Addendum). Implementation of the 2019 Addendum was done in accordance with the *Remedial Investigation Work Plan for Groundwater and Environmental Services for RVAAP-66 Facility-wide Groundwater* (TEC-Weston 2016; herein referred to as the Remedial Investigation Work Plan [RIWP]), Appendix A.2 Quality Assurance Project Plan (QAPP).

This DQA documents the quality of the data collected during the spring 2019 sampling event and assesses if quality assurance (QA)/QC objectives were met. The primary intent of this assessment is to document that, except as noted, data generated for this investigation can withstand scientific scrutiny; are appropriate for their intended purpose; are technically defensible; and are of known and adequate quality (i.e., sensitivity, precision, accuracy, representativeness, comparability, and completeness [PARCC]).

Multiple activities were performed to achieve the required data quality for this project. Data quality objectives (DQOs) along with a QA program were established to guide the implementation of the field sampling and laboratory analysis per the 2019 Addendum (Leidos 2019). The QA program was established to standardize procedures and document activities per the FWGWMP Plan (Portage Environmental 2004) and RIWP. This program provided a means to detect and correct any deficiencies in the process. Upon receipt by the project team, results provided in the electronic data deliverable (EDD) were subjected to electronic review by an automated data review (ADR) process to identify and qualify problems related to the analysis. This was followed by manual verification/validation of QC results not included in the EDD/ADR review. These combined verification/validation results are

summarized in this DQA to document that data used in the remedial investigation (RI) are identified as having met the criteria and are being utilized appropriately.

D.2.1.2 QUALITY ASSURANCE PROGRAM

The QAPP within the RIWP (TEC-Weston 2016) and field change request (FCR) LEIDOS_FWGW_004 were developed to enumerate the quantity and type of environmental samples needed and to define the quantity and type of QA/QC samples to be used to evaluate data quality. These documents established requirements for field and laboratory QC procedures. In general, field QC duplicate samples were required at a frequency of 10%; volatile organic compound (VOC) trip blanks were to accompany each cooler containing water samples for VOC determinations; field blanks and equipment blanks were collected to demonstrate equipment decontamination and clean ambient field conditions; and analytical laboratory QC samples, including duplicates, matrix spikes (MSs), laboratory control samples (LCSs), and method blanks, were required for each preparation batch of 20 samples or less for each parameter.

A primary goal of the QA program is to ensure that the quality of results for all environmental measurements is appropriate for their intended use and that standardized field procedures guide the investigation. Through the process of readiness review, training, equipment calibration, QC implementation, and detailed documentation, the project has successfully accomplished the goals set for the QA program.

D.2.1.2.1 Monthly Progress Reports

Monthly Progress Reports (MPRs) were completed by the Leidos Project Manager for the duration of the project. The MPRs contained information on work completed, a summary of anticipated upcoming work, discussion of any health and safety issues, and a summary of investigation-derived waste staged at the facility. These reports were issued to the U.S. Army Corps of Engineers (USACE) Louisville District Contracting Officer's Representative and Project Manager by email.

D.2.1.2.2 Daily Activity Logs

The Field Manager completed Daily Activity Logs. These include information such as, but not limited to, on-site sub-tier contractors, on-site equipment, work performed summaries, QC activities, health and safety activities, problems encountered, and corrective actions.

D.2.1.2.3 Laboratory "Definitive" Level Data Reporting

The QAPP for this project identified requirements for laboratory data reporting. White Water Associates of Amasa, Michigan, and their subcontracted partner TestAmerica Laboratories, Inc. (TestAmerica) of Denver, Colorado, performed the analysis of the samples. The TestAmerica facility in Denver, Colorado, performed all analyses, except nitroguanidine and nitrocellulose, which were performed at the TestAmerica facility in Sacramento, California, and hexavalent chromium, which was performed at the Test America facility in North Canton, Ohio. TestAmerica Denver and Sacramento

are accredited by the U.S. Department of Defense (DoD) for the analyses they performed. Test America in North Canton, Ohio, is not DoD accredited for hexavalent chromium; due to the short holding time associated with this analysis, an FCR (FCR No. 08, June 8, 2017) was sought and approved to use the North Canton laboratory due to its proximity to the site, which eliminated the delay of shipping samples to the laboratory. All analytical procedures were completed in accordance with U.S. Environmental Protection Agency (USEPA) requirements; the DoD Quality Systems Manual (QSM), Version 5.0 (DoD 2017); and the QAPP. USEPA “definitive” data have been reported, including laboratory-level IV data packages meeting QSM Appendix A guidance.

This information from the laboratory, along with field information, provides the basis for subsequent data evaluation relative to sensitivity and PARCC.

D.2.1.2.4 Field Change Requests

Three FCRs are pertinent to the spring 2019 sampling events:

- LEIDOS_FWGW_001 – Specifies that, due to the permanent bladder pumps, total depths of wells will not be collected during the facility-wide comprehensive water level measurements.
- LEIDOS_FWGW_004 – Specifies the field QC sampling frequency.
- LEIDOS_FWGW_006 – Documents the micro-purge procedure to be implemented during groundwater sampling collected by micro-purging with dedicated bladder pumps.

D.2.1.3 DATA VERIFICATION/VALIDATION

The objective when evaluating the project data quality is to determine its usability. The evaluation is based on the interpretation of laboratory QC measures, field QC measures, and project DQOs. This project implemented ADR software to facilitate laboratory data review. The ADR output was reviewed by the project-designated verification staff, as discussed below.

D.2.1.3.1 Field Data Verification

Field-generated documents, such as sampling logs, boring logs, daily health and safety summaries, daily safety inspections, equipment calibration and maintenance logs, and sample management logs, were peer-reviewed on site.

D.2.1.3.2 Laboratory Data Verification/Validation

Analytical data generated for this project have been subjected to a process of automated and manual data verification, validation, and review. Criteria and protocols were established in the following documents:

- 2019 Addendum (Leidos 2019);
- RIWP, including Appendix A.2 QAPP (TEC-Weston 2016);
- DoD QSM, Version 5.0 (DoD 2017);

- USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, EPA-540/R-99/008 (USEPA 1999);
- USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, EPA-540/R-04/004(USEPA 2004); and
- Leidos Technical Support Contractor QA Standard Operating Procedure (ESE-DM-05), *Data Verification and Validation* (Leidos 2015).

Upon receipt of analytical data, QA staff performed a systematic examination of 100% of the reports, including ADR outputs. Discrepancies identified during this process were recorded and documented. Any discrepancies were resolved prior to database flag entry. QA Program Nonconformance Report and Corrective Action systems were implemented as required.

During the verification phase of the review and evaluation process, data were subjected to a systematic technical review by examining all field sample and analytical QC results against the measurement performance criteria (MPC) specified in the QAPP, following USEPA functional guidelines, DoD QSM criteria, and Leidos internal procedures for laboratory data review. These guidelines describe methods for evaluating the review criteria and actions to be taken resulting from the review of these criteria. The primary objectives of this phase were to assess and summarize the quality and reliability of the data for the intended use and to document factors that may affect the usability of the data. This data verification/validation and analytical review process included, but was not necessarily limited to, the following parameters:

- Data completeness;
- Analytical holding times and sample preservation;
- Calibration (initial and continuing);
- Method blanks and calibration blanks;
- Sample results verification;
- Surrogate recovery (organics);
- LCS analysis;
- Internal standard performance;
- MS/matrix spike duplicate (MSD) recovery;
- Serial dilution/post digestion spike, interference check standards (inorganics);
- Field duplicate analysis comparison;
- Reported detection limits; and
- Secondary dilutions.

As a result of this review, data were qualified based on the technical evaluations of QC sample results compared to MPC specified in the QAPP. Qualifiers were applied as needed to field and analytical results to indicate the usability of the data for its intended purpose.

D.2.1.3.3 Definitions of Data Qualifiers (Flags)

During the data verification/validation process, laboratory data were assigned appropriate data qualification flags with reason codes. Qualification flags are defined as follows:

- “U” Indicates the analyte was analyzed for, but not detected above, the level of the associated value.
- “J” Indicates the analyte was positively identified; however, the associated numerical value is an approximate concentration of the analyte in the sample.
- “UJ” Indicates the analyte was analyzed for, but not detected above, the associated value; however, the reported value is an estimate and demonstrates a decreased knowledge of its accuracy or precision.
- “R” Indicates the analyte value reported is unusable due to significant noncompliant QC results. One Nitrite result (RQLmw-013-190401-GW) was qualified “R” due to missed holding time.

D.2.1.3.4 Data Compliance

A total of 92 environmental groundwater samples were collected with approximately 4,689 discrete data points (i.e., analytes) obtained, reviewed, and integrated into the assessment (these totals do not include field measurements, field QC blanks, and field descriptions). During the project, samples were successfully collected and produced usable results for more than 99.9% of the sample analyses performed during the spring 2019 sampling event. No data were rejected.

Table D.2.1-1 summarizes the number of environmental and QA split samples collected during the spring 2019 sampling event. Cross-references for field duplicates and field QC samples and the associated primary samples are presented in Table D.2.1-2 along with the requested parameters for each sample. Table D.2.1-3 summarizes the qualified analyses grouped by parameter, and Table D.2.1-4 details the individual results qualified during review. The majority of the estimated values were based on concentrations between the laboratory method detection levels (MDLs) and the sample level of quantitation (LOQ) (i.e., values determined in this region have an inherently higher variability and are considered to be estimated concentrations); qualifiers also were assigned based on noncompliant MS recoveries, holding times, blank contamination, and LCS recoveries, as well as professional judgment.

During the spring 2019 sampling event, 11 field duplicates were collected and analyzed with primary samples. QA split samples were collected and sent to an independent laboratory (CT Laboratories in Baraboo, Wisconsin); these results were provided directly to USACE and are not included in this DQA. Six trip blanks were collected and analyzed. Equipment rinsate blanks were not required since samples were collected via the use of dedicated sampling equipment. The project goal for blanks is to achieve concentrations less than the reporting levels. Table D.2.1-5 summarizes analytes that were detected in the trip blanks. In general, trip blank results indicate that the potential for sample contamination due to cross contamination is very low.

D.2.1.4 DATA QUALITY EVALUATION

D.2.1.4.1 Volatile Organic Groundwater Analysis

Analytical holding times were met for all VOC samples. Initial calibrations and continuing calibration criteria were achieved. Surrogate recoveries and internal area counts were within control limits for all analyses. Method blanks associated with three samples resulted in four data points being qualified as “U” or “UJ”. All LCS and MS/MSD recoveries were within criteria. MS/MSD relative percent difference (RPD) values met control criteria. No samples required dilutions. Two samples contained significant headspace that developed during sample storage and results (72) were qualified as “J” or “UJ” based on professional judgment due to sample condition at the time of analysis. No data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in the RVAP Environmental Information Management System (REIMS).

D.2.1.4.2 Semi-volatile Organic Groundwater Analysis

Extraction and analytical holding times were met for all samples. Initial and continuing calibration criteria were met. Surrogate recoveries met criteria. Internal standard area counts and compound retention times met criteria throughout the data analyses. Method blanks were free of contamination. LCS and/or MS/MSD recoveries outside criteria resulted in nine data points being qualified as estimated “UJ”. MSD RPD values met control criteria. No semi-volatile organic compound (SVOC) samples required dilutions. No data were estimated or rejected for any reason, and the results are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.3 Polycyclic Aromatic Hydrocarbon Groundwater Analysis

Extraction and analytical holding times were met for all samples. Initial and continuing calibration criteria were met. Surrogate recoveries, internal standard area counts and compound retention times met criteria throughout the data analyses. Method blanks were free from contamination. LCS and MS/MSD recoveries and RPD values met criteria. No PAH samples required dilutions. No data were rejected for any reason. All values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.4 Pesticide Analysis Groundwater Analysis

Analytical holding times were met for all samples; as needed, clean-up protocols (SW3660A and SW3665A) were used to reduce matrix interferences in the sample extracts. Surrogate recoveries met control criteria for all samples. Initial and continuing calibrations met criteria for all pesticide compounds. Pesticide method blanks were free of contamination. LCS recoveries associated with four compounds were outside acceptance criteria for six samples resulting in 24 data points qualified as “J” or “UJ.” MS/MSD recoveries and RPD values were within criteria. No pesticide samples required

dilutions. Column comparison criteria were met. No pesticide data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.5 Polychlorinated Biphenyl Analysis Groundwater Analysis

Analytical holding times were met for all samples; as needed, clean-up protocols (SW3660A and SW3665A) were used to reduce matrix interferences in the sample extracts. Surrogate recoveries met control limits. Initial and continuing calibration criteria were met for all polychlorinated biphenyl (PCB) compounds. PCB method blanks were free from contamination. LCS recoveries were within acceptance criteria. MS/MSD recoveries and RPD values met criteria. No PCB data were estimated or rejected for any reason. No PCB samples required a dilution. All PCB values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.6 Explosives and Nitroglycerin Groundwater Analysis

Analytical holding times were met for all samples. Surrogate recoveries met control limits in all samples. Initial and continuing calibration criteria were met. All method blanks were free of contamination. LCS recovery for one compound exceeded criteria resulting in 11 results being qualified as “UJ.” MS/MSD recoveries exceeded criteria for six compounds which caused 11 sample results to be qualified as “J” or “UJ”. Column comparison criteria were exceeded for three results, which caused these data points to be qualified as “J” based on professional judgment. No explosives samples required dilutions. No data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.7 Metals and Phosphorus Groundwater Analysis

Analytical holding times were met for all samples. Initial and continuing calibration criteria were achieved for all elements. Sample results associated with calibration standard exceedances were qualified as follows: if ICV or CCV results were above criteria, detects were qualified as “J”; if ICV/CCV results were below criteria, detects were qualified as “J” and non-detects as “UJ.” Method blank contamination resulted in eight results being qualified as non-detect “U”; initial and continuing calibration blank contamination resulted in six data points being qualified as “U” or “UJ.” LCS recoveries met criteria. MS/MSD recoveries exceeded criteria for metal compounds in four samples, which resulted in nine sample results qualified as “J” or “UJ.” MS/MSD RPD values were within control limits. Professional judgment was used to qualify 55 results, based on ICV/CCV results per above, as well as serial dilution and post digestion spike results. Reporting levels are considered consistent with QAPP goals. No data were rejected for any reason. No dilutions were required. Although some analyses were qualified as estimated, the deviations observed should not have a

significant impact on the results, and the reported values were considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.8 Propellants Groundwater Analysis

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for all compounds. Method blanks were free from contamination. LCS and MS/MSD recoveries were within criteria; RPD values were within control limits. No dilutions were required. No data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.9 Anions

Results for one nitrate and two nitrite results were qualified as estimated “J” or “UJ” due to missed holding times and one nitrite result was rejected due to analysis performed more than 2x the hold time. Initial and continuing calibration criteria were met for all compounds. Method and calibration blank were free from contamination that impacted sample results. MS/MSD recoveries were outside criteria for sulfate which resulted in six results qualified as estimated “J”. MS/MSD RPD results met criteria. Laboratory duplicate RPD results met criteria. No groundwater samples required a dilution. The nitrite data point that was rejected was not used in evaluating project objectives. Analyses that were qualified as estimated, should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.10 Cyanide

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for all compounds. Method blanks were free from contamination. LCS recoveries were within criteria. MS/MSD recoveries were outside criteria and resulted in the qualification of six data points as estimated; RPD values met criteria. No dilutions were required. No data were rejected for any reason. Although some analyses were qualified as estimated, the deviations observed should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.11 Perchlorate

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for all compounds. Method blanks were free from contamination. LCS recoveries were within criteria. MS/MSD recoveries exceeded criteria resulting in two samples qualified as estimated; RPD values met criteria. No dilutions were required. No data were rejected for any reason. Although some analyses

were qualified as estimated, the deviations observed should not have a significant impact on the results, and the values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.12 Alkalinity

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for alkalinity. Method blanks were free from contamination. LCS recoveries were within criteria. MS/MSD recoveries and RPD values met criteria for alkalinity. No dilutions were required. No data were rejected for any reason. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.13 Hexavalent Chromium

Analytical holding times were met for all samples. Initial and continuing calibration criteria were met for all compounds. Method blanks were free from contamination. LCS recoveries were within criteria. MS/MSD recoveries and RPD values met criteria. No dilutions were required. No data were rejected for any reason. Reported values are considered technically sound and defensible. Complete data summary tables, with associated qualifiers, are provided in Appendix F and can be found in REIMS.

D.2.1.4.14 Precision

Field duplicate samples were collected to assess the combined variability (i.e., precision) due to environmental media, sampling reproducibility, and analytical precision. Field duplicate samples were collected from the same spatial and temporal conditions as the primary environmental sample.

Field duplicate comparison information is presented in Table D.2.1-6. If a given analyte was not detected in both the regular and field duplicate sample, precision was considered within limits and results were not included in the table. The RPD was calculated only when both samples had reported concentrations greater than five times the LOQ. When one or both sample values were between the LOQ and five times the LOQ, the absolute difference was evaluated. Tables 12-1 through 12-17 of the QAPP set the RPD criteria, while the absolute difference is set at one times the reporting limit. Two metals results in one field duplicate pair exceeded criteria (parent samples having detected concentration and the field duplicate having nondetects); all other field duplicate comparisons met criteria.

D.2.1.4.15 Sensitivity

Determining minimum detectable values allows the investigation to assess the confidence that can be placed in a value relative to the magnitude of analyte concentration observed. The closer a measured value comes to the minimum detectable concentration, the less confidence and more variation the measurement may have. Project sensitivity goals were expressed relative to the project action limits in the QAPP, as presented in Tables 15-1 through 15-19; these tables identified compounds for which the expected LOD was greater than the project action limit. These levels were further evaluated relative to

the applicable screening criteria, and LODs were at or below screening criteria, with the exceptions previously noted in the QAPP tables; in addition, two compounds (benzo[a]anthracene and Aroclor 1016) were reported with LODs greater than the screening criteria but with an MDL below the applicable criteria. In general, LODs are considered adequate for their intended use and have been considered during data interpretation and statistical applications.

Method blank determinations were performed with each analytical sample batch for each analyte under investigation. These blanks were evaluated to determine their potential impact on individual data points. Action levels are set at 5 times the blank concentration for all analytes, except those designated as common laboratory contaminants (i.e., methylene chloride, acetone, toluene, 2-butanone, and phthalate compounds) for which the action level is 10 times the blank concentration. Action limits for inorganics were set as 10 times the blank concentration. Reported sample concentrations are evaluated against blank action levels, and the following qualifications are made when reportable quantities of analytes were observed in the associated method blank:

- When the sample analyte concentration is above the action level (5–10 times the blank concentration), the data are not qualified and it is considered a positive value.
- If the sample concentration is below the action level, the data are considered impacted by the method blank. If the sample result is greater than the LOQ, the result is qualified as a non-detectable concentration at the analyte value reported and these data are qualified as “U.” If the sample result is greater than the level of detection (LOD) but less than the LOQ, the result is qualified as a non-detectable concentration at the analyte value reported and these data are qualified as “UJ.” If the sample result is less than the LOD (an estimated value), the result is qualified as non-detectable at the concentration of the LOD and qualified as “U.”

No data were rejected as a result of method blank contamination; however, various analytes were qualified as a non-detectable concentration “U,” as summarized in Table D.2.1-4.

Table D.2.1-5 summarizes analytes that were detected in trip blanks. Six trip blanks were collected. One compound was detected in one trip blank, as listed in Table 3-5. The concentration observed was less than the reporting level. The transportation and sample storage process, and the procedures and precautions employed, were effective in preserving the integrity of the sample analysis.

D.2.1.4.16 Representativeness and Comparability

Representativeness expresses the degree to which data accurately reflect the analyte or parameter of interest for the environmental media being studied and is the qualitative term most concerned with the proper design of the sampling program. Factors that affect the representativeness of analytical data include proper preservation, holding times, and use of standard sampling and analytical methods. Samples were picked up on site by the TestAmerica courier, then delivered or shipped to the appropriate laboratory location; samples were received within temperature specifications and in good condition. Holding times were exceeded as discussed above; with one exception, samples were analyzed within two times the holding time, and the data are therefore considered usable but estimated (“J,” “UJ”); one nitrite value was rejected due to hold time per the above discussion.

Comparability, like representativeness, is a qualitative term relative to an individual project data set. The RI employed appropriate sampling methodologies, sample containers and preservation, and site surveillance; used standard sampling devices and uniform training; and documented sampling procedures, standard analytical protocols/procedures, QC checks with standard control limits, and universally accepted data reporting units to ensure comparability to other data sets. Through the proper implementation and documentation of these standard practices, the project has established the confidence that the data will be comparable to other project and programmatic information.

D.2.1.4.17 Completeness

Usable data are defined as those data that pass individual scrutiny during the verification and validation process. These data, including estimated data, have been determined to be usable for RVAAP restoration program objectives.

The completeness goal for analytical data is 95%, as defined in Tables 12-1 through 12-17 of the FWGWMP Plan. All samples specified in the 2019 Addendum (Leidos 2019) were collected as planned, and usable results were generated for >99.9% of sample analyses performed.

D.2.1.5 DATA QUALITY ASSESSMENT SUMMARY

The overall quality of the spring 2019 sampling event meets established project objectives. Through implementation of the project data verification, validation, and assessment process, project information has been determined to be acceptable for use.

Data, as presented, have been qualified as usable; some data have been qualified estimated, “J” or “UJ.” One data point was rejected. Data that have been qualified as estimated indicate accuracy, precision, or sensitivity did not meet all requirements, but results are considered adequate for interpretation. All undetected analytes were reported at detection levels that were adequate for use during data interpretation and statistical applications.

Data produced for this project demonstrate they can withstand scientific scrutiny; are appropriate for its intended purpose; are technically defensible; and are of known and acceptable sensitivity, precision, and accuracy. Data integrity has been documented through proper implementation of QA and QC measures. The environmental information presented has an established confidence that allows utilization for the project objectives and provides data for future needs.

D.2.1.6 REFERENCES

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Table D.2.1-1. Number of Samples Collected – Spring 2019 Sampling Event

Media	Environmental Samples	Field Duplicates	USACE Split Samples	Trip Blanks	Equipment Rinse Blanks	Source Water Blanks	Field Blanks
Groundwater	72	11	11	6	0	0	0

USACE = U.S. Army Corps of Engineers.

Table D.2.1-2. Identification of Regular and QC Samples Taken – Spring 2019 Sampling Event

Media	Environmental Samples	Lab SDG	Field Duplicates	Trip Blanks	Metals	Chromium, hexavalent	Explosives	Propellants	SVOCs	PAHs	VOCs	Pesticides	PCBs	Cyanide	Perchlorate	Anions	Alkalinity
Groundwater	CBPmw-008-190401-GW	280-123584-1												X			
Groundwater	CBPmw-009-190401-GW	280-123656-1												X			
Groundwater	DA2mw-115-190401-GW	280-123183-1	DA2mw-115-190402-GW		X												
Groundwater	DET-003-190401-GW	280-123221-1	DET-003-190402-GW	FWGTB-191001-TB	X		X		X	X	X	X	X	X			
Groundwater	DET-004-190401-GW	280-123221-1		FWGTB-191001-TB	X		X		X	X	X	X	X	X			
Groundwater	EBGmw-125-190401-GW	280-123467-1												X			
Groundwater	EBGmw-131-190401-GW	280-123467-1												X			
Groundwater	FBQmw-171-190401-GW	280-123261-1												X	X	X	
Groundwater	FBQmw-172-190401-GW	280-123261-1	FBQmw-172-190402-GW											X			
Groundwater	FBQmw-174-190401-GW	280-123261-1					X									X	X
Groundwater	FBQmw-175-190401-GW	280-123467-1	FBQmw-175-190402-GW			X										X	X
Groundwater	FBQmw-176-190401-GW	280-123584-1												X			
Groundwater	FWGmw-004-190401-GW	280-123584-1			X		X										
Groundwater	FWGmw-007-190401-GW	280-123221-1			X		X										
Groundwater	FWGmw-011-190401-GW	280-123584-1			X		X										
Groundwater	FWGmw-012-190401-GW	280-123584-1			X		X										
Groundwater	FWGmw-015-190401-GW	280-123584-1			X		X										
Groundwater	FWGmw-016-190401-GW	280-123221-1			X		X										
Groundwater	FWGmw-018-190401-GW	280-123656-1		FWGTB-191004-TB	X						X			X			
Groundwater	FWGmw-019-190401-GW	280-123330-1						X									
Groundwater	FWGmw-020-190401-GW	280-123802-1		FWGTB-191006-TB	X						X			X			
Groundwater	FWGmw-021-190401-GW	280-123656-1	FWGmw-021-190402-GW		X		X										
Groundwater	FWGmw-022-190401-GW	280-123330-1						X									
Groundwater	FWGmw-023-190401-GW	280-123261-1						X									
Groundwater	FWGmw-024-190401-GW	280-123656-1			X		X										
Groundwater	LL10mw-003-190401-GW	280-123261-1	LL10mw-003-190402-GW	FWGTB-191002-TB							X						
Groundwater	LL10mw-005-190401-GW	280-123330-1			X												
Groundwater	LL11mw-005-190401-GW	280-123261-1												X			
Groundwater	LL12mw-183-190401-GW	280-123261-1												X			
Groundwater	LL12mw-185-190401-GW	280-123261-1														X	
Groundwater	LL12mw-187-190401-GW	280-123330-1			X											X	

Table D.2.1-3. Identification of Regular and QC Samples Taken – Spring 2019 Sampling Event (continued)

Media	Environmental Samples	Lab SDG	Field Duplicates	Trip Blanks	Metals	Chromium, hexavalent	Explosives	Propellants	SVOCs	PAHs	VOCs	Pesticides	PCBs	Cyanide	Perchlorate	Anions	Alkalinity
Groundwater	LL12mw-242-190401-GW	280-123330-1			X											X	
Groundwater	LL12mw-245-190401-GW	280-123330-1			X		X									X	
Groundwater	LL12mw-247-190401-GW	280-123261-1			X											X	
Groundwater	LL1mw-064-190401-GW	280-123467-1			X												
Groundwater	LL1mw-065-190401-GW	280-123467-1			X		X										
Groundwater	LL1mw-080-190401-GW	280-123584-1					X										
Groundwater	LL1mw-081-190401-GW	280-123467-1					X							X			
Groundwater	LL1mw-083-190401-GW	280-123457-1					X	X								X	X
Groundwater	LL1mw-084-190401-GW	280-123457-1			X		X	X								X	X
Groundwater	LL1mw-086-190401-GW	280-123467-1			X									X			X
Groundwater	LL1mw-087-190401-GW	280-123330-1			X		X										
Groundwater	LL1mw-088-190401-GW	280-123656-1			X		X										X
Groundwater	LL1mw-089-190401-GW	280-123467-1	LL1mw-089-190402-GW				X	X									
Groundwater	LL2mw-059-190401-GW	280-123457-1			X		X										
Groundwater	LL2mw-264-190401-GW	280-123330-1												X			
Groundwater	LL2mw-267-190401-GW	280-123330-1			X		X										
Groundwater	LL2mw-272-190401-GW	280-123457-1												X			
Groundwater	LL3mw-234-190401-GW	280-123467-1												X			
Groundwater	LL3mw-237-190401-GW	280-123457-1					X										
Groundwater	LL3mw-244-190401-GW	280-123457-1			X		X										
Groundwater	LL3mw-246-190401-GW	280-123656-1	LL3mw-246-190402-GW		X		X								X		
Groundwater	LL4mw-200-190401-GW	280-123330-1												X			
Groundwater	LL7mw-001-190401-GW	280-123261-1			X									X			
Groundwater	LL7mw-006-190401-GW	280-123261-1					X										
Groundwater	NTAmw-119-190401-GW	280-123221-1	NTAmw-119-190402-GW		X		X			X							
Groundwater	NTAmw-120-190401-GW	280-123221-1							X								
Groundwater	RQLmw-007-190401-GW	280-123656-1		FWGTB-191008-TB	X		X		X	X	X	X	X	X			
Groundwater	RQLmw-008-190401-GW	280-123656-1		FWGTB-191008-TB	X		X		X	X	X	X	X	X			
Groundwater	RQLmw-009-190401-GW	280-123656-1		FWGTB-191008-TB	X		X		X	X	X	X	X	X			
Groundwater	RQLmw-011-190401-GW	280-123656-1	RQLmw-011-190402-GW													X	X
Groundwater	RQLmw-012-190401-GW	280-123656-1												X		X	X

Table D.2.1-3. Identification of Regular and QC Samples Taken – Spring 2019 Sampling Event (continued)

Media	Environmental Samples	Lab SDG	Field Duplicates	Trip Blanks	Metals	Chromium, hexavalent	Explosives	Propellants	SVOCs	PAHs	VOCs	Pesticides	PCBs	Cyanide	Perchlorate	Anions	Alkalinity
Groundwater	RQLmw-013-190401-GW	280-123656-1														X	X
Groundwater	RQLmw-016-190401-GW	280-123656-1												X			
Groundwater	SCFmw-004-190401-GW	280-123330-1			X												
Groundwater	SCLmw-001-190401-GW	280-123584-1		FWGTB-191005-TB	X		X	X	X	X	X	X	X	X	X	X	X
Groundwater	SCLmw-002-190401-GW	280-123584-1	SCLmw-002-190402-GW	FWGTB-191005-TB	X		X	X	X	X	X	X	X	X	X	X	X
Groundwater	SCLmw-003-190401-GW	280-123584-1		FWGTB-191005-TB	X		X	X	X	X	X	X	X	X	X	X	X
Groundwater	WBGmw-006-190401-GW	280-123221-1			X		X										
Groundwater	WBGmw-009-190401-GW	280-123221-1			X		X										
Groundwater	WBGmw-020-190401-GW	280-123221-1			X		X										
Groundwater	WBGmw-021-190401-GW	280-123221-1			X		X										

Trip blanks only accompany samples for VOCs in water.

Propellants include nitrocellulose and nitroguanidine.

PAH = Polycyclic aromatic hydrocarbon.

PCB = Polychlorinated biphenyl.

QC = Quality control.

SDG = Sample delivery group.

SVOC = Semi-volatile organic compound.

TB = Trip blank.

VOC = Volatile organic compound.

Table D.2.1-3. Summary of Qualified Results for Samples – Spring 2019 Sampling Event

Analysis Group	Val. Qual	Validation Code	Number Qualified	Total Number of Analyses	Percent Qualified
All Analyses	R		1	3114	0
All Analyses	J		307	3114	10
All Analyses	UJ		127	3114	4
All Analyses	U		29	3114	1
All Analyses	None		2650	3114	85
Metals	J	MS-J	4	1109	0
Metals	J	MS-J,RepLimit-J	4	1109	0
Metals	J	ProJudge-J	31	1109	3
Metals	J	RepLimit-J	220	1109	20
Metals	J	RepLimit-J,ProJudge-J	8	1109	1
Metals	UJ	MS-UJ	1	1109	0
Metals	UJ	ProJudge-UJ	1	1109	0
Metals	UJ	RepLimit-J,CalBlk-U,ProJudge-J	1	1109	0
Metals	U	MB-U,RepLimit-J	8	1109	1
Metals	U	ProJudge-U	7	1109	1
Metals	U	RepLimit-J,CalBlk-U	5	1109	0
Metals	U	RepLimit-J,ProJudge-U	7	1109	1
Metals	None	None	812	1109	73
Explosives	J	MS-J	2	672	0
Explosives	J	ProJudge-J	3	672	0
Explosives	J	RepLimit-J	4	672	1
Explosives	UJ	LCS-UJ	9	672	1
Explosives	UJ	MS-UJ	7	672	1
Explosives	UJ	MS-UJ,LCS-UJ	2	672	0
Explosives	None	None	645	672	96
Propellants	J	RepLimit-J	1	20	5
Propellants	None	None	19	20	95
SVOCs	UJ	LCS-UJ	7	307	2
SVOCs	UJ	MS-UJ	1	307	0
SVOCs	UJ	MS-UJ,LCS-UJ	1	307	0
SVOCs	None	None	298	307	97
PAHs	None	None	180	180	100
VOCs	J	RepLimit-J	8	468	2
VOCs	J	RepLimit-J,ProJudge-J	1	468	0
VOCs	UJ	MB-U,RepLimit-J,ProJudge-J	2	468	0
VOCs	UJ	ProJudge-UJ	69	468	15
VOCs	U	MB-U,RepLimit-J	2	468	0
VOCs	None	None	386	468	82
Pesticides	UJ	LCS-UJ	24	189	13
Pesticides	None	None	165	189	87
PCBs	None	None	63	63	100
Cyanide	J	MS-J	3	31	10
Cyanide	J	MS-J,RepLimit-J	3	31	10
Cyanide	J	RepLimit-J	2	31	7
Cyanide	None	None	23	31	74

Table D.2.1-3. Summary of Qualified Results for Samples – Spring 2019 Sampling Event (continued)

Analysis Group	Val. Qual	Validation Code	Number Qualified	Total Number of Analyses	Percent Qualified
Perchlorate	J	MS-J	2	5	40
Perchlorate	None	None	3	5	60
Anions	R	HT-R	1	53	2
Anions	J	HT-J,RepLimit-J	1	53	2
Anions	J	MS-J	6	53	11
Anions	J	RepLimit-J	2	53	4
Anions	UJ	HT-UJ	2	53	4
Anions	None	None	41	53	77
Alkalinity	J	RepLimit-J	2	15	13
Alkalinity	None	None	13	15	87
Hex Chromium	None	None	2	2	100

Validation Qualifiers: J = estimated, U = not detected, UJ = not detected and reporting limit estimated.

Validation Reason Codes: CalBlk = calibration blank, CCV = continuing calibration verification, FldQC = field quality control, HT = holding time, IntStd = internal standard, LCS = laboratory control sample, MB = method blank, MS = matrix spike, ProJudge = professional judgment, RptLimit = reporting limit, Surr = surrogate recovery.

PAH = Polycyclic aromatic hydrocarbon.

PCB = Polychlorinated biphenyl.

SVOC = Semi-volatile organic compound.

VOC = Volatile organic compound.

-- = No data qualifier.

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	ALUMINUM	280-123183-1	DA2mw-115-190401-GW	21	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123584-1	FWGmw-004-190401-GW	23	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123221-1	FWGmw-007-190401-GW	32	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123802-1	FWGmw-020-190401-GW	31	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123330-1	LL12mw-245-190401-GW	31	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123457-1	LL1mw-084-190401-GW	23	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123467-1	LL1mw-086-190401-GW	53	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123330-1	LL1mw-087-190401-GW	87	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123457-1	LL2mw-059-190401-GW	33	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123330-1	LL2mw-267-190401-GW	100	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123457-1	LL3mw-244-190401-GW	240	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123221-1	NTAmw-119-190401-GW	32	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123656-1	RQLmw-007-190401-GW	19	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123656-1	RQLmw-008-190401-GW	25	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123656-1	RQLmw-009-190401-GW	53	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123584-1	SCLmw-001-190401-GW	37	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123584-1	SCLmw-002-190401-GW	19	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123584-1	SCLmw-002-190402-GW	18	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123221-1	WBGmw-006-190401-GW	19	300	J	J	RepLimit-J
Metals	Groundwater	ALUMINUM	280-123221-1	WBGmw-009-190401-GW	19	300	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123656-1	FWGmw-018-190401-GW	0.41	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123656-1	FWGmw-021-190401-GW	0.51	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123656-1	FWGmw-021-190402-GW	0.99	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123656-1	FWGmw-024-190401-GW	0.70	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123330-1	LL12mw-242-190401-GW	0.87	6.0	J J1	J	MS-J,RepLimit-J
Metals	Groundwater	ANTIMONY	280-123457-1	LL1mw-084-190401-GW	0.76	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123467-1	LL1mw-086-190401-GW	0.95	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123457-1	LL2mw-059-190401-GW	0.61	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123656-1	LL3mw-246-190401-GW	0.59	6.0	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	ANTIMONY	280-123656-1	LL3mw-246-190402-GW	0.56	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123584-1	SCLmw-001-190401-GW	0.53	6.0	J	J	RepLimit-J
Metals	Groundwater	ANTIMONY	280-123584-1	SCLmw-002-190402-GW	0.59	6.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123183-1	DA2mw-115-190401-GW	1.7	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	FWGmw-011-190401-GW	4.2	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	FWGmw-012-190401-GW	1.1	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	FWGmw-015-190401-GW	0.38	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123221-1	FWGmw-016-190401-GW	4.5	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123656-1	FWGmw-021-190401-GW	0.57	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123656-1	FWGmw-021-190402-GW	0.66	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123656-1	FWGmw-024-190401-GW	2.1	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123330-1	LL12mw-187-190401-GW	0.56	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123330-1	LL12mw-242-190401-GW	13	5.0	J1	J	MS-J
Metals	Groundwater	ARSENIC	280-123467-1	LL1mw-064-190401-GW	4.9	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123467-1	LL1mw-086-190401-GW	1.6	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123467-1	LL1mw-086-190401-GW	4.2	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123330-1	LL1mw-087-190401-GW	0.36	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123330-1	LL2mw-267-190401-GW	2.1	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123261-1	LL7mw-001-190401-GW	1.7	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123656-1	RQLmw-007-190401-GW	0.70	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123656-1	RQLmw-009-190401-GW	1.7	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	SCLmw-001-190401-GW	3.4	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	SCLmw-002-190401-GW	0.86	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	SCLmw-002-190402-GW	1.0	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123584-1	SCLmw-003-190401-GW	4.6	5.0	J	J	RepLimit-J
Metals	Groundwater	ARSENIC	280-123221-1	WBGmw-020-190401-GW	1.2	5.0	J	J	RepLimit-J
Metals	Groundwater	BARIUM	280-123584-1	FWGmw-004-190401-GW	22	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	FWGmw-011-190401-GW	29	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	FWGmw-012-190401-GW	26	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	FWGmw-015-190401-GW	10	3.0		J	ProJudge-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	BARIUM	280-123802-1	FWGmw-020-190401-GW	84	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123330-1	LL12mw-242-190401-GW	34	3.0	J1	J	MS-J
Metals	Groundwater	BARIUM	280-123457-1	LL1mw-084-190401-GW	3.0	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123457-1	LL2mw-059-190401-GW	15	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123457-1	LL3mw-244-190401-GW	14	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	SCLmw-001-190401-GW	53	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	SCLmw-002-190401-GW	51	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	SCLmw-002-190402-GW	51	3.0		J	ProJudge-J
Metals	Groundwater	BARIUM	280-123584-1	SCLmw-003-190401-GW	21	3.0		J	ProJudge-J
Metals	Groundwater	BERYLLIUM	280-123183-1	DA2mw-115-190402-GW	0.18	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123656-1	FWGmw-021-190402-GW	0.52	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123656-1	FWGmw-024-190401-GW	0.11	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123330-1	LL12mw-242-190401-GW	0.093	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123330-1	LL12mw-242-190401-GW	0.11	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123467-1	LL1mw-086-190401-GW	0.098	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123457-1	LL3mw-244-190401-GW	0.12	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123584-1	SCLmw-002-190402-GW	0.56	1.0	J	J	RepLimit-J
Metals	Groundwater	BERYLLIUM	280-123221-1	WBGmw-020-190401-GW	0.082	1.0	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123221-1	DET-004-190401-GW	0.55	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123221-1	FWGmw-007-190401-GW	0.51	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123584-1	FWGmw-011-190401-GW	0.90	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123656-1	FWGmw-021-190401-GW	0.76	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123656-1	FWGmw-021-190402-GW	0.82	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123330-1	LL12mw-242-190401-GW	2.4	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123330-1	LL12mw-242-190401-GW	3.1	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123261-1	LL12mw-247-190401-GW	1.1	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123467-1	LL1mw-064-190401-GW	0.58	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123467-1	LL1mw-086-190401-GW	2.8	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123656-1	LL1mw-088-190401-GW	0.50	10	J	J	RepLimit-J
Metals	Groundwater	CHROMIUM	280-123330-1	LL2mw-267-190401-GW	0.79	10	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	CHROMIUM	280-123330-1	SCFmw-004-190401-GW	1.3	10	J	J	RepLimit-J
Metals	Groundwater	COBALT	280-123221-1	DET-003-190401-GW	0.29	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123221-1	DET-003-190402-GW	0.24	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123221-1	FWGmw-007-190401-GW	0.42	1.0	J Q	U	RepLimit-J,CalBlk-U
Metals	Groundwater	COBALT	280-123584-1	FWGmw-015-190401-GW	0.066	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123656-1	FWGmw-021-190402-GW	0.18	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123656-1	FWGmw-024-190401-GW	0.90	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123330-1	LL12mw-242-190401-GW	0.96	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123261-1	LL12mw-247-190401-GW	0.75	1.0	J Q	U	MB-U,RepLimit-J
Metals	Groundwater	COBALT	280-123457-1	LL1mw-084-190401-GW	0.35	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123467-1	LL1mw-086-190401-GW	0.56	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123330-1	LL1mw-087-190401-GW	0.18	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123656-1	LL1mw-088-190401-GW	0.19	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123656-1	RQLmw-009-190401-GW	0.87	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123330-1	SCFmw-004-190401-GW	0.14	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123584-1	SCLmw-001-190401-GW	0.67	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123584-1	SCLmw-002-190401-GW	0.057	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123584-1	SCLmw-002-190402-GW	0.11	1.0	J Q	J	RepLimit-J
Metals	Groundwater	COBALT	280-123221-1	WBGmw-006-190401-GW	0.29	1.0	J Q	U	RepLimit-J,CalBlk-U
Metals	Groundwater	COBALT	280-123221-1	WBGmw-009-190401-GW	0.62	1.0	J Q	U	RepLimit-J,CalBlk-U
Metals	Groundwater	COBALT	280-123221-1	WBGmw-020-190401-GW	0.38	1.0	J Q	U	RepLimit-J,CalBlk-U
Metals	Groundwater	COBALT	280-123221-1	WBGmw-021-190401-GW	0.20	1.0	J Q	U	RepLimit-J,CalBlk-U
Metals	Groundwater	COPPER	280-123221-1	DET-004-190401-GW	1.5	2.0	J	J	RepLimit-J
Metals	Groundwater	COPPER	280-123584-1	FWGmw-015-190401-GW	0.87	2.0	J	J	RepLimit-J
Metals	Groundwater	COPPER	280-123656-1	FWGmw-021-190401-GW	1.2	2.0	J	J	RepLimit-J
Metals	Groundwater	COPPER	280-123656-1	FWGmw-021-190402-GW	1.1	2.0	J	J	RepLimit-J
Metals	Groundwater	COPPER	280-123330-1	LL12mw-187-190401-GW	1.0	2.0	J	J	RepLimit-J
Metals	Groundwater	COPPER	280-123330-1	LL12mw-242-190401-GW	1.1	2.0	J B	U	MB-U,RepLimit-J
Metals	Groundwater	COPPER	280-123330-1	LL12mw-245-190401-GW	1.3	2.0	J	J	RepLimit-J
Metals	Groundwater	COPPER	280-123261-1	LL12mw-247-190401-GW	0.59	2.0	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	COPPER	280-123330-1	LL1mw-087-190401-GW	0.94	2.0	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123584-1	FWGmw-004-190401-GW	50	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123584-1	FWGmw-015-190401-GW	45	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123656-1	FWGmw-021-190401-GW	630	100		J	ProJudge-J
Metals	Groundwater	IRON	280-123656-1	FWGmw-024-190401-GW	1600	100		J	ProJudge-J
Metals	Groundwater	IRON	280-123330-1	LL10mw-005-190401-GW	25	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123457-1	LL1mw-084-190401-GW	82	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123656-1	LL1mw-088-190401-GW	1700	100		J	ProJudge-J
Metals	Groundwater	IRON	280-123457-1	LL2mw-059-190401-GW	46	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123656-1	LL3mw-246-190401-GW	22	100	J	J	RepLimit-J,ProJudge-J
Metals	Groundwater	IRON	280-123656-1	LL3mw-246-190402-GW	85	100	J	U	RepLimit-J,ProJudge-U
Metals	Groundwater	IRON	280-123656-1	RQLmw-007-190401-GW	75	100	J	U	RepLimit-J,ProJudge-U
Metals	Groundwater	IRON	280-123330-1	SCFmw-004-190401-GW	81	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123221-1	WBGmw-006-190401-GW	46	100	J	J	RepLimit-J
Metals	Groundwater	IRON	280-123221-1	WBGmw-009-190401-GW	58	100	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123221-1	FWGmw-007-190401-GW	0.22	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123584-1	FWGmw-011-190401-GW	0.37	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123656-1	FWGmw-021-190402-GW	0.23	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123330-1	LL12mw-187-190401-GW	0.20	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123330-1	LL12mw-242-190401-GW	0.67	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123330-1	LL12mw-242-190401-GW	1.7	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123330-1	LL12mw-245-190401-GW	0.32	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123261-1	LL12mw-247-190401-GW	0.38	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123467-1	LL1mw-086-190401-GW	2.2	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123656-1	LL1mw-088-190401-GW	0.18	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123457-1	LL3mw-244-190401-GW	0.33	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123656-1	RQLmw-007-190401-GW	0.28	3.0	J	J	RepLimit-J
Metals	Groundwater	LEAD	280-123656-1	RQLmw-009-190401-GW	1.4	3.0	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	LEAD	280-123584-1	SCLmw-001-190401-GW	0.21	3.0	J	J	RepLimit-J
Metals	Groundwater	MAGNESIUM	280-123330-1	LL12mw-187-190401-GW	320000	500	J1	J	MS-J
Metals	Groundwater	MANGANESE	280-123221-1	DET-004-190401-GW	0.63	3.5	J	J	RepLimit-J
Metals	Groundwater	MANGANESE	280-123584-1	FWGmw-004-190401-GW	3.1	3.5	J	U	MB-U,RepLimit-J
Metals	Groundwater	MANGANESE	280-123330-1	LL10mw-005-190401-GW	680	3.5		U	ProJudge-U
Metals	Groundwater	MANGANESE	280-123330-1	LL12mw-242-190401-GW	74	3.5	J1	J	MS-J
Metals	Groundwater	MANGANESE	280-123330-1	LL12mw-242-190401-GW	120	3.5		U	ProJudge-U
Metals	Groundwater	MANGANESE	280-123330-1	LL12mw-245-190401-GW	110	3.5		U	ProJudge-U
Metals	Groundwater	MANGANESE	280-123330-1	LL1mw-087-190401-GW	37	3.5		U	ProJudge-U
Metals	Groundwater	MANGANESE	280-123457-1	LL2mw-059-190401-GW	1.2	3.5	J	U	MB-U,RepLimit-J
Metals	Groundwater	MANGANESE	280-123330-1	LL2mw-267-190401-GW	590	3.5		U	ProJudge-U
Metals	Groundwater	MANGANESE	280-123656-1	LL3mw-246-190401-GW	1.5	3.5	J	U	MB-U,RepLimit-J
Metals	Groundwater	MANGANESE	280-123656-1	LL3mw-246-190402-GW	1.2	3.5	J	U	MB-U,RepLimit-J
Metals	Groundwater	MANGANESE	280-123330-1	SCFmw-004-190401-GW	840	3.5		U	ProJudge-U
Metals	Groundwater	MERCURY	280-123183-1	DA2mw-115-190401-GW	0.080	0.20	U J1	UJ	MS-UJ
Metals	Groundwater	NICKEL	280-123584-1	FWGmw-004-190401-GW	0.43	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123221-1	FWGmw-007-190401-GW	1.2	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123584-1	FWGmw-011-190401-GW	1.5	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123584-1	FWGmw-012-190401-GW	1.1	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123584-1	FWGmw-015-190401-GW	0.97	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123656-1	FWGmw-021-190401-GW	1.8	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123656-1	FWGmw-021-190402-GW	1.6	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123330-1	LL10mw-005-190401-GW	0.57	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123330-1	LL12mw-242-190401-GW	2.1	3.0	J J1	J	MS-J,RepLimit-J
Metals	Groundwater	NICKEL	280-123330-1	LL12mw-245-190401-GW	1.4	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123261-1	LL12mw-247-190401-GW	1.1	3.0	J	U	MB-U,RepLimit-J
Metals	Groundwater	NICKEL	280-123467-1	LL1mw-086-190401-GW	1.8	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123330-1	LL1mw-087-190401-GW	0.92	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123656-1	LL1mw-088-190401-GW	0.39	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123457-1	LL2mw-059-190401-GW	1.4	3.0	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	NICKEL	280-123656-1	LL3mw-246-190401-GW	1.6	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123656-1	LL3mw-246-190402-GW	1.4	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123656-1	RQLmw-009-190401-GW	1.6	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123584-1	SCLmw-001-190401-GW	0.71	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123584-1	SCLmw-003-190401-GW	2.9	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123221-1	WBGmw-006-190401-GW	0.33	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123221-1	WBGmw-009-190401-GW	2.7	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123221-1	WBGmw-020-190401-GW	2.2	3.0	J	J	RepLimit-J
Metals	Groundwater	NICKEL	280-123221-1	WBGmw-021-190401-GW	0.36	3.0	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	DET-003-190401-GW	1900	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	DET-003-190402-GW	1900	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	DET-004-190401-GW	1200	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123584-1	FWGmw-004-190401-GW	700	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	FWGmw-007-190401-GW	2500	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123584-1	FWGmw-011-190401-GW	1200	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	FWGmw-016-190401-GW	2400	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	FWGmw-018-190401-GW	1900	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	FWGmw-021-190401-GW	1200	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	FWGmw-021-190402-GW	1200	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	FWGmw-024-190401-GW	810	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123330-1	LL10mw-005-190401-GW	630	3000	J	U	RepLimit-J,ProJudge-U
Metals	Groundwater	POTASSIUM	280-123330-1	LL12mw-242-190401-GW	2300	3000	J	U	RepLimit-J,ProJudge-U
Metals	Groundwater	POTASSIUM	280-123330-1	LL12mw-245-190401-GW	3400	3000		U	ProJudge-U
Metals	Groundwater	POTASSIUM	280-123261-1	LL12mw-247-190401-GW	2600	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123467-1	LL1mw-064-190401-GW	920	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123467-1	LL1mw-065-190401-GW	1400	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123457-1	LL1mw-084-190401-GW	880	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123467-1	LL1mw-086-190401-GW	21000	3000		J	ProJudge-J
Metals	Groundwater	POTASSIUM	280-123330-1	LL1mw-087-190401-GW	900	3000	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	POTASSIUM	280-123656-1	LL1mw-088-190401-GW	2400	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123457-1	LL2mw-059-190401-GW	1400	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123330-1	LL2mw-267-190401-GW	790	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	LL3mw-246-190401-GW	1200	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	LL3mw-246-190402-GW	1100	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123261-1	LL7mw-001-190401-GW	1100	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	NTAmw-119-190401-GW	1400	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	RQLmw-007-190401-GW	2900	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	RQLmw-008-190401-GW	2100	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123656-1	RQLmw-009-190401-GW	2800	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123330-1	SCFmw-004-190401-GW	2900	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	WBGmw-006-190401-GW	860	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	WBGmw-009-190401-GW	610	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	WBGmw-020-190401-GW	800	3000	J	J	RepLimit-J
Metals	Groundwater	POTASSIUM	280-123221-1	WBGmw-021-190401-GW	1400	3000	J	J	RepLimit-J
Metals	Groundwater	Phosphorus	280-123584-1	SCLmw-001-190401-GW	18	3000	J	J	RepLimit-J
Metals	Groundwater	Phosphorus	280-123584-1	SCLmw-002-190401-GW	100	3000	J	J	MS-J,RepLimit-J
Metals	Groundwater	Phosphorus	280-123584-1	SCLmw-002-190402-GW	110	3000	J	J	RepLimit-J
Metals	Groundwater	SELENIUM	280-123584-1	FWGmw-004-190401-GW	1.1	5.0	J	J	RepLimit-J
Metals	Groundwater	SELENIUM	280-123656-1	FWGmw-021-190402-GW	0.72	5.0	J	J	RepLimit-J
Metals	Groundwater	SELENIUM	280-123457-1	LL3mw-244-190401-GW	2.3	5.0	J	J	RepLimit-J
Metals	Groundwater	SELENIUM	280-123584-1	SCLmw-002-190402-GW	0.48	5.0	J	J	RepLimit-J
Metals	Groundwater	SILVER	280-123467-1	LL1mw-086-190401-GW	0.10	5.0	U	UJ	ProJudge-UJ
Metals	Groundwater	SILVER	280-123584-1	SCLmw-001-190401-GW	0.18	5.0	J	J	RepLimit-J
Metals	Groundwater	SILVER	280-123584-1	SCLmw-002-190402-GW	0.040	5.0	J	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123221-1	DET-004-190401-GW	2200	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123584-1	FWGmw-004-190401-GW	4600	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123584-1	FWGmw-011-190401-GW	5700	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123584-1	FWGmw-012-190401-GW	6700	5000	Q	J	ProJudge-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	SODIUM	280-123584-1	FWGmw-015-190401-GW	44000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123802-1	FWGmw-020-190401-GW	16000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123656-1	FWGmw-021-190401-GW	3000	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123656-1	FWGmw-021-190402-GW	2900	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123656-1	FWGmw-024-190401-GW	4900	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123330-1	LL10mw-005-190401-GW	3500	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123330-1	LL12mw-187-190401-GW	44000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123330-1	LL12mw-242-190401-GW	29000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123330-1	LL12mw-245-190401-GW	25000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123467-1	LL1mw-064-190401-GW	5500	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123467-1	LL1mw-065-190401-GW	15000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123457-1	LL1mw-084-190401-GW	3400	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123467-1	LL1mw-086-190401-GW	16000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123330-1	LL1mw-087-190401-GW	10000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123656-1	LL1mw-088-190401-GW	23000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123457-1	LL2mw-059-190401-GW	3300	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123330-1	LL2mw-267-190401-GW	8100	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123457-1	LL3mw-244-190401-GW	2800	5000	J Q	UJ	RepLimit-J,CalBlk-U,ProJudge-J
Metals	Groundwater	SODIUM	280-123656-1	LL3mw-246-190401-GW	2800	5000	J Q	J	RepLimit-J,ProJudge-J
Metals	Groundwater	SODIUM	280-123656-1	LL3mw-246-190402-GW	2700	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123656-1	RQLmw-007-190401-GW	1800	5000	J Q	U	RepLimit-J,ProJudge-U
Metals	Groundwater	SODIUM	280-123656-1	RQLmw-008-190401-GW	2200	5000	J Q	U	RepLimit-J,ProJudge-U
Metals	Groundwater	SODIUM	280-123656-1	RQLmw-009-190401-GW	1400	5000	J Q	U	RepLimit-J,ProJudge-U
Metals	Groundwater	SODIUM	280-123330-1	SCFmw-004-190401-GW	13000	5000	Q	J	ProJudge-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	SODIUM	280-123584-1	SCLmw-002-190401-GW	3300	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123584-1	SCLmw-002-190402-GW	3300	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123584-1	SCLmw-003-190401-GW	38000	5000	Q	J	ProJudge-J
Metals	Groundwater	SODIUM	280-123221-1	WBGmw-009-190401-GW	3300	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123221-1	WBGmw-020-190401-GW	3900	5000	J Q	J	RepLimit-J
Metals	Groundwater	SODIUM	280-123221-1	WBGmw-021-190401-GW	4800	5000	J Q	J	RepLimit-J
Metals	Groundwater	THALLIUM	280-123656-1	FWGmw-021-190402-GW	0.11	1.0	J	J	RepLimit-J
Metals	Groundwater	THALLIUM	280-123330-1	LL12mw-187-190401-GW	0.75	1.0	J	J	RepLimit-J
Metals	Groundwater	THALLIUM	280-123457-1	LL3mw-244-190401-GW	0.27	1.0	J	J	RepLimit-J
Metals	Groundwater	THALLIUM	280-123261-1	LL7mw-001-190401-GW	0.11	1.0	J	J	RepLimit-J
Metals	Groundwater	THALLIUM	280-123584-1	SCLmw-002-190402-GW	0.094	1.0	J	J	RepLimit-J
Metals	Groundwater	VANADIUM	280-123330-1	LL12mw-242-190401-GW	1.5	6.0	J	J	RepLimit-J
Metals	Groundwater	VANADIUM	280-123330-1	LL12mw-242-190401-GW	3.2	6.0	J J1	J	MS-J,RepLimit-J
Metals	Groundwater	VANADIUM	280-123467-1	LL1mw-086-190401-GW	1.2	6.0	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123221-1	DET-004-190401-GW	14	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123221-1	FWGmw-007-190401-GW	2.7	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123584-1	FWGmw-011-190401-GW	3.9	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123584-1	FWGmw-015-190401-GW	3.9	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123802-1	FWGmw-020-190401-GW	3.5	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123656-1	FWGmw-021-190401-GW	5.5	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123656-1	FWGmw-021-190402-GW	5.2	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123330-1	LL12mw-187-190401-GW	6.3	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123330-1	LL12mw-242-190401-GW	9.3	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123330-1	LL12mw-242-190401-GW	5.6	20	J	U	MB-U,RepLimit-J
Metals	Groundwater	ZINC	280-123330-1	LL12mw-245-190401-GW	4.7	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123261-1	LL12mw-247-190401-GW	6.3	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123457-1	LL1mw-084-190401-GW	2.2	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123467-1	LL1mw-086-190401-GW	9.3	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123457-1	LL2mw-059-190401-GW	2.1	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123330-1	LL2mw-267-190401-GW	2.3	20	J	J	RepLimit-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Metals	Groundwater	ZINC	280-123656-1	LL3mw-246-190401-GW	2.5	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123656-1	LL3mw-246-190402-GW	2.0	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123656-1	RQLmw-008-190401-GW	11	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123656-1	RQLmw-009-190401-GW	3.7	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123584-1	SCLmw-001-190401-GW	2.2	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123584-1	SCLmw-002-190401-GW	2.0	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123584-1	SCLmw-002-190402-GW	2.0	20	J	J	RepLimit-J
Metals	Groundwater	ZINC	280-123584-1	SCLmw-003-190401-GW	2.2	20	J	J	RepLimit-J
Explosives	Groundwater	1,3-DINITROBENZENE	280-123457-1	LL2mw-059-190401-GW	0.27	0.44	J J1	J	RepLimit-J
Explosives	Groundwater	2,4,6-TRINITROTOLUENE	280-123656-1	FWGmw-021-190401-GW	0.43	0.43	U J1	UJ	MS-UJ
Explosives	Groundwater	2,4,6-TRINITROTOLUENE	280-123330-1	LL12mw-245-190401-GW	0.46	0.42	J1	J	ProJudge-J
Explosives	Groundwater	2-AMINO-4,6-DINITROTOLUENE	280-123656-1	FWGmw-021-190401-GW	0.31	0.21	J1	J	MS-J
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	DET-003-190401-GW	0.22	0.45	U Q J1	UJ	MS-UJ,LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	DET-003-190402-GW	0.22	0.44	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	DET-004-190401-GW	0.21	0.41	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	FWGmw-007-190401-GW	0.22	0.44	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	FWGmw-016-190401-GW	0.20	0.40	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123656-1	FWGmw-021-190401-GW	0.21	0.43	U J1	UJ	MS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	NTAmw-119-190401-GW	0.22	0.43	U J1 Q	UJ	MS-UJ,LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	NTAmw-119-190402-GW	0.21	0.43	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	WBGmw-006-190401-GW	0.20	0.39	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	WBGmw-009-190401-GW	0.21	0.42	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	WBGmw-020-190401-GW	0.19	0.39	U Q	UJ	LCS-UJ
Explosives	Groundwater	2-NITROTOLUENE	280-123221-1	WBGmw-021-190401-GW	0.22	0.44	U Q	UJ	LCS-UJ
Explosives	Groundwater	3-NITROTOLUENE	280-123221-1	DET-003-190401-GW	0.45	0.45	U J1	UJ	MS-UJ
Explosives	Groundwater	3-NITROTOLUENE	280-123656-1	FWGmw-021-190401-GW	0.43	0.43	U J1	UJ	MS-UJ
Explosives	Groundwater	3-NITROTOLUENE	280-123221-1	NTAmw-119-190401-GW	0.43	0.43	U J1	UJ	MS-UJ
Explosives	Groundwater	4-AMINO-2,6-DINITROTOLUENE	280-123656-1	FWGmw-021-190401-GW	0.28	0.21	J1	J	MS-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Explosives	Groundwater	4-NITROTOLUENE	280-123656-1	FWGmw-021-190401-GW	0.43	1.1	U J1	UJ	MS-UJ
Explosives	Groundwater	4-NITROTOLUENE	280-123221-1	NTAmw-119-190401-GW	0.43	1.1	U J1	UJ	MS-UJ
Explosives	Groundwater	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	280-123261-1	FBQmw-174-190401-GW	1.2	0.42	M J1	J	ProJudge-J
Explosives	Groundwater	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	280-123330-1	LL12mw-245-190401-GW	0.72	0.42	M J1	J	ProJudge-J
Explosives	Groundwater	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	280-123467-1	LL1mw-081-190401-GW	0.16	0.41	J M	J	RepLimit-J
Explosives	Groundwater	Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX)	280-123330-1	LL2mw-267-190401-GW	0.29	0.40	J M	J	RepLimit-J
Explosives	Groundwater	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	280-123261-1	LL7mw-006-190401-GW	0.17	0.40	J M	J	RepLimit-J
Propellants	Groundwater	Nitrocellulose	280-123467-1	LL1mw-089-190402-GW	630	2000	J	J	RepLimit-J
SVOCs	Groundwater	BENZOIC ACID	280-123584-1	SCLmw-001-190401-GW	30	79	U Q	UJ	LCS-UJ
SVOCs	Groundwater	BENZOIC ACID	280-123584-1	SCLmw-002-190401-GW	30	81	U Q	UJ	LCS-UJ
SVOCs	Groundwater	BENZOIC ACID	280-123584-1	SCLmw-002-190402-GW	31	83	U Q	UJ	LCS-UJ
SVOCs	Groundwater	BENZOIC ACID	280-123584-1	SCLmw-003-190401-GW	31	82	U Q	UJ	LCS-UJ
SVOCs	Groundwater	HEXACHLOROCYCLOPENTADIENE	280-123584-1	SCLmw-001-190401-GW	9.9	50	U	UJ	LCS-UJ
SVOCs	Groundwater	HEXACHLOROCYCLOPENTADIENE	280-123584-1	SCLmw-002-190401-GW	10	51	U	UJ	MS-UJ,LCS-UJ
SVOCs	Groundwater	HEXACHLOROCYCLOPENTADIENE	280-123584-1	SCLmw-002-190402-GW	10	52	U	UJ	LCS-UJ
SVOCs	Groundwater	HEXACHLOROCYCLOPENTADIENE	280-123584-1	SCLmw-003-190401-GW	10	51	U	UJ	LCS-UJ
SVOCs	Groundwater	N-NITROSODIPHENYLAMINE	280-123584-1	SCLmw-002-190401-GW	1.0	10	U J1	UJ	MS-UJ
VOCs	Groundwater	1,1,1-TRICHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1,1-TRICHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1,2,2-TETRACHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1,2,2-TETRACHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1,2-TRICHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	0.80	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	1,1,2-TRICHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1-DICHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1-DICHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,1-DICHLOROETHENE	280-123584-1	SCLmw-001-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
VOCs	Groundwater	1,1-DICHLOROETHENE	280-123584-1	SCLmw-003-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DIBROMOETHANE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DIBROMOETHANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DICHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	0.15	1.0	J Q	UJ	MB-U,RepLimit-J,ProJudge-J
VOCs	Groundwater	1,2-DICHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DICHLOROETHENE (TOTAL)	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DICHLOROETHENE (TOTAL)	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DICHLOROPROPANE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	1,2-DICHLOROPROPANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	2-BUTANONE	280-123584-1	SCLmw-001-190401-GW	4.0	6.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	2-BUTANONE	280-123584-1	SCLmw-003-190401-GW	4.0	6.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	2-HEXANONE	280-123584-1	SCLmw-001-190401-GW	4.0	5.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	2-HEXANONE	280-123584-1	SCLmw-003-190401-GW	4.0	5.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	4-METHYL-2-PENTANONE	280-123584-1	SCLmw-001-190401-GW	3.2	5.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	4-METHYL-2-PENTANONE	280-123584-1	SCLmw-003-190401-GW	3.2	5.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	ACETONE	280-123221-1	DET-003-190401-GW	2.8	10	J	J	RepLimit-J
VOCs	Groundwater	ACETONE	280-123221-1	DET-003-190402-GW	2.4	10	J	J	RepLimit-J
VOCs	Groundwater	ACETONE	280-123221-1	DET-004-190401-GW	5.1	10	J	J	RepLimit-J
VOCs	Groundwater	ACETONE	280-123802-1	FWGmw-020-190401-GW	5.8	10	J	U	MB-U,RepLimit-J
VOCs	Groundwater	ACETONE	280-123261-1	LL10mw-003-190401-GW	3.6	10	J	J	RepLimit-J
VOCs	Groundwater	ACETONE	280-123261-1	LL10mw-003-190402-GW	4.2	10	J	J	RepLimit-J
VOCs	Groundwater	ACETONE	280-123656-1	RQLmw-008-190401-GW	2.6	10	J B	U	MB-U,RepLimit-J
VOCs	Groundwater	ACETONE	280-123584-1	SCLmw-001-190401-GW	6.4	10	U	UJ	ProJudge-UJ
VOCs	Groundwater	ACETONE	280-123584-1	SCLmw-002-190401-GW	2.1	10	J	J	RepLimit-J
VOCs	Groundwater	ACETONE	280-123584-1	SCLmw-003-190401-GW	2.1	10	J	J	RepLimit-J,ProJudge-J
VOCs	Groundwater	BENZENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	BENZENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	BROMOCHLOROMETHANE	280-123584-1	SCLmw-001-190401-GW	0.20	1.0	U	UJ	ProJudge-UJ

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
VOCs	Groundwater	BROMOCHLOROMETHANE	280-123584-1	SCLmw-003-190401-GW	0.20	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	BROMODICHLOROMETHANE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	BROMODICHLOROMETHANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	BROMOFORM	280-123584-1	SCLmw-001-190401-GW	1.0	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	BROMOFORM	280-123584-1	SCLmw-003-190401-GW	1.0	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	BROMOMETHANE	280-123584-1	SCLmw-001-190401-GW	0.80	2.0	U M	UJ	ProJudge-UJ
VOCs	Groundwater	BROMOMETHANE	280-123584-1	SCLmw-003-190401-GW	0.80	2.0	U M	UJ	ProJudge-UJ
VOCs	Groundwater	Bromobenzene	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	Bromobenzene	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CARBON DISULFIDE	280-123584-1	SCLmw-001-190401-GW	0.80	2.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CARBON DISULFIDE	280-123584-1	SCLmw-003-190401-GW	0.43	2.0	J	UJ	MB-U,RepLimit-J,ProJudge-J
VOCs	Groundwater	CARBON TETRACHLORIDE	280-123261-1	LL10mw-003-190401-GW	0.63	2.0	J	J	RepLimit-J
VOCs	Groundwater	CARBON TETRACHLORIDE	280-123261-1	LL10mw-003-190402-GW	0.86	2.0	J	J	RepLimit-J
VOCs	Groundwater	CARBON TETRACHLORIDE	280-123584-1	SCLmw-001-190401-GW	0.40	2.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	CARBON TETRACHLORIDE	280-123584-1	SCLmw-003-190401-GW	0.40	2.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROETHANE	280-123584-1	SCLmw-001-190401-GW	1.6	2.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROETHANE	280-123584-1	SCLmw-003-190401-GW	1.6	2.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROFORM	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROFORM	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROMETHANE	280-123584-1	SCLmw-001-190401-GW	0.80	2.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CHLOROMETHANE	280-123584-1	SCLmw-003-190401-GW	0.80	2.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	CIS-1,3-DICHLOROPROPENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	CIS-1,3-DICHLOROPROPENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	DIBROMOCHLOROMETHANE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	DIBROMOCHLOROMETHANE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	ETHYLBENZENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	ETHYLBENZENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
VOCs	Groundwater	METHYLENE CHLORIDE	280-123584-1	SCLmw-001-190401-GW	2.0	5.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	METHYLENE CHLORIDE	280-123584-1	SCLmw-003-190401-GW	2.0	5.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	STYRENE	280-123584-1	SCLmw-001-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	STYRENE	280-123584-1	SCLmw-003-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	TETRACHLOROETHENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	TETRACHLOROETHENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	TOLUENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	TOLUENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	TRANS-1,3-DICHLOROPROPENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	TRANS-1,3-DICHLOROPROPENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	TRICHLOROETHENE	280-123584-1	SCLmw-001-190401-GW	0.40	1.0	U Q	UJ	ProJudge-UJ
VOCs	Groundwater	TRICHLOROETHENE	280-123584-1	SCLmw-003-190401-GW	0.40	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	VINYL CHLORIDE	280-123584-1	SCLmw-001-190401-GW	0.20	1.5	U	UJ	ProJudge-UJ
VOCs	Groundwater	VINYL CHLORIDE	280-123584-1	SCLmw-003-190401-GW	0.20	1.5	U M	UJ	ProJudge-UJ
VOCs	Groundwater	XYLENES (TOTAL)	280-123584-1	SCLmw-001-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
VOCs	Groundwater	XYLENES (TOTAL)	280-123584-1	SCLmw-003-190401-GW	0.80	1.0	U	UJ	ProJudge-UJ
Pesticides	Groundwater	4,4'-DDE	280-123656-1	RQLmw-007-190401-GW	0.020	0.050	U Q	UJ	LCS-UJ
Pesticides	Groundwater	4,4'-DDE	280-123656-1	RQLmw-008-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	4,4'-DDE	280-123656-1	RQLmw-009-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	4,4'-DDE	280-123584-1	SCLmw-001-190401-GW	0.021	0.052	U Q	UJ	LCS-UJ
Pesticides	Groundwater	4,4'-DDE	280-123584-1	SCLmw-002-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	4,4'-DDE	280-123584-1	SCLmw-003-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALDRIN	280-123656-1	RQLmw-007-190401-GW	0.020	0.050	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALDRIN	280-123656-1	RQLmw-008-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALDRIN	280-123656-1	RQLmw-009-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALDRIN	280-123584-1	SCLmw-001-190401-GW	0.021	0.052	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALDRIN	280-123584-1	SCLmw-002-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALDRIN	280-123584-1	SCLmw-003-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALPHA-CHLORDANE	280-123656-1	RQLmw-007-190401-GW	0.020	0.050	U Q	UJ	LCS-UJ

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Pesticides	Groundwater	ALPHA-CHLORDANE	280-123656-1	RQLmw-008-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALPHA-CHLORDANE	280-123656-1	RQLmw-009-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALPHA-CHLORDANE	280-123584-1	SCLmw-001-190401-GW	0.021	0.052	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALPHA-CHLORDANE	280-123584-1	SCLmw-002-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	ALPHA-CHLORDANE	280-123584-1	SCLmw-003-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	GAMMA-CHLORDANE	280-123656-1	RQLmw-007-190401-GW	0.020	0.050	U Q	UJ	LCS-UJ
Pesticides	Groundwater	GAMMA-CHLORDANE	280-123656-1	RQLmw-008-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Pesticides	Groundwater	GAMMA-CHLORDANE	280-123656-1	RQLmw-009-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	GAMMA-CHLORDANE	280-123584-1	SCLmw-001-190401-GW	0.021	0.052	U Q	UJ	LCS-UJ
Pesticides	Groundwater	GAMMA-CHLORDANE	280-123584-1	SCLmw-002-190401-GW	0.022	0.054	U Q	UJ	LCS-UJ
Pesticides	Groundwater	GAMMA-CHLORDANE	280-123584-1	SCLmw-003-190401-GW	0.021	0.053	U Q	UJ	LCS-UJ
Cyanide	Groundwater	Cyanide, Total	280-123656-1	FWGmw-018-190401-GW	0.0065	0.010	J	J	MS-J,RepLimit-J
Cyanide	Groundwater	Cyanide, Total	280-123330-1	LL2mw-264-190401-GW	0.0060	0.010	J	J	RepLimit-J
Cyanide	Groundwater	Cyanide, Total	280-123467-1	LL3mw-234-190401-GW	0.0087	0.010	J	J	RepLimit-J
Cyanide	Groundwater	Cyanide, Total	280-123656-1	RQLmw-008-190401-GW	0.0053	0.010	J	J	MS-J,RepLimit-J
Cyanide	Groundwater	Cyanide, Total	280-123656-1	RQLmw-009-190401-GW	0.013	0.010		J	MS-J
Cyanide	Groundwater	Cyanide, Total	280-123656-1	RQLmw-012-190401-GW	0.040	0.010		J	MS-J
Cyanide	Groundwater	Cyanide, Total	280-123584-1	SCLmw-001-190401-GW	0.015	0.010		J	MS-J
Cyanide	Groundwater	Cyanide, Total	280-123584-1	SCLmw-002-190402-GW	0.0052	0.010	J	J	MS-J,RepLimit-J
Perchlorate	Groundwater	Perchlorate	280-123656-1	LL3mw-246-190401-GW	0.052	0.050	J1	J	MS-J
Perchlorate	Groundwater	Perchlorate	280-123656-1	LL3mw-246-190402-GW	0.062	0.050		J	MS-J
Anions	Groundwater	Nitrate as N	280-123261-1	FBQmw-171-190401-GW	0.33	0.50	J H	J	HT-J,RepLimit-J
Anions	Groundwater	Nitrate as N	280-123330-1	LL12mw-245-190401-GW	0.12	0.50	J	J	RepLimit-J
Anions	Groundwater	Nitrite as N	280-123261-1	FBQmw-171-190401-GW	0.10	0.50	U H	UJ	HT-UJ
Anions	Groundwater	Nitrite as N	280-123656-1	RQLmw-012-190401-GW	0.10	0.50	U H	UJ	HT-UJ
Anions	Groundwater	Nitrite as N	280-123656-1	RQLmw-013-190401-GW	0.10	0.50	U H	R	HT-R
Anions	Groundwater	Sulfate	280-123457-1	LL1mw-083-190401-GW	120	5.0	M	J	MS-J
Anions	Groundwater	Sulfate	280-123457-1	LL1mw-084-190401-GW	140	5.0	M J1	J	MS-J
Anions	Groundwater	Sulfate	280-123656-1	RQLmw-011-190401-GW	130	5.0	J1	J	MS-J
Anions	Groundwater	Sulfate	280-123656-1	RQLmw-011-190402-GW	130	5.0		J	MS-J

Table D.2.1-4. Detailed Listing of Qualified Results – Spring 2019 Sampling Event (continued)

Analysis Type	Media	Chemical	Sample Delivery Group	Sample ID	Results	Det. Limit (LOQ)	Lab Qual	Val. Qual	Validation Code
Anions	Groundwater	Sulfate	280-123656-1	RQLmw-012-190401-GW	110	5.0		J	MS-J
Anions	Groundwater	Sulfate	280-123656-1	RQLmw-013-190401-GW	160	5.0	M J1	J	MS-J
Anions	Groundwater	Sulfide	280-123457-1	LL1mw-084-190401-GW	0.80	4.0	J	J	RepLimit-J
Alkalinity	Groundwater	Alkalinity	280-123261-1	FBQmw-174-190401-GW	4.8	10	J	J	RepLimit-J
Alkalinity	Groundwater	Alkalinity	280-123656-1	RQLmw-012-190401-GW	9.9	10	J	J	RepLimit-J

Laboratory Qualifiers: J = estimated because result is between the method detection limit and the reporting limit, J1= Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria, U = not detected, H = Holding Time, M = Manually integrated compound, Q = One or more quality control failed.

Validation Qualifiers: J = estimated, R = rejected, U = not detected, and UJ = not detected and reporting limit estimated.

Validation Reason Codes: HT = holding time, LCS = laboratory control sample, MB = method blank, MS = matrix spike, ProJudge = professional judgment,

RptLimit = reporting limit, and Surr = surrogate recovery.

BHC = Hexachlorocyclohexane.

DDD = Dichlorodiphenyldichloroethane.

DDE = Dichlorodiphenyldichloroethylene.

DDT = Dichlorodiphenyltrichloroethane.

ID = Identification.

µg/kg = Micrograms per kilogram.

µg/L = Micrograms per liter.

mg/kg = Milligrams per kilogram.

PAH = Polycyclic aromatic hydrocarbon.

PETN = Pentaerythritol tetranitrate.

SVOC = Semi-volatile organic compound.

VOC = Volatile organic compound.

Table D.2.1-5. Results for Analytes Detected in Field Blanks or Trip Blanks – Spring 2019 Sampling Event

Client Sample ID	Analysis Type	Analyte Name	Results	Laboratory Qualifier	Final Qualifier
FWGTB-191002-TB	VOCs	1,2-Dichloroethene (Total)	0.00033	J	J

Data Qualifiers: J = estimated
ID = Identification.
VOC = Volatile organic compound.

Table D.2.1-6. Field Duplicate Pair Comparisons for Analytes Detected in Samples – Spring 2019 Sampling Event

Sample No.	Analysis Type	Chemical	Parent Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD % or (Abs. Diff)	Test
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	ALUMINUM	0.021J	0.07U	(0.16)	D
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	ARSENIC	0.0017J	0.001U	(0.14)	D
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	BARIUM	0.023	0.00095U	(7.40)	D *
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	BERYLLIUM	0.0003U	0.00018J	(0.12)	D
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	CALCIUM	100	100	0%	RPD
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	IRON	0.84	0.82	2%	RPD
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	MAGNESIUM	28	28	0%	RPD
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	MANGANESE	0.099	0.00095U	(25.0)	D *
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	POTASSIUM	3.3	3.4	(0.03)	D
DA2mw-115-190401-GW/ DA2mw-115-190402-GW	Metals	SODIUM	12	12	(0.00)	D
DET-003-190401-GW/ DET-003-190402-GW	Metals	ARSENIC	0.0092	0.0093	(0.02)	D
DET-003-190401-GW/ DET-003-190402-GW	Metals	BARIUM	0.043	0.042	2%	RPD
DET-003-190401-GW/ DET-003-190402-GW	Metals	CALCIUM	90	91	1%	RPD
DET-003-190401-GW/ DET-003-190402-GW	Metals	COBALT	0.00029J	0.00024J	(0.05)	D
DET-003-190401-GW/ DET-003-190402-GW	Metals	IRON	1.9	1.9	0%	RPD
DET-003-190401-GW/ DET-003-190402-GW	Metals	MAGNESIUM	33	33	0%	RPD
DET-003-190401-GW/ DET-003-190402-GW	Metals	MANGANESE	0.24	0.24	0%	RPD
DET-003-190401-GW/ DET-003-190402-GW	Metals	POTASSIUM	1.9J	1.9J	(0.00)	D
DET-003-190401-GW/ DET-003-190402-GW	Metals	SODIUM	12	12	(0.00)	D
DET-003-190401-GW/ DET-003-190402-GW	VOCs	ACETONE	0.0028J	0.0024J	(0.04)	D
FBQmw-175-190401-GW/ FBQmw-175-190402-GW	Anions	NITRATE AS N	1.6	1.6	(0.00)	D
FBQmw-175-190401-GW/ FBQmw-175-190402-GW	Anions	SULFATE	20	18	(0.40)	D
FBQmw-175-190401-GW/ FBQmw-175-190402-GW	Alkalinity	ALKALINITY	13	12	(0.10)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	ANTIMONY	0.00051J	0.00099J	(0.08)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	ARSENIC	0.00057J	0.00066J	(0.02)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	BARIUM	0.016	0.016	0%	RPD
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	BERYLLIUM	0.0003U	0.00052J	(0.22)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	CALCIUM	21	20	5%	RPD
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	CHROMIUM	0.00076J	0.00082J	(0.01)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	COBALT	0.0002U	0.00018J	(0.02)	D

Table D.2.1-6. Field Duplicate Pair Comparisons for Analytes Detected in Samples – Spring 2019 Sampling Event (continued)

Sample No.	Analysis Type	Chemical	Parent Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD % or (Abs. Diff)	Test
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	COPPER	0.0012J	0.0011J	(0.05)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	IRON	0.63J	0.66	5%	RPD
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	LEAD	0.0007U	0.00023J	(0.16)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	MAGNESIUM	6.9	6.8	2%	RPD
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	MANGANESE	0.0099	0.0094	(0.13)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	NICKEL	0.0018J	0.0016J	(0.07)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	POTASSIUM	1.2J	1.2J	(0.00)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	SELENIUM	0.001U	0.00072J	(0.06)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	SODIUM	3J	2.9J	(0.02)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	THALLIUM	0.0002U	0.00011J	(0.09)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Metals	ZINC	0.0055J	0.0052J	(0.02)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Explosives	2-AMINO-4,6-DINITROTOLUENE	0.00031J	0.00038	(0.34)	D
FWGmw-021-190401-GW/ FWGmw-021-190402-GW	Explosives	4-AMINO-2,6-DINITROTOLUENE	0.00028J	0.00031	(0.15)	D
LL10mw-003-190401-GW/ LL10mw-003-190402-GW	VOCs	ACETONE	0.0036J	0.0042J	(0.06)	D
LL10mw-003-190401-GW/ LL10mw-003-190402-GW	VOCs	CARBON TETRACHLORIDE	0.00063J	0.00086J	(0.12)	D
LL1mw-089-190401-GW/ LL1mw-089-190402-GW	Propellants	NITROCELLULOSE	1U	0.63J	(0.19)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	ANTIMONY	0.00059J	0.00056J	(0.01)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	BARIUM	0.015	0.015	0%	RPD
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	CALCIUM	20	20	0%	RPD
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	IRON	0.022J	0.085U	(0.63)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	MAGNESIUM	6.7	6.6	2%	RPD
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	NICKEL	0.0016J	0.0014J	(0.07)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	POTASSIUM	1.2J	1.1J	(0.03)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	SODIUM	2.8J	2.7J	(0.02)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Metals	ZINC	0.0025J	0.002J	(0.03)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Explosives	2-AMINO-4,6-DINITROTOLUENE	0.00031	0.0003	(0.05)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Explosives	4-AMINO-2,6-DINITROTOLUENE	0.00027	0.00026	(0.05)	D
LL3mw-246-190401-GW/ LL3mw-246-190402-GW	Perchlorate	PERCHLORATE	0.000052J	0.000062J	(0.20)	D

Table D.2.1-6. Field Duplicate Pair Comparisons for Analytes Detected in Samples – Spring 2019 Sampling Event (continued)

Sample No.	Analysis Type	Chemical	Parent Result (mg/Kg)	Duplicate Result (mg/Kg)	RPD % or (Abs. Diff)	Test
RQLmw-011-190401-GW/ RQLmw-011-190402-GW	Anions	SULFATE	130J	130J	0%	RPD
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	ALUMINUM	0.019J	0.018J	(0.00)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	ANTIMONY	0.001U	0.00059J	(0.07)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	ARSENIC	0.00086J	0.001J	(0.03)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	BARIUM	0.051J	0.051J	0%	RPD
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	BERYLLIUM	0.0003U	0.00056J	(0.26)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	CALCIUM	190	190	0%	RPD
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	COBALT	0.000057J	0.00011J	(0.05)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	IRON	10	10	0%	RPD
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	MAGNESIUM	16	16	0%	RPD
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	MANGANESE	1.1	1	10%	RPD
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	POTASSIUM	4	4	(0.00)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	PHOSPHORUS	0.1J	0.11J	(0.00)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	SELENIUM	0.001U	0.00048J	(0.10)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	SILVER	0.0001U	0.00004J	(0.01)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	SODIUM	3.3J	3.3J	(0.00)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	THALLIUM	0.0002U	0.000094J	(0.11)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Metals	ZINC	0.002J	0.002J	(0.00)	D
SCLmw-002-190401-GW/ SCLmw-002-190402-GW	Cyanide	CYANIDE, TOTAL	0.01U	0.0052J	(0.48)	D

RPD is calculated as $100 \times |R-D| / (R+D) / 2$, where R is the concentration of the regular sample and D is the concentration of the duplicate. The absolute difference is calculated as $|R-D|/L$, where L is the average reporting limit of the two samples. Values followed by a “%” are RPD values. Values in parentheses are absolute difference values. The test used to evaluate the duplicate comparison is the RPD if both sample results were more than five times the reporting limit or D if any result was less than five times the reporting limit.

*RPD or D outside criteria

Data Qualifiers: J = estimated, U = not detected, and UJ = not detected and reporting limit estimated.

BHC = Hexachlorocyclohexane.

D = Absolute difference.

ID = Identification.

mg/kg = Milligrams per kilogram.

PAH = Polycyclic aromatic hydrocarbon.

SVOC = Semi-volatile organic compound.

RDX = Hexahydro-1,3,5-Trinitro-1,3,5-Triazine.

RPD = Relative percent difference.

SVOC = Semi-volatile organic compound.

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