Prepared for
Nevada Environmental Response Trust
Henderson, Nevada

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Project Number
21-41400A

Date
April 28, 2017

DATA VALIDATION SUMMARY REPORT JULY THROUGH DECEMBER 2016 SEMI-ANNUAL REMEDIAL PERFORMANCE SAMPLING

NEVADA ENVIRONMENTAL RESPONSE TRUST SITE HENDERSON, NEVADA

RAMBOLL ENVIRON

CONTENTS

TABLES

ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

CCB	Continuing Calibration Blank
DL	Detection Limit
DNR	Do Not Report
DQO	Data Quality Objectives
DUP	Duplicate
DVSR	Data Validation Summary Report
EB	Equipment Blank
EPA	Environmental Protection Agency
FB	Field Blank
FD	Field Duplicate
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
LCS/LCSD	Laboratory Control Sample / Laboratory Control Sample Duplicate
LDC	Laboratory Data Consultants, Inc.
MDL	Method Detection Limit
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NDEP	Nevada Department of Environmental Protection
NERT	Nevada Environmental Response Trust
NFG	National Functional Guidelines
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance / Quality Control
QAPP	Quality Assurance Project Plan
RPD	Relative Percent Difference
SDG	Sample Delivery Group
SQL	Sample Quantitation Limit
TB	Trip Blank
TCP	1,2,3-Trichloropropane
TDS	Total Dissolved Solids
TIN	Total Inorganic Nitrogen
TOC	Total Organic Carbon
TOX	Total Organic Halides
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

%RSD	Percent Relative Standard Deviation
%D	Percent Difference
%R	Percent Recovery

1. INTRODUCTION

Ramboll Environ has prepared this data validation summary report (DVSR) to assess the validity and usability of laboratory analytical data from the Semi-Annual Remedial Performance Sampling conducted at the Nevada Environmental Response Trust (NERT) site in Henderson, Nevada. The assessment was performed by Ramboll Environ as a part of the *Quality Assurance Project Plan* (QAPP)*, Revision 1, Nevada Environmental Response Trust Site, Henderson, Nevada* dated July 2014 and included the collection and analyses of 982 groundwater, water, and water-matrix quality control (QC) samples. The samples were analyzed by one or more of the following methods:

- Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW-846 Method 8260B
- 1,2,3-Trichloropropane (TCP) and 1,4-Dioxane by EPA SW-846 Method 8260B in Selective Ion Monitoring (SIM) Mode
- Total and Dissolved Metals by EPA Methods 200.7
- Wet Chemistry:
  - Hexavalent Chromium by EPA Method 218.6
  - Chloride, Nitrate as Nitrogen, Nitrite as Nitrogen, and Sulfate (Anions) by EPA Method 300.0
  - Nitrate/Nitrite as Nitrogen by Calculation
  - Total Inorganic Nitrogen (TIN) by Calculation
  - Chlorate by EPA Method 300.1B
  - Perchlorate by EPA Method 314.0
  - Ammonia as Nitrogen by EPA Method 350.1
  - Total Recoverable Phenolics by EPA Method 420.1
  - Specific Conductance by Standard Method 2510B
  - Total Dissolved Solids (TDS) by Standard Method 2540C
  - Total Organic Carbon (TOC) by Standard Method 5310C
  - Toxic Organic Halides (TOX) by EPA SW 846 Method 9020B
  - pH by Field Sampling Method

Laboratory analytical services were provided by TestAmerica, Inc. Silver State Analytical Laboratories performed analyses for hexavalent chromium. The samples were grouped into sample delivery groups (SDGs). The water samples are associated with QA/QC samples designed to document the data quality of the entire SDG or a sub-group of samples within an SDG. Table I is a cross-reference table listing each sample, analysis, SDG, collection date, laboratory sample number, matrix, and validation level.

The laboratory analytical data were validated by Laboratory Data Consultants, Inc. (LDC) in accordance with procedures described in the Nevada Division of Environmental Protection (NDEP) *Data Verification and Validation Requirements - Supplement* established for the BMI Plant Sites and Common Areas Projects, Henderson, Nevada, April 13, 2009. Consistent with the NDEP requirements, approximately ninety percent of the analytical data were validated according to Stage 2B data validation procedures and approximately ten percent of the samples were validated according to Stage 4 data validation procedures. Table II is a reference table that identifies the QC elements reviewed for each validation level per method, as applicable.

The analytical data were evaluated for QA/QC based on the following documents: *Quality Assurance Project Plan, Revision 1, NERT Site, Henderson, Nevada,* July 2014; Nevada Department of Environmental Protection (NDEP) *Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas*, January 5 2012; *USEPA National Functional Guidelines for Inorganic Superfund Data Review*, August 2014 (NFG); *USEPA National Functional Guidelines for Organic Superfund Data Review*, August 2014 (NFG);

and the *EPA SW 846 Third Edition, Test Methods for Evaluating Solid Waste,* update I, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IV, February 2007; update V, July 2014.

This report summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project data quality objectives (DQOs). This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

The PARCCS evaluation is a summary of the results of QA/QC data validation for the entire sampling program. Each analytical group has a separate section for each of the PARCCS criteria. These sections interpret specific QC deviations and their effects on both individual data points and the analyses as a whole. Section 8.0 presents a summary of the PARCCS criteria by comparing quantitative parameters with acceptability criteria defined in the project DQO's. Qualitative PARCCS criteria are also summarized in this section.

2. PRECISION AND ACCURACY OF ENVIRONMENTAL DATA

Environmental data quality depends on sample collection procedures, analytical methods and instrumentation, documentation, and sample matrix properties. Both sampling procedures and laboratory analyses contain potential sources of uncertainty, error, and/or bias, which affect the overall quality of a measurement. Errors for sample data may result from incomplete equipment decontamination, inappropriate sampling techniques, sample heterogeneity, improper filtering, and improper preservation. The accuracy of analytical results is dependent on selecting appropriate analytical methods, maintaining equipment properly, and complying with QC requirements. The sample matrix also is an important factor in the ability to obtain precise and accurate results within a given media.

Environmental and laboratory QA/QC samples assess the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. QA/QC samples include: trip blanks (TB), equipment blanks (EB), field blanks (FB), field duplicates (FD), method blanks, laboratory control samples/laboratory control sample duplicates (LCS/LCSD), laboratory duplicates (DUP), and matrix spike/matrix spike duplicates (MS/MSD).

Before conducting the PARCCS evaluation, the analytical data were validated according to the QAPP (July 2014), NFG (USEPA 2014), and EPA SW 846 Test Methods. Samples not meeting the acceptance criteria were qualified with a flag, an abbreviation indicating a nonconformance with the data. The following qualifiers are used for data validation:

J- Estimated - The associated numerical value is an estimated quantity with a negative bias. The analyte was detected but the reported value may not be accurate or precise.

J+ Estimated - The associated numerical value is an estimated quantity with a positive bias. The analyte was detected but the reported value may not be accurate or precise.

J Estimated - The associated numerical value is an estimated quantity. It is not possible to assess the direction of the potential bias. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits but the exceedance was not sufficient to cause rejection of the data.

R Rejected - The data is unusable (the analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria. Either resampling or reanalysis is necessary to determine the presence or

absence of the rejected analyte.

U Nondetected - Analyses were performed for the analyte, but it was not detected.

UJ Estimated/Nondetected - Analyses were performed for the analyte, but it was not detected and the sample quantitation or detection limit is an estimated quantity due to poor accuracy or precision. This qualification is also used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, or other spike recovery.

DNR Do Not Report - A more appropriate result is reported from another analysis or dilution.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

A Additional flag referenced in the data validation reports; indicates the finding is based upon technical validation criteria.

P Additional flag referenced in the data validation reports; indicates the finding is related to a protocol/contractual deviation.

Occasionally, results will have more than one data validation qualifier applied. The hierarchy of flags to determine the final qualifier is listed below:

R > J	The R flag will always take precedence over the J qualifier.
J+	The high bias (J+) flag is applied only to detected results.
J > J+ or J-	A non-biased (J) flag will always supersede biased (J+ or J-) flags since it is not possible to assess the direction of the potential bias.
J = J+ plus J-	Adding biased (J+, J-) flags with opposite signs will result in a non-biased flag (J).
UJ = U plus J	The UJ flag is used when a non-detected (U) flag is added to a non-biased flag (J).

Table III lists the reason codes used. Reason codes explain why flags have been applied and identify possible limitations of data use. Reason codes are cumulative except when one of the flags is R; then only the reason code associated with the R flag will be used.

Table IV presents the overall qualified results after all the flags or validation qualifiers and associated reason codes have been applied.

Once the data are reviewed and qualified according to the QAPP, NFG, and EPA Test Methods, the data set is then evaluated using PARCCS criteria. PARCCS criteria provide an evaluation of overall data usability. The following is a discussion of PARCCS criteria as related to the project DQOs.

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from reported concentrations. Precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

where:

D1 = reported concentration for the sample

D2 = reported concentration for the duplicate

Precision is primarily assessed by calculating an RPD from the reported concentrations of the spiked compounds for each sample in the MS/MSD pair. In the absence of an MS/MSD pair, a laboratory duplicate or LCS/LCSD pair can be analyzed as an alternative means of assessing precision. An additional measure of sampling precision was obtained by collecting and analyzing field duplicate samples, which were compared using the RPD result as the evaluation criteria.

MS and MSD samples are field samples spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the overall efficiency of the analytical method in recovering target analytes from an environmental matrix. A LCS is similar to an MS/MSD sample in that the LCS is spiked with the same target analytes prior to preparation and analysis. However, the LCS is prepared using a controlled interference-free matrix instead of a field sample aliquot. Laboratory reagent water is used to prepare aqueous LCS. The LCS measures laboratory efficiency in recovering target analytes from an aqueous matrix in the absence of matrix interferences.

Laboratory duplicates (DUPs) measure laboratory precision. The analytical results for DUPs are reported as the RPD between the sample and laboratory results. DUPs are replicate samples and are prepared by taking two aliquots from one sample container.

Laboratory and field sampling precision are evaluated by calculating RPDs for aqueous field sample duplicate pairs. The sampler collects two field samples at the same location and under identically controlled conditions. The laboratory then analyzes the samples under identical conditions.

An RPD outside the numerical QC limit in the LCS/LCSD, MS/MSD, DUPs, or field duplicates indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analyte concentration may be higher or lower than the reported result. Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicate pairs, results maybe reported in either the primary or duplicate samples at levels below the practical quantitation limit (PQL) or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate pairs do not suggest a significant impact on the data quality.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and samples containing surrogate spikes. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. Surrogate spikes are either isotopically labeled compounds or compounds that are not typically detected in the samples. Surrogate spikes are added to every blank, environmental sample, LCS, MS/MSD, and standard, for all applicable organic analyses. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses. Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

where:

A = measured concentration in the spiked sample

B = measured concentration of the spike compound in the unspiked sample

C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples, LCS/LCSD, and surrogate compounds added to environmental samples is evaluated with the acceptance criteria specified by the previously noted documents. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or quantitation limits reported for environmental samples.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population. Representativeness is evaluated by reviewing the QC results of blanks, samples, and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks, calibration blanks, TBs, EBs, and FBs.

A method blank is a laboratory-grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

Initial and continuing calibration blanks (ICB/CCBs) consist of acidified laboratory grade water, which are injected at the beginning and at a regular frequency during each 12 - hour sample analysis run. These blanks estimate residual contaminants from the previous sample or standards analysis and measure baseline shifts that commonly occur in emission and absorption spectroscopy.

Trip blanks are used to identify possible volatile organic contamination introduced into the sample during transport. A trip blank is a sample bottle filled in the laboratory with reagent-grade water and preserved to a pH less than 2 with hydrochloric acid or solid matrix. It is transported to the site, stored with the sample containers, and returned unopened to the laboratory for analysis.

Equipment blanks consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated and measure efficiency of the decontamination procedure.

Field blanks consist of analyte-free source water stored at the sample collection site. The field blank is collected from each source water used during each sampling event.

The blanks and associated samples were evaluated according to the NDEP *BMI Plant Sites and Common Areas Projects, Henderson, Nevada, Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas*, January 5, 2012.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedance can cause loss of sample constituents due to biodegradation, precipitation, volatization, and chemical degradation.

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses. It is important that data sets be comparable if they are used in conjunction with other data sets. The factors affecting comparability include the following: sample collection and handling techniques, matrix type, and analytical method. If these aspects of sampling and analysis are carried out according to standard analytical

procedures, the data are considered comparable. Comparability is also dependent upon other PARCCS criteria, because only when precision, accuracy, and representativeness are known can data sets be compared with confidence.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to determine if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. As specified in the project DQOs, the goal for completeness for target analytes in each analytical fraction is 90 percent. Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

where:

%C = percent completeness

T = total number of sample results

R = total number of rejected sample results

Completeness is also determined by comparing the planned number of samples per method and matrix as specified in the QAPP, with the number determined above.

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. This capability is established during the planning phase to meet the DQOs. It is important that calibration requirements, detection limits (DLs), and PQLs presented in the QAPP are achieved and that target analytes can be detected at concentrations necessary to support the DQOs. The method detection limits (MDLs) represent the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. Sample quantitation limits (SQLs) are adjusted MDL values that reflect sample specific actions, such as dilutions or varying aliquot sizes. PQLs are the lowest level at which the entire analytical system gives a recognizable signal and acceptable calibration point for the analyte. The laboratory is required to report detected analytes down to the MDL for this project. Results that are reported between the MDL and PQL are reported as estimated by the laboratory. In addition, sample results are compared to method blank and field blank results to identify potential effects of laboratory background and field procedures on sensitivity.

The following sections present a review of QC data for each analytical method.

3. VOLATILE ORGANIC COMPOUNDS

A total of 37 water samples were analyzed for VOCs by EPA SW-846 Method 8260B. All VOC data were assessed to be valid. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

3.1 Precision and Accuracy

3.1.1 Instrument Calibration

Initial and continuing calibration results provide a means of evaluating accuracy within a particular SDG. Relative response factor (RRF), percent relative standard deviation (%RSD), and percent difference (%D) are the major parameters used to measure the effectiveness of instrument calibration. RRF is a measure of the relative spectral response of an analyte

compared to its internal standard. %RSD is an expression of the linearity of instrument response. %D is a comparison of a continuing calibration instrumental response with its initial response. %RSD and %D exceedances suggest routine instrumental anomalies, which typically impact all sample results for the affected compounds.

The %RSDs met the acceptance criteria of 15 percent (%) for each individual compound and 30% for calibration check compounds, or the coefficient of determination (r^2) was ≥ 0.990 in the initial calibration.

The %Ds in the initial calibration verification (ICV) standards met the acceptance criteria of 20% for all compounds, with the exception of dichlorodifluoromethane. Twenty-three dichlorodifluoromethane results were qualified as non-detected estimated (UJ) because the %D exceeded 20% in two associated ICV standards. The details regarding the qualification of results are provided in Attachment A.

The %Ds in the continuing calibration verifications were outside the acceptance criteria of 20% for several parameters. Nineteen results were qualified as non-detected estimated (UJ) because the associated continuing calibration verification (CCV) standard %Ds were outside the acceptance criteria of 20%. The affected compounds are 1,1,2,2-tetrachloroethane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, and chloromethane. The details regarding the qualification of results are provided in Attachment A.

3.1.2 Surrogates

All surrogate recoveries were within the QC limits.

3.1.3 MS/MSD Samples

MS/MSD %Rs and RPDs were within QC limits.

3.1.4 LCS Samples

All LCS %Rs met the laboratory acceptance criteria.

3.1.5 Internal Standards

All internal standard areas and retention times met the method acceptance criteria.

3.1.6 FD Samples

The field duplicate samples were evaluated for acceptable precision with RPDs. The results for 1,3-dichlorobenzene in FD pair PC-153-20160912 and PC-153-20160912-FD were qualified as detected estimated (J) because the calculate RPD exceeded the QAPP acceptance criteria of ≤ 30%. The details regarding the qualification of results are provided in Attachment A.

3.1.7 Compound Quantitation and Target Identification

Raw data were evaluated for 16 VOC samples. All compound quantitation and target identifications were acceptable for the samples evaluated to Stage 4.

3.2 Representativeness

3.2.1 Sample Preservation and Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All samples met the 14-day analysis holding time criteria for VOCs.

3.2.2 Blanks

Method blanks, TBs, EBs, and FBs were collected and analyzed to evaluate representativeness. The concentration for an individual target compound in any of the types of QA/QC blanks was used for data qualification. The following criteria are used to evaluate results associated with

blanks that have contaminants detected:

Results Below or Above the PQL - If a sample result for the blank contaminant was less than or greater than the PQL and less than or equal to 2 times the blank value; the sample result was qualified as detected estimated (J) at the reported concentration.

No Action - If a sample result for the blank contaminant was greater than 2 times the blank value, the result was not qualified.

3.2.2.1 Method Blanks

Chloroform and 1,2,4-trimethylbenzene were detected in method blanks for this analysis. The sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

3.2.2.2 TBs

No contaminants were detected in the trip blanks for this analysis.

3.2.2.3 EBs and FBs

No contaminants were detected in the equipment and field blanks for this analysis.

3.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the SQLs attained were at or below the PQLs. Target compounds detected below the PQLs flagged (J) by the laboratory should be considered estimated. The comparability of the VOC data is regarded as acceptable.

3.4 Completeness

The completeness level attained for VOC field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

3.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable.

All laboratory PQLs met the specified requirements in the QAPP with the exception of several VOCs.

4. 1,2,3-TRICHLOROPROPANE AND 1,4-DIOXANE

A total of 37 water samples were analyzed for 1,2,3-trichloropropane and 1,4-dioxane by EPA SW-846 Method 8260B-SIM. All 1,2,3-trichloropropane and 1,4-dioxane data were assessed to be valid since none of the results were rejected. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

4.1 Precision and Accuracy

4.1.1 Instrument Calibration

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications met the acceptance criteria of 20%.

Four 1,2,3-trichloropropane results were qualified as detected estimated (J+). The %Ds in the initial calibration verifications were outside the acceptance criteria of 20%. The details regarding the qualification of results are provided in Attachment B.

4.1.2 Surrogates

All surrogate %Rs met the laboratory acceptance criteria, with one exception. The %R for the surrogate dibromofluoromethane was above the laboratory control limit in one sample. 1,2,3-Trichloropropane and 1,4-dioxane were not detected in the sample; therefore, no data were qualified.

4.1.3 MS/MSD Samples

MS/MSD %Rs and RPDs were within QC limits.

4.1.4 LCS Samples

All LCS %Rs met the laboratory acceptance criteria.

4.1.5 Internal Standards

All internal standard areas and retention times met the method acceptance criteria.

4.1.6 FD Samples

The field duplicate samples were evaluated for acceptable precision with RPDs. 1,4-Dioxane was only detected in one field duplicate pair. The calculate RPD was below the QAPP acceptance criteria of ≤30. 1,2,3-Trichloropropane was not detected in any of the field duplicate pairs.

4.1.7 Compound Quantitation and Target Identification

Raw data were evaluated for 16 samples analyzed for 1,2,3-trichloropropane and 1,4-dioxane. All compound quantitation and target identifications were acceptable for the samples evaluated to Stage 4.

4.2 Representativeness

4.2.1 Sample Preservation and Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All samples met the 14-day analysis holding time criteria for 1,2,3-trichloropropane and 1,4-dioxane.

4.2.2 Blanks

Method blanks, TBs, EBs, and FBs were collected and analyzed to evaluate representativeness. The concentration for an individual target compound in any of the types of QA/QC blanks was used for data qualification.

4.2.2.1 Method blanks

No contaminants were detected in the method blanks for this analysis.

4.2.2.2 TBs

No contaminants were detected in the trip blanks for this analysis.

4.2.2.3 EBs and FBs

No contaminants were detected in the equipment or field blanks for this analysis.

4.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the SQLs attained were at or below the PQLs. Target compounds detected below the PQLs flagged (J) by the laboratory should be considered estimated. The comparability of the VOC data is regarded as acceptable.

4.4 Completeness

The completeness level attained for 1,2,3-trichloropropane and 1,4-dioxane field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

4.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory PQLs met the specified requirements described in the QAPP.

5. TOTAL AND DISSOLVED METALS

A total of 38 water samples were analyzed for boron by Method 200.7; six samples were analyzed for iron and manganese by Method 200.7; and 543 water samples were analyzed for chromium by EPA Method 200.7. All metals data were assessed to be valid since none of the 913 total results were rejected based on holding time and QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

5.1 Precision and Accuracy

5.1.1 Instrument Calibration

Initial and continuing calibration verification results provide a means of evaluating accuracy within a particular SDG. Correlation coefficient (r) and percent recovery (%R) are the two major parameters used to measure the effectiveness of instrument calibration. The correlation coefficient indicates the linearity of the calibration curve. %R is used to verify the ongoing calibration acceptability of the analytical system. The most critical of the two calibration parameters, r, has the potential to affect data accuracy across an SDG when it is outside the acceptable QC limits. %R exceedances suggest more routine instrumental anomalies, which typically impact all sample results for the affected analytes.

The correlation coefficients in the initial calibrations met the method acceptance criteria of $\geq$ 0.995. The %Rs in the initial and continuing calibration verifications were within the method acceptance criteria of 90-110%. Low-level check standard %Rs were within the acceptance criteria of 70-130%.

5.1.2 MS/MSD Samples

The boron results for samples M-161D, M-162D, M-162D-FD, PC-151, PC-152, PC-153, and PC-153-FD were qualified as detected estimated (J+) because the recovery for the associated MSD was above the laboratory control limit. Details regarding the qualified results are provided in Attachment C.

No data were qualified for sample results associated with MS/MSD recoveries outside the acceptance criteria when the parent sample results were greater than 4x the spike concentration used to prepare the MS/MSD.

All MS/MSD RPDs met the laboratory acceptance criteria.

5.1.3 LCS/LCSD Samples

All LCS/LCSD %Rs and RPDs met the laboratory acceptance criteria.

5.1.4 ICP Interference Check Sample

All ICP interference check %Rs met the method acceptance criteria.

5.1.5 Internal Standards

All internal standard %Rs met the method acceptance criteria.

5.1.6 FD Samples

Field duplicate samples were evaluated for acceptable precision with RPDs or difference in instances wherein the field duplicate results were less than five times the reporting limit. Due to, the chromium results in FD pair M-37 and DUP12 (both sampled on 8/10/16) and FD pair I-AR and DUP14 (both sampled on 8/11/16) were qualified as detected estimated (J) because the calculated RPDs exceeded the QAPP acceptance criteria of ≤ 30. The details regarding the qualification of results are presented in Attachment C.

5.1.7 Sample Result Verification

Raw data were evaluated for 95 chromium results, 16 boron results, two iron results, and 2 manganese results. All compound quantitation and target identifications were acceptable for the samples evaluated to Stage 4.

5.2 Representativeness

5.2.1 Sample Preservation and Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All samples met the 180-day analysis holding time criteria for metals.

5.2.2 Blanks

Method blanks, ICB/CCBs, EBs, and FBs were analyzed to evaluate representativeness. The concentration for an individual target analyte in any of the types of QA/QC blanks was used for data qualification. The following criteria are used to evaluate results associated with blanks that have contaminants detected:

Results Below the PQL If a sample result and blank contaminant value were less than the PQL, the sample result was amended as estimated (J) at the concentration reported in the sample results.

Results Above the PQL If a sample result and blank contaminant value were greater than the PQL and less than 10 times the blank contaminant value, the sample result was qualified as detected estimated (J+) at the concentration reported in the sample results.

No Action If blank contaminant values were less than the PQL and associated sample results were greater than the PQL, or if blank contaminant values were greater than the PQL and associated sample results were greater than 10 times the blank contaminant value, the result was not amended.

5.2.2.1 Method and Calibration Blanks

Chromium and iron were detected in method blanks for this analysis. The sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

5.2.2.2 EBs and FBs

Chromium was detected in three equipment blanks collected as part of this data set. Chromium results in two samples were qualified as detected estimated (J).

5.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the SQLs

attained were at or below the PQLs. Target analytes detected below the PQLs flagged (J) by the laboratory are considered estimated. The comparability of the metals data is regarded as acceptable.

5.4 Completeness

The completeness level attained for metal field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

5.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory PQLs met the specified requirements described in the QAPP.

6. WET CHEMISTRY

A total of 316 water samples were analyzed for hexavalent chromium by EPA Method 218.6; 247 water samples were analyzed for nitrate by EPA Method 300.0; 26 water samples were analyzed for chloride by EPA Method 300.0; three water samples were analyzed for nitrite by EPA Method 300.0; 24 water samples for analyzed for sulfate by EPA Method 300.0; two water samples were analyzed for Ammonia as nitrogen by EPA Method 350.1, Nitrate/Nitrite as Nitrogen by Calculation, TIN by Calculation Method; 627 water samples were analyzed for perchlorate by EPA Method 314.0; four water samples were analyzed for phenolics by EPA Method 420.1, specific conductance by Standard Method 2510, and TOC by Standard Method 5310C; 623 water samples were analyzed for TDS by Standard Method 2540C; five water samples were analyzed for and TOX by EPA SW-846 Method 9020; and 476 pH by Field Sampling Method. All wet chemistry data were assessed to be valid since none of the 2,322 total results were rejected based on holding time and QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

6.1 Precision and Accuracy

6.1.1 Instrument Calibration

Initial and continuing calibration results provide a means of evaluating accuracy. Instrument calibrations were evaluated for all wet chemistry methods. The correlation coefficients in the initial calibrations were within the acceptance criteria of ≥ 0.995.

Three nitrate results were qualified as detected estimated (J) or non-detected estimated (UJ) due to continuing calibration verification %Rs outside the acceptance criteria of 90-110%. The details regarding the qualification of results are presented in Attachment D.

6.1.2 Surrogate

All surrogate %Rs associated to the chlorate analysis met the laboratory acceptance criteria.

6.1.3 MS/MSD Samples

MS/MSD samples were evaluated for chlorate, hexavalent chromium, perchlorate, and nitrate. Forty-six nitrate results were qualified as detected estimated (J+ J-) or non-detected estimated (UJ) due to MS/MSD %Rs outside the laboratory acceptance criteria. Two perchlorate results were qualified as detected estimated (J-) due to MS/MSD %Rs outside the laboratory acceptance criteria.

Additionally, 11 nitrate samples were associated with MS/MSD %RPDs that were outside the laboratory acceptance criteria. The samples were qualified as detected estimated (J) or non-detected estimated (UJ).

The qualifications for MS/MSD results are further discussed in Attachment D.

6.1.4 DUP Samples

DUP samples prepared with project samples were evaluated for precision. All laboratory DUP RPDs met the laboratory criteria.

6.1.5 LCS Samples

All LCS/LCSD %Rs and RPDs met the laboratory acceptance criteria

6.1.6 FD Samples

Field duplicate samples were evaluated for chlorate, hexavalent chromium, nitrate, perchlorate, TDS, and field pH. The field duplicate samples were evaluated for acceptable precision with RPDs or difference in instances wherein the field duplicate results were less than five times the PQL. Due to RPDs outside the QAPP acceptance criteria of ≤ 30, the nitrate results in field duplicate pairs M-192 and M-192-FD8 (both sampled on 11/17/2016) were qualified as detected estimated (J).

The details regarding the qualification of results for field duplicate precision are presented in Attachment D.

6.1.7 Sample Result Verification

Raw data were evaluated for 35 hexavalent chromium samples, seven chloride,44 nitrate, five sulfate, one nitrate/nitrite as nitrogen sample, one TIN sample, 57 chlorate samples, 97 perchlorate samples, one phenolics sample, one specific conductance sample, 97 TDS samples, and two ammonia as nitrogen samples by EPA Method 350.1. All sample result verifications were acceptable for samples that underwent Stage 4 data validation.

In instances where more than one result was reported for an individual sample, the least technically acceptable results were qualified as not reportable (DNR) by the validators in order to yield only one complete set of data for a given sample. The details regarding the qualification of results are presented in Attachment D.

6.2 Representativeness

6.2.1 Sample Preservation and Holding Times

The evaluation of holding times to verify compliance with all wet chemistry methods was conducted. All water samples met the 48-hour analysis holding time criteria for nitrite as nitrogen and pH, the 7-day analysis holding time criteria for TDS, and the 28-day analysis holding time criteria for ammonia as nitrogen, chlorate, chloride, phenolics, phosphorus, specific conductance, sulfate, and TOX.

Three nitrate results were qualified as detected estimated (J-) because the holding time of 48 hours was exceeded. In addition, fifteen samples collected in November 2016 were received at the laboratory outside of the holding time. The sample locations were resampled in December 2016 and were analyzed within the method holding time for nitrate. The results reported for nitrate for the November samples were qualified as not reportable (DNR).

One TOX result and one perchlorate result was qualified as detected estimated (J-) because the holding time of 28 days was exceeded for the analyses. The details regarding the qualification of results for holding time are presented in Attachment D.

6.2.2 Blanks

As previously discussed in Section 5.2.2, method blanks, ICB/CCBs, EBs, and FBs were analyzed to evaluate representativeness.

6.2.2.1 Method and Calibration Blanks

Perchlorate and TOC were detected in calibration blanks for this analysis. The sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

6.2.2.2 EBs and FBs

Perchlorate was detected in six equipment blanks and one field blank associated with this data set. In addition, nitrate was detected in one field blank. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated blanks.

6.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the SQLs attained were at or below the PQLs. Target analytes detected below the PQLs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

6.4 Completeness

The completeness level attained for wet chemistry field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

6.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory PQLs met the specified requirements described in the QAPP.

7. VARIANCES IN ANALYTICAL PERFORMANCE

The laboratory used standard analytical methods for all of the analyses throughout the project. The analyses were conducted within all specifications of the methods. No systematic variances in analytical performance were noted in the laboratory case narratives.

8. SUMMARY OF PARCCS CRITERIA

The validation reports present the PARCCS results for all SDGs. Each PARCCS criterion is discussed in detail in the following sections.

8.1 Precision and Accuracy

Precision and accuracy were evaluated using data quality indicators such as calibration, surrogates, MS/MSD, DUP, LCS/LCSD, and field duplicates. The precision and accuracy of the data set were considered acceptable after integration of result qualification.

All calibrations were performed as required and met the acceptance criteria with the exceptions noted in Sections 3.1.1, 4.1.1, and 6.1.1. All surrogate, MS/MSD, DUP, LCS, and field duplicate percent recoveries, RPDs, and difference met acceptance criteria with the exceptions noted in Sections 3.1.6, 5.1.2, and 6.1.3. All ICP interference check sample %Rs met acceptance criteria.

8.2 Representativeness

All samples for each method and matrix were evaluated for holding time compliance. All samples were associated with a method blank in each individual SDG. The representativeness of the project data is considered acceptable after integration of result qualification.

8.3 Comparability

Sampling frequency requirements were met in obtaining necessary equipment blanks, field blanks and field duplicates. The laboratory used standard analytical methods for the analyses. The analytical results were reported in correct standard units. Sample integrity criteria were met. Sample preservation and holding times were within QC criteria with the exceptions noted in Section 6.2.1. The overall comparability is considered acceptable after integration of result qualification.

8.4 Completeness

Of the 5,566 total analytes reported, no results were rejected. The completeness for the SDGs is as follows:

Parameter	Total Analytes	No. of Rejects	% Completeness
VOC	2,257	0	100
1,2,3-Trichloropropane & 1,4-Dioxane	74	0	100
Metals	913	0	100
Wet Chemistry	2,322	0	100
Total	**5,566**	**0**	**100**

The completeness percentage based on rejected data met the 90 percent DQO goal.

8.5 Sensitivity

Sensitivity was achieved by the laboratory to support the DQOs. Calibration concentrations, VOC SQLs, metals and wet chemistry PQLs met the project requirements and low level contamination in the method blanks, calibration blanks, equipment blanks, and field blanks did not affect sensitivity.

9. CONCLUSIONS AND RECOMMENDATIONS

The analytical data quality assessment for the water sample laboratory analytical results generated during the Annual Remedial Performance Sampling at the NERT site in Henderson, Nevada established that the overall project requirements and completeness levels were met. Sample results that were found to be estimated (J), (J+), (J-), and (UJ) are usable for limited purposes only. Based upon the Stage 2B and Stage 4 data validation all other results are considered valid and usable for all purposes.

10. REFERENCES

NDEP 2009. Data Verification and Validation Requirements - Supplement established for the BMI Plant Sites and Common Areas Projects, Henderson, Nevada. April 13.

NDEP 2012. Revised Guidance on Qualifying Data due to Blank Contamination for the BMI Complex and Common Areas. January 5.

Basic Remediation Company (BRC), 2009. Standard Operating Procedures, SOP-40 Data Review/Validation. Revision 4. May.

Revised Phase B Quality Assurance Project Plan Tronox LLC Facility, Henderson, Nevada (QAPP), Revision. May 2009.

Region 9 Superfund Data Evaluation/Validation Guidance, R6QA/006.1, Draft. December 2001.

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_____.1996. EPA SW 846 Third Edition, Test Methods for Evaluating Solid Waste, update I, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IV, February 2007.

(Eaton et al., 1998) *Standard Method for the Examination of Water and Wastewater* (20th ed.). Washington, DC: American Public Health Association.

TABLES

TABLE I: Sample Cross Reference
Nevada Environmental Response Trust Site
Henderson, Nevada

SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-151677-1	ART-1A-20160705	440-151677-5	WG	07/05/16		Stage 2B						X			X			X								X		
	ART-2-20160705	440-151677-1	WG	07/05/16		Stage 2B						X			X			X								X		
	ART-3A-20160705	440-151677-6	WG	07/05/16		Stage 2B						X			X			X								X		
	ART-4-20160705	440-151677-8	WG	07/05/16		Stage 2B						X			X			X								X		
	ART-7B-20160705	440-151677-4	WG	07/05/16		Stage 2B						X			X			X								X		
	ART-8A-20160705	440-151677-3	WG	07/05/16		Stage 2B						X			X			X								X		
	ART-9-20160705	440-151677-7	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-115R-20160705	440-151677-10	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-116R-20160705	440-151677-11	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-117-20160705	440-151677-14	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-118-20160705	440-151677-12	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-119-20160705	440-151677-13	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-120-20160705	440-151677-17	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-121-20160705	440-151677-16	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-133-20160705	440-151677-15	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-150-20160705	440-151677-2	WG	07/05/16		Stage 2B						X			X			X								X		
	PC-99R2/R3-20160705	440-151677-9	WG	07/05/16		Stage 2B						X			X			X								X		
440-151794-1	ART-1A-20160705	440-151794-5	WG	07/05/16		Stage 2B													X									
	ART-2-20160705	440-151794-1	WG	07/05/16		Stage 2B													X									
	ART-3A-20160705	440-151794-6	WG	07/05/16		Stage 2B													X									
	ART-4-20160705	440-151794-8	WG	07/05/16		Stage 2B													X									
	ART-7B-20160705	440-151794-4	WG	07/05/16		Stage 2B													X									
	ART-8A-20160705	440-151794-3	WG	07/05/16		Stage 2B													X									
	ART-9-20160705	440-151794-7	WG	07/05/16		Stage 2B													X									
	PC-115R-20160705	440-151794-10	WG	07/05/16		Stage 2B													X									
	PC-116R-20160705	440-151794-11	WG	07/05/16		Stage 2B													X									
	PC-117-20160705	440-151794-14	WG	07/05/16		Stage 2B													X									
	PC-118-20160705	440-151794-12	WG	07/05/16		Stage 2B													X									
	PC-119-20160705	440-151794-13	WG	07/05/16		Stage 2B													X									

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440-151794-1	PC-120-20160705	440-151794-17	WG	07/05/16		Stage 2B													X									
	PC-121-20160705	440-151794-16	WG	07/05/16		Stage 2B													X									
	PC-133-20160705	440-151794-15	WG	07/05/16		Stage 2B													X									
	PC-150-20160705	440-151794-2	WG	07/05/16		Stage 2B													X									
	PC-99R2/R3-20160705	440-151794-9	WG	07/05/16		Stage 2B													X									
440-152035-1	I-AA-20160706	440-152035-15	WG	07/06/16		Stage 2B						X			X			X								X		
	I-AR-20160706	440-152035-16	WG	07/06/16		Stage 2B						X			X			X								X		
	I-B-20160706	440-152035-14	WG	07/06/16		Stage 2B						X			X			X								X		
	I-C-20160706	440-152035-9	WG	07/06/16		Stage 2B						X			X			X								X		
	I-F-20160706	440-152035-8	WG	07/06/16		Stage 2B						X			X			X								X		
	I-H-20160706	440-152035-4	WG	07/06/16		Stage 2B						X			X			X								X		
	I-L-20160706	440-152035-11	WG	07/06/16		Stage 2B						X			X			X								X		
	I-O-20160706	440-152035-1	WG	07/06/16		Stage 2B						X			X			X								X		
	I-P-20160706	440-152035-3	WG	07/06/16		Stage 2B						X			X			X								X		
	I-Q-20160706	440-152035-7	WG	07/06/16		Stage 2B						X			X			X								X		
	I-R-20160706	440-152035-13	WG	07/06/16		Stage 2B						X			X			X								X		
	I-S-20160706	440-152035-10	WG	07/06/16		Stage 2B						X			X			X								X		
	I-T-20160706	440-152035-6	WG	07/06/16		Stage 2B						X			X			X								X		
	I-U-20160706	440-152035-5	WG	07/06/16		Stage 2B						X			X			X								X		
	I-W-20160706	440-152035-2	WG	07/06/16		Stage 2B						X			X			X								X		
	I-Y-20160706	440-152035-12	WG	07/06/16		Stage 2B						X			X			X								X		
440-152574-1	I-AB-20160712	440-152574-5	WG	07/12/16		Stage 2B						X			X			X								X		
	I-AC-20160712	440-152574-13	WG	07/12/16		Stage 2B						X			X			X								X		
	I-AD-20160712	440-152574-14	WG	07/12/16		Stage 2B						X			X			X								X		
	I-D-20160712	440-152574-2	WG	07/12/16		Stage 2B						X			X			X								X		
	I-E-20160712	440-152574-7	WG	07/12/16		Stage 2B						X			X			X								X		
	I-G-20160712	440-152574-6	WG	07/12/16		Stage 2B						X			X			X								X		
	I-I-20160712	440-152574-9	WG	07/12/16		Stage 2B						X			X			X								X		
	I-J-20160712	440-152574-11	WG	07/12/16		Stage 2B						X			X			X								X		

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440-152574-1	I-K-20160712	440-152574-12	WG	07/12/16		Stage 2B						X			X			X								X		
	I-M-20160712	440-152574-4	WG	07/12/16		Stage 2B						X			X			X								X		
	I-N-20160712	440-152574-1	WG	07/12/16		Stage 2B						X			X			X								X		
	I-V-20160712	440-152574-8	WG	07/12/16		Stage 2B						X			X			X								X		
	I-X-20160712	440-152574-3	WG	07/12/16		Stage 2B						X			X			X								X		
	I-Z-20160712	440-152574-10	WG	07/12/16		Stage 2B						X			X			X								X		
440-152845-1	I-AB-20160712_SSA	440-152845-5	WG	07/12/16		Stage 2B													X									
	I-AC-20160712_SSA	440-152845-13	WG	07/12/16		Stage 2B													X									
	I-AD-20160712_SSA	440-152845-14	WG	07/12/16		Stage 2B													X									
	I-D-20160712_SSA	440-152845-2	WG	07/12/16		Stage 2B													X									
	I-E-20160712_SSA	440-152845-7	WG	07/12/16		Stage 2B													X									
	I-G-20160712_SSA	440-152845-6	WG	07/12/16		Stage 2B													X									
	I-I-20160712_SSA	440-152845-9	WG	07/12/16		Stage 2B													X									
	I-J-20160712_SSA	440-152845-10	WG	07/12/16		Stage 2B													X									
	I-K-20160712_SSA	440-152845-12	WG	07/12/16		Stage 2B													X									
	I-M-20160712_SSA	440-152845-4	WG	07/12/16		Stage 2B													X									
	I-N-20160712_SSA	440-152845-1	WG	07/12/16		Stage 2B													X									
	I-V-20160712_SSA	440-152845-8	WG	07/12/16		Stage 2B													X									
	I-X-20160712_SSA	440-152845-3	WG	07/12/16		Stage 2B													X									
	I-Z-20160712_SSA	440-152845-11	WG	07/12/16		Stage 2B													X									
440-152846-1	I-AA-20160706_SSA	440-152846-15	WG	07/06/16		Stage 2B													X									
	I-AR-20160706_SSA	440-152846-16	WG	07/06/16		Stage 2B													X									
	I-B-20160706_SSA	440-152846-14	WG	07/06/16		Stage 2B													X									
	I-C-20160706_SSA	440-152846-9	WG	07/06/16		Stage 2B													X									
	I-F-20160706_SSA	440-152846-8	WG	07/06/16		Stage 2B													X									
	I-H-20160706_SSA	440-152846-4	WG	07/06/16		Stage 2B													X									
	I-L-20160706_SSA	440-152846-11	WG	07/06/16		Stage 2B													X									
	I-O-20160706_SSA	440-152846-1	WG	07/06/16		Stage 2B													X									
	I-P-20160706_SSA	440-152846-3	WG	07/06/16		Stage 2B													X									

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440-152846-1	I-Q-20160706_SSA	440-152846-7	WG	07/06/16		Stage 2B													X									
	I-R-20160706_SSA	440-152846-13	WG	07/06/16		Stage 2B													X									
	I-S-20160706_SSA	440-152846-10	WG	07/06/16		Stage 2B													X									
	I-T-20160706_SSA	440-152846-6	WG	07/06/16		Stage 2B													X									
	I-U-20160706_SSA	440-152846-5	WG	07/06/16		Stage 2B													X									
	I-W-20160706_SSA	440-152846-2	WG	07/06/16		Stage 2B													X									
	I-Y-20160706_SSA	440-152846-12	WG	07/06/16		Stage 2B													X									
440-153241-1	ART-6-20160719	440-153241-14	WG	07/19/16		Stage 2B						X			X			X								X		
	M-83-20160719	440-153241-1	WG	07/19/16		Stage 2B						X			X											X		
	MEB-1-20160719	440-153241-12	WQ	07/19/16	EB	Stage 2B									X											X		
	PC-101R-20160719	440-153241-15	WG	07/19/16		Stage 2B						X			X											X		
	PC-122-20160719	440-153241-13	WG	07/19/16		Stage 2B						X			X											X		
	PC-56-20160719	440-153241-3	WG	07/19/16		Stage 2B						X			X											X		
	PC-58-20160719	440-153241-2	WG	07/19/16		Stage 2B						X			X											X		
	PC-59-20160719	440-153241-5	WG	07/19/16		Stage 2B						X			X											X		
	PC-60-20160719	440-153241-4	WG	07/19/16		Stage 2B						X			X											X		
	PC-62-20160719	440-153241-6	WG	07/19/16		Stage 2B						X			X											X		
	PC-68-20160719	440-153241-7	WG	07/19/16		Stage 2B						X			X											X		
	PC-86-20160719	440-153241-8	WG	07/19/16		Stage 2B						X			X											X		
	PC-90-20160719	440-153241-10	WG	07/19/16		Stage 2B						X			X											X		
	PC-91-20160719	440-153241-9	WG	07/19/16		Stage 2B						X			X											X		
	PC-97-20160719	440-153241-11	WG	07/19/16		Stage 2B						X			X											X		
440-153307-1	ART-6-20160719_SSA	440-153307-1	WG	07/19/16		Stage 2B													X									
440-153408-1	ARP-1-20160720	440-153408-2	WG	07/20/16		Stage 2B						X			X											X		
	ARP-2A-20160720	440-153408-11	WG	07/20/16		Stage 2B						X			X											X		
	ARP-3A-20160720	440-153408-10	WG	07/20/16		Stage 2B						X			X											X		
	ARP-4A-20160720	440-153408-8	WG	07/20/16		Stage 2B						X			X											X		
	ARP-5A-20160720	440-153408-7	WG	07/20/16		Stage 2B						X			X											X		
	ARP-6B-20160720	440-153408-6	WG	07/20/16		Stage 2B						X			X											X		

TABLE I: Sample Cross Reference
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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-153408-1	ARP-7-20160720	440-153408-5	WG	07/20/16		Stage 2B						X			X											X		
	MW-K4-20160720	440-153408-9	W	07/20/16		Stage 2B						X			X											X		
	MW-K5-20160720	440-153408-4	W	07/20/16		Stage 2B						X			X											X		
	PC-103-20160720	440-153408-12	WG	07/20/16		Stage 2B						X			X											X		
	PC-18-20160720	440-153408-1	WG	07/20/16		Stage 2B						X			X											X		
	PC-53-20160720	440-153408-3	WG	07/20/16		Stage 2B						X			X											X		
	PC-55-20160720	440-153408-14	WG	07/20/16		Stage 2B						X			X											X		
	PC-98R-20160720	440-153408-13	WG	07/20/16		Stage 2B						X			X											X		
440-154229-1	ART-1A-20160801	440-154229-14	WG	08/01/16		Stage 2B						X			X			X								X		
	ART-2A-20160801	440-154229-13	WG	08/01/16		Stage 2B						X			X			X								X		
	ART-3A-20160801	440-154229-11	WG	08/01/16		Stage 2B						X			X			X								X		
	ART-4-20160801	440-154229-10	WG	08/01/16		Stage 2B						X			X			X								X		
	ART-7B-20160801	440-154229-15	WG	08/01/16		Stage 2B						X			X			X								X		
	ART-8A-20160801	440-154229-12	WG	08/01/16		Stage 2B						X			X			X								X		
	ART-9-20160801	440-154229-16	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-115R-20160801	440-154229-2	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-116R-20160801	440-154229-3	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-117-20160801	440-154229-4	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-118-20160801	440-154229-5	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-119-20160801	440-154229-6	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-120-20160801	440-154229-8	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-121-20160801	440-154229-9	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-133-20160801	440-154229-7	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-150-20160801	440-154229-17	WG	08/01/16		Stage 2B						X			X			X								X		
	PC-99R2/R3-20160801	440-154229-1	WG	08/01/16		Stage 2B						X			X			X								X		
440-154365-1	ART-1A-20160801	440-154365-14	WG	08/01/16		Stage 2B													X									
	ART-2A-20160801	440-154365-13	WG	08/01/16		Stage 2B													X									
	ART-3A-20160801	440-154365-11	WG	08/01/16		Stage 2B													X									
	ART-4-20160801	440-154365-10	WG	08/01/16		Stage 2B													X									

TABLE I: Sample Cross Reference
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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-154365-1	ART-7B-20160801	440-154365-15	WG	08/01/16		Stage 2B													X									
	ART-8A-20160801	440-154365-12	WG	08/01/16		Stage 2B													X									
	ART-9-20160801	440-154365-16	WG	08/01/16		Stage 2B													X									
	PC-115R-20160801	440-154365-2	WG	08/01/16		Stage 2B													X									
	PC-116R-20160801	440-154365-3	WG	08/01/16		Stage 2B													X									
	PC-117-20160801	440-154365-4	WG	08/01/16		Stage 2B													X									
	PC-118-20160801	440-154365-5	WG	08/01/16		Stage 2B													X									
	PC-119-20160801	440-154365-6	WG	08/01/16		Stage 2B													X									
	PC-120-20160801	440-154365-8	WG	08/01/16		Stage 2B													X									
	PC-121-20160801	440-154365-9	WG	08/01/16		Stage 2B													X									
	PC-133-20160801	440-154365-7	WG	08/01/16		Stage 2B													X									
	PC-150-20160801	440-154365-17	WG	08/01/16		Stage 2B													X									
	PC-99R2/R3-20160801	440-154365-1	WG	08/01/16		Stage 2B													X									
440-154471-1	EB-1-20160802	440-154471-8	WQ	08/02/16	EB	Stage 2B						X			X			X								X		
	FB-1-20160802	440-154471-4	WQ	08/02/16	FB	Stage 2B						X			X			X								X		
	PC-122-20160802	440-154471-1	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-56-20160802	440-154471-3	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-58-20160802	440-154471-2	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-59-20160802	440-154471-6	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-60-20160802	440-154471-5	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-62-20160802	440-154471-7	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-68-20160802	440-154471-9	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-86-20160802	440-154471-10	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-90-20160802	440-154471-12	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-91-20160802	440-154471-13	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-94-20160802	440-154471-14	WG	08/02/16		Stage 2B						X			X			X								X		
	PC-97-20160802	440-154471-11	WG	08/02/16		Stage 2B						X			X			X								X		
440-154485-1	ART-6-20160802	440-154485-1	WG	08/02/16		Stage 2B						X			X			X								X		
440-154590-1	ARP-1-20160803	440-154590-2	WG	08/03/16		Stage 2B						X			X			X								X		

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-154590-1	ARP-2A-20160803	440-154590-19	WG	08/03/16		Stage 2B						X			X			X								X		
	ARP-3A-20160803	440-154590-18	WG	08/03/16		Stage 2B						X			X			X								X		
	ARP-4A-20160803	440-154590-13	WG	08/03/16		Stage 2B						X			X			X								X		
	ARP-5A-20160803	440-154590-11	WG	08/03/16		Stage 2B						X			X			X								X		
	ARP-6B-20160803	440-154590-10	WG	08/03/16		Stage 2B						X			X			X								X		
	ARP-7-20160803	440-154590-9	WG	08/03/16		Stage 2B						X			X			X								X		
	EB2-20160803	440-154590-5	W	08/03/16	EB	Stage 2B						X			X			X								X		
	MEB-1-20160803	440-154590-12	W	08/03/16	EB	Stage 2B									X													
	MW-K4-20160803	440-154590-14	W	08/03/16		Stage 2B						X			X			X								X		
	MW-K5-20160803	440-154590-6	W	08/03/16		Stage 2B						X			X			X								X		
	PC-101R-20160803	440-154590-17	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-103-20160803	440-154590-7	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-135A-20160803	440-154590-16	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-136-20160803	440-154590-3	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-144-20160803	440-154590-15	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-18-20160803	440-154590-1	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-53-20160803	440-154590-4	WG	08/03/16		Stage 2B						X			X			X								X		
	PC-98R-20160803	440-154590-8	WG	08/03/16		Stage 2B						X			X			X								X		
440-154938-1	DUP-6-20160808	440-154938-2	WG	08/08/16	FD	Stage 4						X			X			X								X		
	DUP-7-20160808	440-154938-18	W	08/08/16	FD	Stage 4						X			X			X								X		
	EB4-20160808	440-154938-12	W	08/08/16	EB	Stage 4						X			X			X								X		
	M-44-20160808	440-154938-17	WG	08/08/16		Stage 4						X			X			X								X		
	M-48A-20160808	440-154938-16	W	08/08/16		Stage 4						X			X			X								X		
	PC-123-20160808	440-154938-1	WG	08/08/16		Stage 4						X			X			X								X		
	PC-124-20160808	440-154938-8	WG	08/08/16		Stage 4						X			X			X								X		
	PC-125-20160808	440-154938-9	WG	08/08/16		Stage 4						X			X			X								X		
	PC-126-20160808	440-154938-10	WG	08/08/16		Stage 4						X			X			X								X		
	PC-127-20160808	440-154938-11	WG	08/08/16		Stage 4						X			X			X								X		
	PC-128-20160808	440-154938-3	WG	08/08/16		Stage 4						X			X			X								X		

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-154938-1	PC-129-20160808	440-154938-4	WG	08/08/16		Stage 4						X			X			X								X		
	PC-130-20160808	440-154938-5	WG	08/08/16		Stage 4						X			X			X								X		
	PC-131-20160808	440-154938-6	WG	08/08/16		Stage 4						X			X			X								X		
	PC-132-20160808	440-154938-7	WG	08/08/16		Stage 4						X			X			X								X		
	PC-148-20160808	440-154938-13	WG	08/08/16		Stage 4						X			X			X								X		
	PC-149-20160808	440-154938-14	WG	08/08/16		Stage 4						X			X			X								X		
	PC-37-20160808	440-154938-22	WG	08/08/16		Stage 4						X			X			X								X		
	PC-54-20160808	440-154938-15	WG	08/08/16		Stage 4						X			X			X								X		
	PC-71-20160808	440-154938-19	WG	08/08/16		Stage 4						X			X			X								X		
	PC-72-20160808	440-154938-20	WG	08/08/16		Stage 4						X			X			X								X		
	PC-73-20160808	440-154938-21	WG	08/08/16		Stage 4						X			X			X								X		
440-154944-1	DUP-7-20160808_SSA	440-154944-2	W	08/08/16	FD	Stage 2B													X									
	M-44-20160808	440-154944-1	WG	08/08/16		Stage 2B													X									
440-155035-1	M-10-20160809	440-155035-1	WG	08/09/16		Stage 4	X		X	X		X	X	X	X		X	X	X	X	X					X		
440-155148-1	DUP-8-20160809	440-155148-6	W	08/09/16	FD	Stage 2B						X			X			X								X		
	DUP-9-20160809	440-155148-16	W	08/09/16	FD	Stage 2B			X			X	X		X			X								X		
	EB9-20160809	440-155148-8	WQ	08/09/16	EB	Stage 2B						X			X			X								X		
	M-11-20160809	440-155148-14	WG	08/09/16		Stage 2B			X			X	X		X			X								X		
	M-12A-20160809	440-155148-15	WG	08/09/16		Stage 2B			X			X	X		X			X								X		
	M-19-20160809	440-155148-10	WG	08/09/16		Stage 2B						X			X			X								X		
	M-31A-20160809	440-155148-12	WG	08/09/16		Stage 2B						X			X			X								X		
	M-35-20160809	440-155148-11	WG	08/09/16		Stage 2B						X			X			X								X		
	M-52-20160809	440-155148-13	WG	08/09/16		Stage 2B						X			X			X								X		
	M-67-20160809	440-155148-5	WG	08/09/16		Stage 2B						X			X			X								X		
	M-68-20160809	440-155148-9	WG	08/09/16		Stage 2B						X			X			X								X		
	M-73-20160809	440-155148-4	WG	08/09/16		Stage 2B						X			X			X								X		
	M-74-20160809	440-155148-7	WG	08/09/16		Stage 2B						X			X			X								X		
	M-80-20160809	440-155148-2	WG	08/09/16		Stage 2B						X			X			X								X		
	M-81A-20160809	440-155148-3	WG	08/09/16		Stage 2B						X			X			X								X		

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-155148-1	M-83-20160809	440-155148-1	WG	08/09/16		Stage 2B						X			X			X								X		
440-155186-1	DUP-9-20160809	440-155186-4	W	08/09/16	FD	Stage 2B													X									
	M-11-20160809	440-155186-2	WG	08/09/16		Stage 2B													X									
	M-12A-20160809	440-155186-3	WG	08/09/16		Stage 2B													X									
	M-80-20160809	440-155186-1	WG	08/09/16		Stage 2B													X									
440-155316-1	DUP-10-20160810	440-155316-15	W	08/10/16	FD	Stage 4						X			X			X								X		
	DUP-11-20160810	440-155316-18	W	08/10/16	FD	Stage 4						X			X			X								X		
	DUP-12-20160810	440-155316-3	W	08/10/16	FD	Stage 4			X			X	X		X			X								X		
	EB-10-20160810	440-155316-9	W	08/10/16	EB	Stage 4						X			X			X								X		
	M-131-20160810	440-155316-5	W	08/10/16		Stage 4						X			X			X								X		
	M-135-20160810	440-155316-7	W	08/10/16		Stage 4						X			X			X								X		
	M-14A-20160810	440-155316-4	W	08/10/16		Stage 4						X			X			X								X		
	M-22A-20160810	440-155316-19	W	08/10/16		Stage 4						X	X		X			X								X		
	M-23-20160810	440-155316-20	W	08/10/16		Stage 4			X			X			X			X								X		
	M-25-20160810	440-155316-1	W	08/10/16		Stage 4			X			X	X		X			X								X		
	M-37-20160810	440-155316-2	W	08/10/16		Stage 4			X			X	X		X			X								X		
	M-38-20160810	440-155316-17	W	08/10/16		Stage 4						X			X			X								X		
	M-57A-20160810	440-155316-6	W	08/10/16		Stage 4						X			X			X								X		
	M-64-20160810	440-155316-22	W	08/10/16		Stage 4						X			X			X								X		
	M-65-20160810	440-155316-14	W	08/10/16		Stage 4						X			X			X								X		
	M-66-20160810	440-155316-16	W	08/10/16		Stage 4						X			X			X								X		
	M-69-20160810	440-155316-8	W	08/10/16		Stage 4						X			X			X								X		
	M-70-20160810	440-155316-11	W	08/10/16		Stage 4						X			X			X								X		
	M-71-20160810	440-155316-12	W	08/10/16		Stage 4						X			X			X								X		
	M-72-20160810	440-155316-13	W	08/10/16		Stage 4						X			X			X								X		
	M-79-20160810	440-155316-10	W	08/10/16		Stage 4						X			X			X								X		
	PC-55-20160810	440-155316-21	WG	08/10/16		Stage 4						X			X			X								X		
440-155320-1	M-5A-20160810	440-155320-1	W	08/10/16		Stage 2B		X		X	X	X			X	X	X	X		X	X	X				X	X	X
440-155334-1	DUP-11-20160810	440-155334-4	W	08/10/16	FD	Stage 2B													X									

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-155334-1	DUP-12-20160810	440-155334-2	W	08/10/16	FD	Stage 2B													X									
	M-37-20160810	440-155334-1	W	08/10/16		Stage 2B													X									
	M-38-20160810	440-155334-3	W	08/10/16		Stage 2B													X									
440-155490-1	H-28A-20160811	440-155490-1	W	08/11/16		Stage 2B		X		X	X	X			X	X	X	X		X	X	X				X	X	X
	M-6A-20160811	440-155490-2	W	08/11/16		Stage 2B		X		X	X	X			X	X	X	X		X	X	X				X	X	X
	M-7B-20160811	440-155490-3	W	08/11/16		Stage 2B		X		X	X	X			X	X	X	X		X	X	X				X	X	X
440-155494-1	DUP-14-20160811	440-155494-24	WG	08/11/16	FD	Stage 2B						X			X			X								X		
	I-AA-20160811	440-155494-22	WG	08/11/16		Stage 2B						X			X			X								X		
	I-AB-20160811	440-155494-21	WG	08/11/16		Stage 2B						X			X			X								X		
	I-AD-20160811	440-155494-25	WG	08/11/16		Stage 2B						X			X			X								X		
	I-AR-20160811	440-155494-23	WG	08/11/16		Stage 2B						X			X			X								X		
	I-B-20160811	440-155494-20	WG	08/11/16		Stage 2B						X			X			X								X		
	I-C-20160811	440-155494-15	WG	08/11/16		Stage 2B						X			X			X								X		
	I-D-20160811	440-155494-14	WG	08/11/16		Stage 2B						X			X			X								X		
	I-E-20160811	440-155494-12	WG	08/11/16		Stage 2B						X			X			X								X		
	I-F-20160811	440-155494-9	WG	08/11/16		Stage 2B						X			X			X								X		
	I-G-20160811	440-155494-7	WG	08/11/16		Stage 2B						X			X			X								X		
	I-H-20160811	440-155494-4	WG	08/11/16		Stage 2B						X			X			X								X		
	I-I-20160811	440-155494-29	WG	08/11/16		Stage 2B						X			X			X								X		
	I-J-20160811	440-155494-27	WG	08/11/16		Stage 2B						X			X			X								X		
	I-K-20160811	440-155494-26	WG	08/11/16		Stage 2B						X			X			X								X		
	I-L-20160811	440-155494-17	WG	08/11/16		Stage 2B						X			X			X								X		
	I-M-20160811	440-155494-13	WG	08/11/16		Stage 2B						X			X			X								X		
	I-N-20160811	440-155494-11	WG	08/11/16		Stage 2B						X			X			X								X		
	I-O-20160811	440-155494-1	WG	08/11/16		Stage 2B						X			X			X								X		
	I-P-20160811	440-155494-3	WG	08/11/16		Stage 2B						X			X			X								X		
	I-Q-20160811	440-155494-8	WG	08/11/16		Stage 2B						X			X			X								X		
	I-R-20160811	440-155494-19	WG	08/11/16		Stage 2B						X			X			X								X		
	I-S-20160811	440-155494-16	WG	08/11/16		Stage 2B						X			X			X								X		

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-155494-1	I-T-20160811	440-155494-6	WG	08/11/16		Stage 2B						X			X			X								X		
	I-U-20160811	440-155494-5	WG	08/11/16		Stage 2B						X			X			X								X		
	I-V-20160811	440-155494-30	WG	08/11/16		Stage 2B						X			X			X								X		
	I-W-20160811	440-155494-2	WG	08/11/16		Stage 2B						X			X			X								X		
	I-X-20160811	440-155494-10	WG	08/11/16		Stage 2B						X			X			X								X		
	I-Y-20160811	440-155494-18	WG	08/11/16		Stage 2B						X			X			X								X		
	I-Z-20160811	440-155494-28	WG	08/11/16		Stage 2B						X			X			X								X		
440-156239-1	ART-6-20160802	440-156239-1	WG	08/02/16		Stage 2B													X									
440-156317-1	I-AC-20160822	440-156317-1	WG	08/22/16		Stage 2B						X			X			X								X		
440-156610-1	M-48A-20160824	440-156610-1	W	08/24/16		Stage 2B			X				X															
440-157616-1	ART-1A-20160906	440-157616-10	WG	09/06/16		Stage 2B						X			X			X								X		
	ART-2A-20160906	440-157616-11	WG	09/06/16		Stage 2B						X			X			X								X		
	ART-3A-20160906	440-157616-12	WG	09/06/16		Stage 2B						X			X			X								X		
	ART-4-20160906	440-157616-13	WG	09/06/16		Stage 2B						X			X			X								X		
	ART-7B-20160906	440-157616-14	WG	09/06/16		Stage 2B						X			X			X								X		
	ART-8A-20160906	440-157616-15	WG	09/06/16		Stage 2B						X			X			X								X		
	ART-9-20160906	440-157616-16	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-115R-20160906	440-157616-2	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-116R-20160906	440-157616-3	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-117-20160906	440-157616-4	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-118-20160906	440-157616-5	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-119-20160906	440-157616-6	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-120-20160906	440-157616-7	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-121-20160906	440-157616-8	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-133-20160906	440-157616-9	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-150-20160906	440-157616-17	WG	09/06/16		Stage 2B						X			X			X								X		
	PC-99R2/R3-20160906	440-157616-1	WG	09/06/16		Stage 2B						X			X			X								X		
440-157843-1	I-AA-20160907	440-157843-22	WG	09/07/16		Stage 2B						X			X			X								X		
	I-AB-20160907	440-157843-21	WG	09/07/16		Stage 2B						X			X			X								X		

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-157843-1	**I-AC-20160907**	440-157843-25	WG	09/07/16		Stage 2B						X			X			X								X		
	I-AD-20160907	440-157843-24	WG	09/07/16		Stage 2B						X			X			X								X		
	I-AR-20160907	440-157843-23	WG	09/07/16		Stage 2B						X			X			X								X		
	I-B-20160907	440-157843-20	WG	09/07/16		Stage 2B						X			X			X								X		
	I-C-20160907	440-157843-15	WG	09/07/16		Stage 2B						X			X			X								X		
	I-D-20160907	440-157843-14	WG	09/07/16		Stage 2B						X			X			X								X		
	I-E-20160907	440-157843-12	WG	09/07/16		Stage 2B						X			X			X								X		
	I-F-20160907	440-157843-9	WG	09/07/16		Stage 2B						X			X			X								X		
	I-G-20160907	440-157843-7	WG	09/07/16		Stage 2B						X			X			X								X		
	I-H-20160907	440-157843-4	WG	09/07/16		Stage 2B						X			X			X								X		
	I-I-20160907	440-157843-28	WG	09/07/16		Stage 2B						X			X			X								X		
	I-K-20160907	440-157843-26	WG	09/07/16		Stage 2B						X			X			X								X		
	I-L-20160907	440-157843-17	WG	09/07/16		Stage 2B						X			X			X								X		
	I-M-20160907	440-157843-13	WG	09/07/16		Stage 2B						X			X			X								X		
	I-N-20160907	440-157843-11	WG	09/07/16		Stage 2B						X			X			X								X		
	I-O-20160907	440-157843-1	WG	09/07/16		Stage 2B						X			X			X								X		
	I-P-20160907	440-157843-3	WG	09/07/16		Stage 2B						X			X			X								X		
	I-Q-20160907	440-157843-8	WG	09/07/16		Stage 2B						X			X			X								X		
	I-R-20160907	440-157843-19	WG	09/07/16		Stage 2B						X			X			X								X		
	I-S-20160907	440-157843-16	WG	09/07/16		Stage 2B						X			X			X								X		
	I-T-20160907	440-157843-6	WG	09/07/16		Stage 2B						X			X			X								X		
	I-U-20160907	440-157843-5	WG	09/07/16		Stage 2B						X			X			X								X		
	I-V-20160907	440-157843-29	WG	09/07/16		Stage 2B						X			X			X								X		
	I-W-20160907	440-157843-2	WG	09/07/16		Stage 2B						X			X			X								X		
	I-X-20160907	440-157843-10	WG	09/07/16		Stage 2B						X			X			X								X		
	I-Y-20160907	440-157843-18	WG	09/07/16		Stage 2B						X			X			X								X		
	I-Z-20160907	440-157843-27	WG	09/07/16		Stage 2B						X			X			X								X		
440-157936-1	**DUP-14-20160811**	440-157936-24	WG	08/11/16	FD	Stage 4													X									
	I-AA-20160811	440-157936-22	WG	08/11/16		Stage 4													X									

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-157936-1	I-AB-20160811	440-157936-21	WG	08/11/16		Stage 4													X									
	I-AD-20160811	440-157936-25	WG	08/11/16		Stage 4													X									
	I-AR-20160811	440-157936-23	WG	08/11/16		Stage 4													X									
	I-B-20160811	440-157936-20	WG	08/11/16		Stage 4													X									
	I-C-20160811	440-157936-15	WG	08/11/16		Stage 4													X									
	I-D-20160811	440-157936-14	WG	08/11/16		Stage 4													X									
	I-E-20160811	440-157936-12	WG	08/11/16		Stage 4													X									
	I-F-20160811	440-157936-9	WG	08/11/16		Stage 4													X									
	I-G-20160811	440-157936-7	WG	08/11/16		Stage 4													X									
	I-H-20160811	440-157936-4	WG	08/11/16		Stage 4													X									
	I-I-20160811	440-157936-29	WG	08/11/16		Stage 4													X									
	I-J-20160811	440-157936-27	WG	08/11/16		Stage 4													X									
	I-K-20160811	440-157936-26	WG	08/11/16		Stage 4													X									
	I-L-20160811	440-157936-17	WG	08/11/16		Stage 4													X									
	I-M-20160811	440-157936-13	WG	08/11/16		Stage 4													X									
	I-N-20160811	440-157936-11	WG	08/11/16		Stage 4													X									
	I-O-20160811	440-157936-1	WG	08/11/16		Stage 4													X									
	I-P-20160811	440-157936-3	WG	08/11/16		Stage 4													X									
	I-Q-20160811	440-157936-8	WG	08/11/16		Stage 4													X									
	I-R-20160811	440-157936-19	WG	08/11/16		Stage 4													X									
	I-S-20160811	440-157936-16	WG	08/11/16		Stage 4													X									
	I-T-20160811	440-157936-6	WG	08/11/16		Stage 4													X									
	I-U-20160811	440-157936-5	WG	08/11/16		Stage 4													X									
	I-V-20160811	440-157936-30	WG	08/11/16		Stage 4													X									
	I-W-20160811	440-157936-2	WG	08/11/16		Stage 4													X									
	I-X-20160811	440-157936-10	WG	08/11/16		Stage 4													X									
	I-Y-20160811	440-157936-18	WG	08/11/16		Stage 4													X									
	I-Z-20160811	440-157936-28	WG	08/11/16		Stage 4													X									
440-158103-1	I-AC-20160822	440-158103-1	WG	08/22/16		Stage 2B													X									

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440-158214-1	M-161D-20160912	440-158214-2	W	09/12/16		Stage 2B			X			X			X		X	X					X	X	X			
	M-161D-20160912-TB	440-158214-1	WQ	09/12/16	TB	Stage 2B																	X	X	X			
	M-162D-20160912	440-158214-3	W	09/12/16		Stage 2B			X			X			X		X	X					X	X	X			
	M-162D-20160912-FD	440-158214-4	W	09/12/16	FD	Stage 2B			X			X			X		X	X					X	X	X			
	PC-151-20160912	440-158214-9	WG	09/12/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-152-20160912	440-158214-8	WG	09/12/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-152-20160912-FB	440-158214-7	WQ	09/12/16	FB	Stage 2B			X			X			X		X	X					X	X	X			
	PC-153-20160912	440-158214-5	WG	09/12/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-153-20160912-FD	440-158214-6	WG	09/12/16	FD	Stage 2B			X			X			X		X	X					X	X	X			
440-158404-1	M-148A-20160913	440-158404-6	W	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	M-148A-20160913-EB	440-158404-5	WQ	09/13/16	EB	Stage 4			X			X			X		X	X					X	X	X			
	M-186-20160913	440-158404-4	W	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	M-186D-20160913	440-158404-3	W	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	M-186D-20160913-FB	440-158404-2	WQ	09/13/16	FB	Stage 4			X			X			X		X	X					X	X	X			
	M-186D-20160913-TB	440-158404-1	WQ	09/13/16	TB	Stage 4																	X	X	X			
	M-190-20160913	440-158404-7	W	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	M-193-20160913	440-158404-8	W	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	PC-134D-20160913	440-158404-16	WG	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	PC-137D-20160913	440-158404-15	WG	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	PC-137D-20160913-EB	440-158404-14	WQ	09/13/16	EB	Stage 4			X			X			X		X	X					X	X	X			
	PC-154-20160913	440-158404-10	WG	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	PC-154-20160913-TB	440-158404-9	WQ	09/13/16	TB	Stage 4																	X	X	X			
	PC-158-20160913	440-158404-11	WG	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	PC-159-20160913	440-158404-12	WG	09/13/16		Stage 4			X			X			X		X	X					X	X	X			
	PC-159-20160913-FD	440-158404-13	WG	09/13/16	FD	Stage 4			X			X			X		X	X					X	X	X			
440-158406-1	I-J-20160913	440-158406-12	WG	09/13/16		Stage 2B						X			X			X								X		
	M-83-20160913	440-158406-11	WG	09/13/16		Stage 2B						X			X											X		
	PC-56-20160913	440-158406-1	WG	09/13/16		Stage 2B						X			X											X		
	PC-58-20160913	440-158406-3	WG	09/13/16		Stage 2B						X			X											X		

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440-158406-1	PC-59-20160913	440-158406-4	WG	09/13/16		Stage 2B						X			X											X		
	PC-60-20160913	440-158406-2	WG	09/13/16		Stage 2B						X			X											X		
	PC-62-20160913	440-158406-5	WG	09/13/16		Stage 2B						X			X											X		
	PC-68-20160913	440-158406-6	WG	09/13/16		Stage 2B						X			X											X		
	PC-86-20160913	440-158406-7	WG	09/13/16		Stage 2B						X			X											X		
	PC-90-20160913	440-158406-9	WG	09/13/16		Stage 2B						X			X											X		
	PC-91-20160913	440-158406-8	WG	09/13/16		Stage 2B						X			X											X		
	PC-97-20160913	440-158406-10	WG	09/13/16		Stage 2B						X			X											X		
440-158478-1	I-J-20160913	440-158478-1	WG	09/13/16		Stage 2B													X									
440-158607-1	ART-6-20160914	440-158607-5	WG	09/14/16		Stage 2B						X			X			X								X		
	MEB-1-20160914	440-158607-6	WQ	09/14/16	EB	Stage 2B									X											X		
	PC-101R-20160914	440-158607-4	WG	09/14/16		Stage 2B						X			X											X		
	PC-122-20160914	440-158607-3	WG	09/14/16		Stage 2B						X			X											X		
	PC-18-20160914	440-158607-1	WG	09/14/16		Stage 2B						X			X											X		
	PC-55-20160914	440-158607-2	WG	09/14/16		Stage 2B						X			X											X		
440-158652-1	ART-6-20160914	440-158652-1	WG	09/14/16		Stage 2B													X									
440-158656-1	M-145-20160914	440-158656-2	W	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	M-145-20160914-TB	440-158656-1	WQ	09/14/16	TB	Stage 2B																	X	X	X			
	M-191-20160914	440-158656-3	W	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	M-192-20160914	440-158656-4	W	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-155A-20160914	440-158656-9	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-155B-20160914	440-158656-10	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-156A-20160914	440-158656-7	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-156B-20160914	440-158656-8	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-157A-20160914	440-158656-5	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-157B-20160914	440-158656-11	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-160-20160914	440-158656-6	WG	09/14/16		Stage 2B			X			X			X		X	X					X	X	X			
	PC-160-20160914-TB	440-158656-12	WQ	09/14/16	TB	Stage 2B																	X	X	X			
440-159190-1	ARP-1-20160920	440-159190-1	WG	09/20/16		Stage 2B						X			X											X		

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-159190-1	**ARP-2A-20160920**	440-159190-10	WG	09/20/16		Stage 2B						X			X											X		
	ARP-3A-20160920	440-159190-9	WG	09/20/16		Stage 2B						X			X											X		
	ARP-4A-20160920	440-159190-7	WG	09/20/16		Stage 2B						X			X											X		
	ARP-5A-20160920	440-159190-6	WG	09/20/16		Stage 2B						X			X											X		
	ARP-6B-20160920	440-159190-5	WG	09/20/16		Stage 2B						X			X											X		
	ARP-7-20160920	440-159190-4	WG	09/20/16		Stage 2B						X			X											X		
	MW-K4-20160920	440-159190-8	WG	09/20/16		Stage 2B						X			X											X		
	MW-K5-20160920	440-159190-3	WG	09/20/16		Stage 2B						X			X											X		
	PC-103-20160920	440-159190-11	WG	09/20/16		Stage 2B						X			X											X		
	PC-53-20160920	440-159190-2	WG	09/20/16		Stage 2B						X			X											X		
	PC-98R-20160920	440-159190-12	WG	09/20/16		Stage 2B						X			X											X		
440-159527-1	**ART-1A-20160906**	440-159527-10	WG	09/06/16		Stage 2B													X									
	ART-2A-20160906	440-159527-11	WG	09/06/16		Stage 2B													X									
	ART-3A-20160906	440-159527-12	WG	09/06/16		Stage 2B													X									
	ART-4-20160906	440-159527-13	WG	09/06/16		Stage 2B													X									
	ART-7B-20160906	440-159527-14	WG	09/06/16		Stage 2B													X									
	ART-8A-20160906	440-159527-15	WG	09/06/16		Stage 2B													X									
	ART-9-20160906	440-159527-16	WG	09/06/16		Stage 2B													X									
	PC-115R-20160906	440-159527-2	WG	09/06/16		Stage 2B													X									
	PC-116R-20160906	440-159527-3	WG	09/06/16		Stage 2B													X									
	PC-117-20160906	440-159527-4	WG	09/06/16		Stage 2B													X									
	PC-118-20160906	440-159527-5	WG	09/06/16		Stage 2B													X									
	PC-119-20160906	440-159527-6	WG	09/06/16		Stage 2B													X									
	PC-120-20160906	440-159527-7	WG	09/06/16		Stage 2B													X									
	PC-121-20160906	440-159527-8	WG	09/06/16		Stage 2B													X									
	PC-133-20160906	440-159527-9	WG	09/06/16		Stage 2B													X									
	PC-150-20160906	440-159527-17	WG	09/06/16		Stage 2B													X									
	PC-99R2/R3-20160906	440-159527-1	WG	09/06/16		Stage 2B													X									
440-159532-1	**I-AA-20160907**	440-159532-22	WG	09/07/16		Stage 2B													X									

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-159532-1	**I-AB-20160907**	440-159532-21	WG	09/07/16		Stage 2B													X									
	I-AC-20160907	440-159532-25	WG	09/07/16		Stage 2B													X									
	I-AD-20160907	440-159532-24	WG	09/07/16		Stage 2B													X									
	I-AR-20160907	440-159532-23	WG	09/07/16		Stage 2B													X									
	I-B-20160907	440-159532-20	WG	09/07/16		Stage 2B													X									
	I-C-20160907	440-159532-15	WG	09/07/16		Stage 2B													X									
	I-D-20160907	440-159532-14	WG	09/07/16		Stage 2B													X									
	I-E-20160907	440-159532-12	WG	09/07/16		Stage 2B													X									
	I-F-20160907	440-159532-9	WG	09/07/16		Stage 2B													X									
	I-G-20160907	440-159532-7	WG	09/07/16		Stage 2B													X									
	I-H-20160907	440-159532-4	WG	09/07/16		Stage 2B													X									
	I-I-20160907	440-159532-28	WG	09/07/16		Stage 2B													X									
	I-K-20160907	440-159532-26	WG	09/07/16		Stage 2B													X									
	I-L-20160907	440-159532-17	WG	09/07/16		Stage 2B													X									
	I-M-20160907	440-159532-13	WG	09/07/16		Stage 2B													X									
	I-N-20160907	440-159532-11	WG	09/07/16		Stage 2B													X									
	I-O-20160907	440-159532-1	WG	09/07/16		Stage 2B													X									
	I-P-20160907	440-159532-3	WG	09/07/16		Stage 2B													X									
	I-Q-20160907	440-159532-8	WG	09/07/16		Stage 2B													X									
	I-R-20160907	440-159532-19	WG	09/07/16		Stage 2B													X									
	I-S-20160907	440-159532-16	WG	09/07/16		Stage 2B													X									
	I-T-20160907	440-159532-6	WG	09/07/16		Stage 2B													X									
	I-U-20160907	440-159532-5	WG	09/07/16		Stage 2B													X									
	I-V-20160907	440-159532-29	WG	09/07/16		Stage 2B													X									
	I-W-20160907	440-159532-2	WG	09/07/16		Stage 2B													X									
	I-X-20160907	440-159532-10	WG	09/07/16		Stage 2B													X									
	I-Y-20160907	440-159532-18	WG	09/07/16		Stage 2B													X									
	I-Z-20160907	440-159532-27	WG	09/07/16		Stage 2B													X									
440-160590-1	**I-AC-20161004**	440-160590-2	WG	10/04/16		Stage 2B													X									

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-160590-1	I-AD-20161004	440-160590-1	WG	10/04/16		Stage 2B													X									
	I-I-20161004	440-160590-6	WG	10/04/16		Stage 2B													X									
	I-J-20161004	440-160590-4	WG	10/04/16		Stage 2B													X									
	I-K-20161004	440-160590-3	WG	10/04/16		Stage 2B													X									
	I-Z-20161004	440-160590-5	WG	10/04/16		Stage 2B													X									
440-160680-1	I-AC-20161004	440-160680-2	WG	10/04/16		Stage 2B						X			X			X								X		
	I-AD-20161004	440-160680-1	WG	10/04/16		Stage 2B						X			X			X								X		
	I-I-20161004	440-160680-6	WG	10/04/16		Stage 2B						X			X			X								X		
	I-J-20161004	440-160680-4	WG	10/04/16		Stage 2B						X			X			X								X		
	I-K-20161004	440-160680-3	WG	10/04/16		Stage 2B						X			X			X								X		
	I-Z-20161004	440-160680-5	WG	10/04/16		Stage 2B						X			X			X								X		
440-161336-1	I-AA-20161010	440-161336-22	WG	10/10/16		Stage 2B						X			X			X								X		
	I-AB-20161010	440-161336-21	WG	10/10/16		Stage 2B						X			X			X								X		
	I-AR-20161010	440-161336-23	WG	10/10/16		Stage 2B						X			X			X								X		
	I-B-20161010	440-161336-20	WG	10/10/16		Stage 2B						X			X			X								X		
	I-C-20161010	440-161336-15	WG	10/10/16		Stage 2B						X			X			X								X		
	I-D-20161010	440-161336-14	WG	10/10/16		Stage 2B						X			X			X								X		
	I-E-20161010	440-161336-12	WG	10/10/16		Stage 2B						X			X			X								X		
	I-F-20161010	440-161336-9	WG	10/10/16		Stage 2B						X			X			X								X		
	I-G-20161010	440-161336-7	WG	10/10/16		Stage 2B						X			X			X								X		
	I-H-20161010	440-161336-4	WG	10/10/16		Stage 2B						X			X			X								X		
	I-L-20161010	440-161336-17	WG	10/10/16		Stage 2B						X			X			X								X		
	I-M-20161010	440-161336-13	WG	10/10/16		Stage 2B						X			X			X								X		
	I-N-20161010	440-161336-11	WG	10/10/16		Stage 2B						X			X			X								X		
	I-O-20161010	440-161336-1	WG	10/10/16		Stage 2B						X			X			X								X		
	I-P-20161010	440-161336-3	WG	10/10/16		Stage 2B						X			X			X								X		
	I-Q-20161010	440-161336-8	WG	10/10/16		Stage 2B						X			X			X								X		
	I-R-20161010	440-161336-19	WG	10/10/16		Stage 2B						X			X			X								X		
	I-S-20161010	440-161336-16	WG	10/10/16		Stage 2B						X			X			X								X		

TABLE I: Sample Cross Reference
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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-161336-1	**I-T-20161010**	440-161336-6	WG	10/10/16		Stage 2B						X			X			X								X		
	I-U-20161010	440-161336-5	WG	10/10/16		Stage 2B						X			X			X								X		
	I-W-20161010	440-161336-2	WG	10/10/16		Stage 2B						X			X			X								X		
	I-X-20161010	440-161336-10	WG	10/10/16		Stage 2B						X			X			X								X		
	I-Y-20161010	440-161336-18	WG	10/10/16		Stage 2B						X			X			X								X		
440-161484-1	**I-AA-20161010**	440-161484-22	WG	10/10/16		Stage 2B													X									
	I-AB-20161010	440-161484-21	WG	10/10/16		Stage 2B													X									
	I-AR-20161010	440-161484-23	WG	10/10/16		Stage 2B													X									
	I-B-20161010	440-161484-20	WG	10/10/16		Stage 2B													X									
	I-C-20161010	440-161484-15	WG	10/10/16		Stage 2B													X									
	I-D-20161010	440-161484-14	WG	10/10/16		Stage 2B													X									
	I-E-20161010	440-161484-12	WG	10/10/16		Stage 2B													X									
	I-F-20161010	440-161484-9	WG	10/10/16		Stage 2B													X									
	I-G-20161010	440-161484-7	WG	10/10/16		Stage 2B													X									
	I-H-20161010	440-161484-4	WG	10/10/16		Stage 2B													X									
	I-L-20161010	440-161484-17	WG	10/10/16		Stage 2B													X									
	I-M-20161010	440-161484-13	WG	10/10/16		Stage 2B													X									
	I-N-20161010	440-161484-11	WG	10/10/16		Stage 2B													X									
	I-O-20161010	440-161484-1	WG	10/10/16		Stage 2B													X									
	I-P-20161010	440-161484-3	WG	10/10/16		Stage 2B													X									
	I-Q-20161010	440-161484-8	WG	10/10/16		Stage 2B													X									
	I-R-20161010	440-161484-19	WG	10/10/16		Stage 2B													X									
	I-S-20161010	440-161484-16	WG	10/10/16		Stage 2B													X									
	I-T-20161010	440-161484-6	WG	10/10/16		Stage 2B													X									
	I-U-20161010	440-161484-5	WG	10/10/16		Stage 2B													X									
	I-W-20161010	440-161484-2	WG	10/10/16		Stage 2B													X									
	I-X-20161010	440-161484-10	WG	10/10/16		Stage 2B													X									
	I-Y-20161010	440-161484-18	WG	10/10/16		Stage 2B													X									
440-161552-1	**M-83-20161011**	440-161552-1	W	10/11/16		Stage 2B						X			X											X		

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440-161552-1	PC-56-20161011	440-161552-3	WG	10/11/16		Stage 2B						X			X											X		
	PC-58-20161011	440-161552-2	WG	10/11/16		Stage 2B						X			X											X		
	PC-59-20161011	440-161552-4	WG	10/11/16		Stage 2B						X			X											X		
	PC-60-20161011	440-161552-5	WG	10/11/16		Stage 2B						X			X											X		
	PC-62-20161011	440-161552-6	WG	10/11/16		Stage 2B						X			X											X		
	PC-68-20161011	440-161552-7	WG	10/11/16		Stage 2B						X			X											X		
	PC-86-20161011	440-161552-8	WG	10/11/16		Stage 2B						X			X											X		
	PC-90-20161011	440-161552-10	WG	10/11/16		Stage 2B						X			X											X		
	PC-91-20161011	440-161552-9	WG	10/11/16		Stage 2B						X			X											X		
	PC-97-20161011	440-161552-11	WG	10/11/16		Stage 2B						X			X											X		
440-161556-1	I-V-20161011	440-161556-1	WG	10/11/16		Stage 2B						X			X			X								X		
440-161752-1	ARP-1-20161012	440-161752-2	WG	10/12/16		Stage 2B						X			X											X		
	ARP-2A-20161012	440-161752-16	WG	10/12/16		Stage 2B						X			X											X		
	ARP-3A-20161012	440-161752-14	WG	10/12/16		Stage 2B						X			X											X		
	ARP-4A-20161012	440-161752-11	WG	10/12/16		Stage 2B						X			X											X		
	ARP-5A-20161012	440-161752-10	WG	10/12/16		Stage 2B						X			X											X		
	ARP-6B-20161012	440-161752-9	WG	10/12/16		Stage 2B						X			X											X		
	ARP-7-20161012	440-161752-8	WG	10/12/16		Stage 2B						X			X											X		
	MEB-1-20161012	440-161752-12	W	10/12/16	EB	Stage 2B									X											X		
	MW-K4-20161012	440-161752-13	W	10/12/16		Stage 2B						X			X											X		
	MW-K5-20161012	440-161752-5	W	10/12/16		Stage 2B						X			X											X		
	PC-101R-20161012	440-161752-15	WG	10/12/16		Stage 2B						X			X											X		
	PC-103-20161012	440-161752-6	WG	10/12/16		Stage 2B						X			X											X		
	PC-122-20161012	440-161752-3	WG	10/12/16		Stage 2B						X			X											X		
	PC-18-20161012	440-161752-1	WG	10/12/16		Stage 2B						X			X											X		
	PC-53-20161012	440-161752-4	WG	10/12/16		Stage 2B						X			X											X		
	PC-55-20161012	440-161752-17	WG	10/12/16		Stage 2B						X			X											X		
	PC-98R-20161012	440-161752-7	WG	10/12/16		Stage 2B						X			X											X		
440-162514-1	PC-115R-20161018	440-162514-2	WG	10/18/16		Stage 2B						X			X			X								X		

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440-162514-1	PC-116R-20161018	440-162514-3	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-117-20161018	440-162514-4	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-118-20161018	440-162514-5	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-119-20161018	440-162514-6	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-120-20161018	440-162514-7	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-121-20161018	440-162514-8	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-133-20161018	440-162514-9	WG	10/18/16		Stage 2B						X			X			X								X		
	PC-99R2/R3-20161018	440-162514-1	WG	10/18/16		Stage 2B						X			X			X								X		
440-162515-1	PC-115R-20161018	440-162515-2	WG	10/18/16		Stage 2B													X									
	PC-116R-20161018	440-162515-3	WG	10/18/16		Stage 2B													X									
	PC-117-20161018	440-162515-4	WG	10/18/16		Stage 2B													X									
	PC-118-20161018	440-162515-5	WG	10/18/16		Stage 2B													X									
	PC-119-20161018	440-162515-6	WG	10/18/16		Stage 2B													X									
	PC-120-20161018	440-162515-7	WG	10/18/16		Stage 2B													X									
	PC-121-20161018	440-162515-8	WG	10/18/16		Stage 2B													X									
	PC-133-20161018	440-162515-9	WG	10/18/16		Stage 2B													X									
	PC-99R2/R3-20161018	440-162515-1	WG	10/18/16		Stage 2B													X									
440-163451-1	ART-1A-20161026	440-163451-1	WG	10/26/16		Stage 2B													X									
	ART-2-20161026	440-163451-2	WG	10/26/16		Stage 2B													X									
	ART-3-20161026	440-163451-3	WG	10/26/16		Stage 2B													X									
	ART-4-20161026	440-163451-4	WG	10/26/16		Stage 2B													X									
	ART-6-20161026	440-163451-5	WG	10/26/16		Stage 2B													X									
	ART-7B-20161026	440-163451-6	WG	10/26/16		Stage 2B													X									
	ART-8-20161026	440-163451-7	WG	10/26/16		Stage 2B													X									
	ART-9-20161026	440-163451-8	WG	10/26/16		Stage 2B													X									
	PC-150-20161026	440-163451-9	WG	10/26/16		Stage 2B													X									
440-163453-1	ART-1A-20161026	440-163453-1	WG	10/26/16		Stage 2B						X			X			X								X		
	ART-2-20161026	440-163453-2	WG	10/26/16		Stage 2B						X			X			X								X		
	ART-3-20161026	440-163453-3	WG	10/26/16		Stage 2B						X			X			X								X		

TABLE I: Sample Cross Reference
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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-163453-1	ART-4-20161026	440-163453-4	WG	10/26/16		Stage 2B						X			X			X								X		
	ART-6-20161026	440-163453-5	WG	10/26/16		Stage 2B						X			X			X								X		
	ART-7B-20161026	440-163453-6	WG	10/26/16		Stage 2B						X			X			X								X		
	ART-8-20161026	440-163453-7	WG	10/26/16		Stage 2B						X			X			X								X		
	ART-9-20161026	440-163453-8	WG	10/26/16		Stage 2B						X			X			X								X		
	PC-150-20161026	440-163453-9	WG	10/26/16		Stage 2B						X			X			X								X		
440-163816-1	I-V-20161011	440-163816-1	WG	10/11/16		Stage 2B													X									
440-166056-1	I-AA-20161115	440-166056-2	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-AR-20161115	440-166056-1	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-G-20161115	440-166056-9	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-H-20161115	440-166056-6	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-O-20161115	440-166056-3	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-P-20161115	440-166056-5	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-Q-20161115	440-166056-10	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-T-20161115	440-166056-8	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-U-20161115	440-166056-7	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-W-20161115	440-166056-4	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
440-166060-1	I-B-20161115	440-166060-6	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-C-20161115	440-166060-1	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-D-20161115	440-166060-9	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-E-20161115	440-166060-7	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-F-20161115	440-166060-11	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-L-20161115	440-166060-3	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-M-20161115	440-166060-10	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-N-20161115	440-166060-12	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-R-20161115	440-166060-5	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-S-20161115	440-166060-2	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-X-20161115	440-166060-8	WG	11/15/16		Stage 2B			X			X	X		X			X								X		
	I-Y-20161115	440-166060-4	WG	11/15/16		Stage 2B			X			X	X		X			X								X		

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440-166063-1	ART-1-20161114	440-166063-1	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-2-20161114	440-166063-2	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-3A-20161114	440-166063-3	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-4-20161114	440-166063-4	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-6-20161114	440-166063-5	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-7B-20161114	440-166063-6	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-8A-20161114	440-166063-7	WG	11/14/16		Stage 2B			X			X			X			X								X		
	ART-9-20161114	440-166063-8	WG	11/14/16		Stage 2B			X			X			X			X								X		
	PC-150-20161114	440-166063-9	WG	11/14/16		Stage 2B			X			X			X			X								X		
440-166082-1	PC-155A-20161114	440-166082-4	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-155B-20161114	440-166082-1	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-156A-20161114	440-166082-5	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-156B-20161114	440-166082-3	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-86-20161114	440-166082-2	WG	11/14/16		Stage 2B			X			X	X		X			X										
440-166090-1	PC-157B-20161114	440-166090-8	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-56-20161114	440-166090-3	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-59-20161114	440-166090-2	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-60-20161114	440-166090-1	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-62-20161114	440-166090-4	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-94-20161114	440-166090-6	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-94-20161114-FD4	440-166090-7	WG	11/14/16	FD	Stage 2B			X			X	X		X			X										
	PC-97-20161114	440-166090-5	WG	11/14/16		Stage 2B			X			X	X		X			X										
440-166103-1	PC-115R-20161114	440-166103-2	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-116R-20161114	440-166103-3	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-117-20161114	440-166103-4	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-118-20161114	440-166103-5	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-119-20161114	440-166103-6	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-120-20161114	440-166103-7	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-121-20161114	440-166103-8	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		

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440-166103-1	PC-133-20161114	440-166103-9	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
	PC-99R2/R3-20161114	440-166103-1	WG	11/14/16		Stage 2B			X	X		X			X	X		X								X		
440-166109-1	ARP-2A-20161115	440-166109-3	WG	11/15/16		Stage 2B			X			X	X		X			X										
	ARP-3A-20161115	440-166109-4	WG	11/15/16		Stage 2B			X			X	X		X			X										
	ARP-4A-20161115	440-166109-6	WG	11/15/16		Stage 2B			X			X	X		X			X										
	MW-K4-20161115	440-166109-5	W	11/15/16		Stage 2B			X			X	X		X			X										
	PC-98R-20161115	440-166109-1	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-98R-20161115-FD6	440-166109-2	WG	11/15/16	FD	Stage 2B			X			X	X		X			X										
440-166111-1	ARP-6B-20161115	440-166111-3	WG	11/15/16		Stage 2B			X			X	X		X			X										
	ARP-6B-20161115-FD5	440-166111-4	WG	11/15/16	FD	Stage 2B			X			X	X		X			X										
	ARP-7-20161115	440-166111-2	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-135A-20161115	440-166111-5	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-53-20161115	440-166111-1	WG	11/15/16		Stage 2B			X			X	X		X			X										
440-166112-1	PC-157A-20161114	440-166112-3	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-157A-20161114-FB4	440-166112-4	WQ	11/14/16	FB	Stage 2B			X			X	X		X			X										
	PC-58-20161114	440-166112-1	WG	11/14/16		Stage 2B			X			X	X		X			X										
	PC-91-20161114	440-166112-2	WG	11/14/16		Stage 2B			X			X	X		X			X										
440-166117-1	ARP-1-20161115	440-166117-2	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-18-20161115	440-166117-3	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-90-20161115	440-166117-1	WG	11/15/16		Stage 2B			X			X	X		X			X										
440-166123-1	ARP-5A-20161115	440-166123-3	WG	11/15/16		Stage 2B			X			X	X		X			X										
	MW-K5-20161115	440-166123-2	W	11/15/16		Stage 2B			X			X	X		X			X										
	PC-101R-20161115	440-166123-4	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-103-20161115	440-166123-1	WG	11/15/16		Stage 2B			X			X	X		X			X										
440-166209-1	PC-134D-20161115	440-166209-7	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-134D-20161115-EB4	440-166209-5	WQ	11/15/16	EB	Stage 2B			X			X	X		X			X										
	PC-136-20161115	440-166209-2	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-136-20161115-FB5	440-166209-4	WQ	11/15/16	FB	Stage 2B			X			X	X		X			X										
	PC-137D-20161115	440-166209-6	WG	11/15/16		Stage 2B			X			X	X		X			X										

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440-166209-1	PC-55-20161115	440-166209-3	WG	11/15/16		Stage 2B			X			X	X		X			X										
	PC-55-20161115-EB5	440-166209-1	WQ	11/15/16	EB	Stage 2B			X			X	X		X			X										
440-166210-1	I-AC-20161116	440-166210-2	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
	I-AD-20161116	440-166210-1	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
	I-I-20161116	440-166210-6	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
	I-J-20161116	440-166210-4	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
	I-K-20161116	440-166210-3	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
	I-V-20161116	440-166210-7	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
	I-Z-20161116	440-166210-5	WG	11/16/16		Stage 2B			X			X	X		X			X								X		
440-166337-1	PC-124-20161116	440-166337-3	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-126-20161116	440-166337-4	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-130-20161116	440-166337-5	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-144-20161116	440-166337-1	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-144-20161116-FB6	440-166337-2	WQ	11/16/16	FB	Stage 2B			X			X	X		X			X										
440-166339-1	PC-123-20161116	440-166339-1	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-127-20161116	440-166339-2	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-131-20161116	440-166339-3	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-151-20161116	440-166339-4	WG	11/16/16		Stage 2B			X			X	X		X			X										
440-166340-1	PC-149-20161116	440-166340-1	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-149-20161116-EB6	440-166340-2	WQ	11/16/16	EB	Stage 2B			X			X	X		X			X										
	PC-153-20161116	440-166340-6	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-154-20161116	440-166340-5	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-158-20161116	440-166340-4	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-160-20161116	440-166340-3	WG	11/16/16		Stage 2B			X			X	X		X			X										
440-166342-1	PC-125-20161116	440-166342-4	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-128-20161116	440-166342-5	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-132-20161116	440-166342-6	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-148-20161116	440-166342-1	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-148-20161116-FD7	440-166342-2	WG	11/16/16	FD	Stage 2B			X			X	X		X			X										

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440-166342-1	PC-159-20161116	440-166342-3	WG	11/16/16		Stage 2B			X			X	X		X			X										
440-166420-1	M-22A-20161117	440-166420-6	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-22A-20161117-FB7	440-166420-5	WQ	11/17/16	FB	Stage 2B			X			X	X		X			X										
	M-25-20161117	440-166420-4	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-64-20161117	440-166420-3	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-65-20161117	440-166420-2	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-66-20161117	440-166420-1	W	11/17/16		Stage 2B			X			X	X		X			X										
440-166423-1	M-189-20161117	440-166423-8	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-192-20161117	440-166423-3	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-192-20161117-FD8	440-166423-4	W	11/17/16	FD	Stage 2B			X			X	X		X			X										
	PC-129-20161117	440-166423-2	WG	11/17/16		Stage 2B			X			X	X		X			X										
	PC-152-20161117	440-166423-7	WG	11/17/16		Stage 2B			X			X	X		X			X										
	PC-54-20161117	440-166423-1	WG	11/17/16		Stage 2B			X			X	X		X			X										
	PC-71-20161117	440-166423-5	WG	11/17/16		Stage 2B			X			X	X		X			X										
	PC-72-20161117	440-166423-6	WG	11/17/16		Stage 2B			X			X	X		X			X										
440-166430-1	M-14A-20161117	440-166430-1	WG	11/17/16		Stage 2B			X			X	X		X			X										
	M-38-20161117	440-166430-2	WG	11/17/16		Stage 2B			X			X	X		X			X										
	M-38-20161117-EB8	440-166430-3	WQ	11/17/16	EB	Stage 2B			X			X	X		X			X										
440-166433-1	PC-122-20161116	440-166433-2	WG	11/16/16		Stage 2B			X			X	X		X			X										
	PC-151-20161116-EB7	440-166433-1	W	11/16/16	EB	Stage 2B			X			X	X		X			X										
440-166437-1	ART-1-20161117	440-166437-1	WG	11/17/16		Stage 2B							X															
	ART-2-20161117	440-166437-2	WG	11/17/16		Stage 2B							X															
	ART-3A-20161117	440-166437-3	WG	11/17/16		Stage 2B							X															
	ART-4-20161117	440-166437-4	WG	11/17/16		Stage 2B							X															
	ART-6-20161117	440-166437-5	WG	11/17/16		Stage 2B							X															
	ART-7B-20161117	440-166437-6	WG	11/17/16		Stage 2B							X															
	ART-8A-20161117	440-166437-7	WG	11/17/16		Stage 2B							X															
	ART-9-20161117	440-166437-8	WG	11/17/16		Stage 2B							X															
	PC-115R-20161117	440-166437-11	WG	11/17/16		Stage 2B							X															

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SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-166437-1	PC-116R-20161117	440-166437-12	WG	11/17/16		Stage 2B							X															
	PC-117-20161117	440-166437-13	WG	11/17/16		Stage 2B							X															
	PC-118-20161117	440-166437-14	WG	11/17/16		Stage 2B							X															
	PC-119-20161117	440-166437-15	WG	11/17/16		Stage 2B							X															
	PC-120-20161117	440-166437-16	WG	11/17/16		Stage 2B							X															
	PC-121-20161117	440-166437-17	WG	11/17/16		Stage 2B							X															
	PC-133-20161117	440-166437-18	WG	11/17/16		Stage 2B							X															
	PC-150-20161117	440-166437-9	WG	11/17/16		Stage 2B							X															
	PC-99R2/R3-20161117	440-166437-10	WG	11/17/16		Stage 2B							X															
440-166442-1	I-AB-20161117	440-166442-1	WG	11/17/16		Stage 2B			X			X	X		X			X								X		
440-166552-1	M-193-20161117	440-166552-3	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-69-20161117	440-166552-2	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-71-20161117	440-166552-4	W	11/17/16		Stage 2B			X			X	X		X			X										
	M-79-20161117	440-166552-1	W	11/17/16		Stage 2B			X			X	X		X			X										
440-166600-1	M-161D-20161118	440-166600-4	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-57A-20161118	440-166600-1	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-70-20161118	440-166600-3	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-72-20161118	440-166600-2	W	11/18/16		Stage 2B			X			X	X		X			X										
440-166602-1	M-67-20161118	440-166602-3	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-73-20161118	440-166602-2	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-80-20161118	440-166602-1	W	11/18/16		Stage 2B			X			X	X		X			X										
440-166603-1	M-19-20161118	440-166603-4	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-35-20161118	440-166603-5	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-68-20161118	440-166603-3	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-74-20161118	440-166603-2	W	11/18/16		Stage 2B			X			X	X		X			X										
	M-81A-20161118	440-166603-1	W	11/18/16		Stage 2B			X			X	X		X			X										
440-166790-1	M-11-20161121	440-166790-5	W	11/21/16		Stage 2B			X			X	X		X			X										
	M-11-20161121-FD9	440-166790-6	W	11/21/16	FD	Stage 2B			X			X	X		X			X										
	M-135-20161121	440-166790-3	W	11/21/16		Stage 2B			X			X	X		X			X										

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440-166790-1	M-135-20161121-FB9	440-166790-4	WQ	11/21/16	FB	Stage 2B			X			X	X		X			X										
	PC-37-20161121	440-166790-1	WG	11/21/16		Stage 2B			X			X	X		X			X										
	PC-73-20161121	440-166790-2	WG	11/21/16		Stage 2B			X			X	X		X			X										
440-166980-1	M-162D-20161122	440-166980-2	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-23-20161122	440-166980-4	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-23-20161122-EB9	440-166980-5	WQ	11/22/16	EB	Stage 2B			X			X	X		X			X										
	M-37-20161122	440-166980-1	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-48A-20161122	440-166980-3	W	11/22/16		Stage 2B			X			X	X		X			X										
440-166988-1	M-10-20161122	440-166988-2	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-10-20161122-FB8	440-166988-3	WQ	11/22/16	FB	Stage 2B			X			X	X		X			X										
	M-12A-20161122	440-166988-7	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-186D-20161122	440-166988-6	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-190-20161122	440-166988-4	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-52-20161122	440-166988-5	W	11/22/16		Stage 2B			X			X	X		X			X										
	M-83-20161121	440-166988-1	W	11/21/16		Stage 2B			X			X	X		X			X										
440-167033-1	M-191-20161122	440-167033-1	W	11/22/16		Stage 2B			X			X	X		X			X										
440-167238-1	I-AA-20161115	440-167238-2	WG	11/15/16		Stage 2B													X									
	I-AR-20161115	440-167238-1	WG	11/15/16		Stage 2B													X									
	I-G-20161115	440-167238-9	WG	11/15/16		Stage 2B													X									
	I-H-20161115	440-167238-6	WG	11/15/16		Stage 2B													X									
	I-O-20161115	440-167238-3	WG	11/15/16		Stage 2B													X									
	I-P-20161115	440-167238-5	WG	11/15/16		Stage 2B													X									
	I-Q-20161115	440-167238-10	WG	11/15/16		Stage 2B													X									
	I-T-20161115	440-167238-8	WG	11/15/16		Stage 2B													X									
	I-U-20161115	440-167238-7	WG	11/15/16		Stage 2B													X									
	I-W-20161115	440-167238-4	WG	11/15/16		Stage 2B													X									
440-167500-1	I-B-20161115	440-167500-6	WG	11/15/16		Stage 2B													X									
	I-C-20161115	440-167500-1	WG	11/15/16		Stage 2B													X									
	I-D-20161115	440-167500-9	WG	11/15/16		Stage 2B													X									

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440-167500-1	I-E-20161115	440-167500-7	WG	11/15/16		Stage 2B													X									
	I-F-20161115	440-167500-11	WG	11/15/16		Stage 2B													X									
	I-L-20161115	440-167500-3	WG	11/15/16		Stage 2B													X									
	I-M-20161115	440-167500-10	WG	11/15/16		Stage 2B													X									
	I-N-20161115	440-167500-12	WG	11/15/16		Stage 2B													X									
	I-R-20161115	440-167500-5	WG	11/15/16		Stage 2B													X									
	I-S-20161115	440-167500-2	WG	11/15/16		Stage 2B													X									
	I-X-20161115	440-167500-8	WG	11/15/16		Stage 2B													X									
	I-Y-20161115	440-167500-4	WG	11/15/16		Stage 2B													X									
440-167564-1	ART-1-20161117	440-167564-10	WG	11/17/16		Stage 2B													X									
	ART-2-20161117	440-167564-11	WG	11/17/16		Stage 2B													X									
	ART-3A-20161117	440-167564-12	WG	11/17/16		Stage 2B													X									
	ART-4-20161117	440-167564-13	WG	11/17/16		Stage 2B													X									
	ART-6-20161117	440-167564-14	WG	11/17/16		Stage 2B													X									
	ART-7B-20161117	440-167564-15	WG	11/17/16		Stage 2B													X									
	ART-8A-20161117	440-167564-16	WG	11/17/16		Stage 2B													X									
	ART-9-20161117	440-167564-17	WG	11/17/16		Stage 2B													X									
	PC-115R-20161117	440-167564-2	WG	11/17/16		Stage 2B													X									
	PC-116R-20161117	440-167564-3	WG	11/17/16		Stage 2B													X									
	PC-117-20161117	440-167564-4	WG	11/17/16		Stage 2B													X									
	PC-118-20161117	440-167564-5	WG	11/17/16		Stage 2B													X									
	PC-119-20161117	440-167564-6	WG	11/17/16		Stage 2B													X									
	PC-120-20161117	440-167564-7	WG	11/17/16		Stage 2B													X									
	PC-121-20161117	440-167564-8	WG	11/17/16		Stage 2B													X									
	PC-133-20161117	440-167564-9	WG	11/17/16		Stage 2B													X									
	PC-150-20161117	440-167564-18	WG	11/17/16		Stage 2B													X									
	PC-99R2/R3-20161117	440-167564-1	WG	11/17/16		Stage 2B													X									
440-167568-1	M-14A-20161117	440-167568-1	WG	11/17/16		Stage 2B													X									
	M-38-20161117	440-167568-2	WG	11/17/16		Stage 2B													X									

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440-167568-1	M-38-20161117-EB8	440-167568-3	WQ	11/17/16	EB	Stage 2B													X									
440-167631-1	M-31A-20161130	440-167631-1	W	11/30/16		Stage 2B			X			X	X		X			X										
440-167718-1	I-AC-20161116	440-167718-2	WG	11/16/16		Stage 2B													X									
	I-AD-20161116	440-167718-1	WG	11/16/16		Stage 2B													X									
	I-I-20161116	440-167718-6	WG	11/16/16		Stage 2B													X									
	I-J-20161116	440-167718-4	WG	11/16/16		Stage 2B													X									
	I-K-20161116	440-167718-3	WG	11/16/16		Stage 2B													X									
	I-V-20161116	440-167718-7	WG	11/16/16		Stage 2B													X									
	I-Z-20161116	440-167718-5	WG	11/16/16		Stage 2B													X									
440-168227-1	I-AB-20161117	440-168227-1	WG	11/17/16		Stage 2B													X									
440-168260-1	PC-157B-20161206	440-168260-1	WG	12/06/16		Stage 2B							X															
	PC-56-20161206	440-168260-3	WG	12/06/16		Stage 2B							X															
	PC-59-20161206	440-168260-4	WG	12/06/16		Stage 2B							X															
	PC-59-20161206-EB7	440-168260-5	WQ	12/06/16	EB	Stage 2B							X															
	PC-91-20161206	440-168260-2	WG	12/06/16		Stage 2B							X															
440-168261-1	PC-122-20161206	440-168261-9	WG	12/06/16		Stage 2B							X															
	PC-157A-20161206	440-168261-1	WG	12/06/16		Stage 2B							X															
	PC-157A-20161206-FB4	440-168261-2	W	12/06/16	FB	Stage 2B							X															
	PC-58-20161206	440-168261-7	WG	12/06/16		Stage 2B							X															
	PC-60-20161206	440-168261-6	WG	12/06/16		Stage 2B							X															
	PC-62-20161206	440-168261-8	WG	12/06/16		Stage 2B							X															
	PC-94-20161206	440-168261-4	WG	12/06/16		Stage 2B							X															
	PC-94-20161206-FD4	440-168261-5	WG	12/06/16	FD	Stage 2B							X															
	PC-97-20161206	440-168261-3	WG	12/06/16		Stage 2B							X															
440-168264-1	M-80-20161118	440-168264-1	W	11/18/16		Stage 2B													X									
440-168537-1	M-83-20161207	440-168537-1	WG	12/07/16		Stage 2B							X															
440-169256-1	M-11-20161121	440-169256-1	W	11/21/16		Stage 2B													X									
	M-11-20161121-FD9	440-169256-2	W	11/21/16	FD	Stage 2B													X									
440-169258-1	M-10-20161122	440-169258-1	W	11/22/16		Stage 4													X									

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440-169258-1	M-10-20161122-FB8	440-169258-2	WQ	11/22/16	FB	Stage 4													X									
	M-12A-20161122	440-169258-3	W	11/22/16		Stage 4													X									
	M-37-20161122	440-169258-4	W	11/22/16		Stage 4													X									
440-169582-1	ART-1-20161215	440-169582-1	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-1-20161215-FB	440-169582-10	WQ	12/15/16	FB	Stage 4			X			X	X		X			X								X		
	ART-2-20161215	440-169582-2	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-3-20161215	440-169582-3	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-4-20161215	440-169582-4	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-6-20161215	440-169582-5	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-7A-20161215	440-169582-6	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-8A-20161215	440-169582-7	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-9-20161215	440-169582-8	WG	12/15/16		Stage 4			X			X	X		X			X								X		
	ART-9-20161215-FD	440-169582-11	WG	12/15/16	FD	Stage 4			X			X	X		X			X								X		
	PC-117-20161215	440-169582-12	WG	12/15/16		Stage 4			X	X		X	X		X	X		X								X		
	PC-118-20161215	440-169582-13	WG	12/15/16		Stage 4			X	X		X	X		X	X		X								X		
	PC-119-20161215	440-169582-14	WG	12/15/16		Stage 4			X	X		X	X		X	X		X								X		
	PC-120-20161215	440-169582-15	WG	12/15/16		Stage 4			X	X		X	X		X	X		X								X		
	PC-121-20161215	440-169582-16	WG	12/15/16		Stage 4			X	X		X	X		X	X		X								X		
	PC-150-20161215	440-169582-9	WG	12/15/16		Stage 4			X			X	X		X			X								X		
440-170150-1	ART-1-20161215_at	440-170150-5	WG	12/15/16		Stage 2B													X									
	ART-1-20161215_at-FB	440-170150-6	WQ	12/15/16	FB	Stage 2B													X									
	ART-2-20161215_at	440-170150-4	WG	12/15/16		Stage 2B													X									
	ART-3-20161215_at	440-170150-2	WG	12/15/16		Stage 2B													X									
	ART-4-20161215_at	440-170150-1	WG	12/15/16		Stage 2B													X									
	ART-6-20161215_at	440-170150-16	WG	12/15/16		Stage 2B													X									
	ART-7A-20161215_at	440-170150-8	WG	12/15/16		Stage 2B													X									
	ART-8A-20161215_at	440-170150-3	WG	12/15/16		Stage 2B													X									
	ART-9-20161215_at	440-170150-9	WG	12/15/16		Stage 2B													X									
	ART-9-20161215_at-FD	440-170150-10	WG	12/15/16	FD	Stage 2B													X									

TABLE I: Sample Cross Reference
Nevada Environmental Response Trust Site
Henderson, Nevada

SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-170150-1	PC-117-20161215_at	440-170150-15	WG	12/15/16		Stage 2B													X									
	PC-118-20161215_at	440-170150-11	WG	12/15/16		Stage 2B													X									
	PC-119-20161215_at	440-170150-12	WG	12/15/16		Stage 2B													X									
	PC-120-20161215_at	440-170150-13	WG	12/15/16		Stage 2B													X									
	PC-121-20161215_at	440-170150-14	WG	12/15/16		Stage 2B													X									
	PC-150-20161215_at	440-170150-7	WG	12/15/16		Stage 2B													X									
440-170151-1	PC-115R-121916-20161219	440-170151-2	WG	12/19/16		Stage 2B			X	X		X	X		X	X		X								X		
	PC-116R-121916-20161219	440-170151-3	WG	12/19/16		Stage 2B			X	X		X	X		X	X		X								X		
	PC-116R-121916-20161219-FD	440-170151-5	WG	12/19/16	FD	Stage 2B			X	X		X	X		X	X		X								X		
	PC-133-121916-20161219	440-170151-4	WG	12/19/16		Stage 2B			X	X		X	X		X	X		X								X		
	PC-133-121916-20161219-EB	440-170151-6	W	12/19/16	EB	Stage 2B			X	X		X	X		X	X		X								X		
	PC-99R2/R3-121916-20161219	440-170151-1	WG	12/19/16		Stage 2B			X	X		X	X		X	X		X								X		
440-170153-1	PC-115R-121916-20161219	440-170153-2	WG	12/19/16		Stage 2B													X									
	PC-116R-121916-20161219	440-170153-3	WG	12/19/16		Stage 2B													X									
	PC-116R-121916-20161219-FD	440-170153-5	WG	12/19/16	FD	Stage 2B													X									
	PC-133-121916-20161219	440-170153-4	WG	12/19/16		Stage 2B													X									
	PC-133-121916-20161219-EB	440-170153-6	W	12/19/16	EB	Stage 2B													X									
	PC-99R2/R3-121916-20161219	440-170153-1	WG	12/19/16		Stage 2B													X									
440-170398-1	I-AA-122016-20161220	440-170398-2	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-AR-122016-20161220	440-170398-1	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-B-122016-20161220	440-170398-3	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-C-122016-20161220	440-170398-8	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-D-122016-20161220	440-170398-9	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-E-122016-20161220	440-170398-11	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-F-122016-20161220	440-170398-14	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-G-122016-20161220	440-170398-16	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-H-122016-20161220	440-170398-19	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-L-122016-20161220	440-170398-6	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-M-122016-20161220	440-170398-10	WG	12/20/16		Stage 4			X			X	X		X			X								X		

TABLE I: Sample Cross Reference
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Henderson, Nevada

SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-170398-1	I-N-122016-20161220	440-170398-12	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-O-122016-20161220	440-170398-21	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-P-122016-20161220	440-170398-20	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-Q-122016-20161220	440-170398-15	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-R-122016-20161220	440-170398-4	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-S-122016-20161220	440-170398-7	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-T-122016-20161220	440-170398-17	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-U-122016-20161220	440-170398-18	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-X-122016-20161220	440-170398-13	WG	12/20/16		Stage 4			X			X	X		X			X								X		
	I-X-122016-20161220-EB	440-170398-22	W	12/20/16	EB	Stage 4			X			X	X		X			X								X		
	I-Y-122016-20161220	440-170398-5	WG	12/20/16		Stage 4			X			X	X		X			X								X		
440-170572-1	I-AB 122116-20161221	440-170572-1	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-AD 122116-20161221	440-170572-8	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-I 122116-20161221	440-170572-4	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-J 122116-20161221	440-170572-6	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-K 122116-20161221	440-170572-7	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-V 122116-20161221	440-170572-3	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-W 122116-20161221	440-170572-2	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
	I-W 122116-20161221-FD	440-170572-9	WG	12/21/16	FD	Stage 2B			X			X	X		X			X								X		
	I-Z 122116-20161221	440-170572-5	WG	12/21/16		Stage 2B			X			X	X		X			X								X		
440-170796-1	I-AC 122116-20161222	440-170796-1	WG	12/22/16		Stage 2B			X			X	X		X			X								X		
440-170899-1	I-AA 122016-20161220	440-170899-2	WG	12/20/16		Stage 2B													X									
	I-AR 122016-20161220	440-170899-1	WG	12/20/16		Stage 2B													X									
	I-B 122016-20161220	440-170899-3	WG	12/20/16		Stage 2B													X									
	I-C 122016-20161220	440-170899-8	WG	12/20/16		Stage 2B													X									
	I-D 122016-20161220	440-170899-9	WG	12/20/16		Stage 2B													X									
	I-E 122016-20161220	440-170899-11	WG	12/20/16		Stage 2B													X									
	I-F 122016-20161220	440-170899-14	WG	12/20/16		Stage 2B													X									
	I-G 122016-20161220	440-170899-16	WG	12/20/16		Stage 2B													X									

TABLE I: Sample Cross Reference
Nevada Environmental Response Trust Site
Henderson, Nevada

SDG	Client Sample ID	Laboratory Sample ID	Matrix	Sample Date	QC Type	Validation Level	Ammonia (as N)	Carbon (total organic)	Chlorate	Chloride	Conductivity	Dissolved Solids (total)	Nitrate	Nitrite, Nitrate/Nitrite, TIN	Perchlorate	Sulfate	Boron	Chromium (total)	Chromium VI	Iron	Manganese	Sodium	VOCs	1,4-Dioxane (SIM)	1,2,3-Trichloropropane (SIM)	Field pH	Organic Halides (total)	Phenolics, Recoverable (total)
440-170899-1	**I-H 122016-20161220**	440-170899-19	WG	12/20/16		Stage 2B													X									
	I-L 122016-20161220	440-170899-6	WG	12/20/16		Stage 2B													X									
	I-M 122016-20161220	440-170899-10	WG	12/20/16		Stage 2B													X									
	I-N 122016-20161220	440-170899-12	WG	12/20/16		Stage 2B													X									
	I-O 122016-20161220	440-170899-21	WG	12/20/16		Stage 2B													X									
	I-P 122016-20161220	440-170899-20	WG	12/20/16		Stage 2B													X									
	I-Q 122016-20161220	440-170899-15	WG	12/20/16		Stage 2B													X									
	I-R 122016-20161220	440-170899-4	WG	12/20/16		Stage 2B													X									
	I-S 122016-20161220	440-170899-7	WG	12/20/16		Stage 2B													X									
	I-T 122016-20161220	440-170899-17	WG	12/20/16		Stage 2B													X									
	I-U 122016-20161220	440-170899-18	WG	12/20/16		Stage 2B													X									
	I-X 122016 EB-20161220	440-170899-22	W	12/20/16	EB	Stage 2B													X									
	I-X 122016-20161220	440-170899-13	WG	12/20/16		Stage 2B													X									
	I-Y 122016-20161220	440-170899-5	WG	12/20/16		Stage 2B													X									
440-170907-1	**I-AC 122216-20161222**	440-170907-1	WG	12/22/16		Stage 2B													X									
440-170911-1	**I-AB 122116-20161221**	440-170911-1	WG	12/21/16		Stage 2B													X									
	I-AD 122116-20161221	440-170911-8	WG	12/21/16		Stage 2B													X									
	I-I 122116-20161221	440-170911-4	WG	12/21/16		Stage 2B													X									
	I-J 122116-20161221	440-170911-6	WG	12/21/16		Stage 2B													X									
	I-K 122116-20161221	440-170911-7	WG	12/21/16		Stage 2B													X									
	I-V 122116-20161221	440-170911-3	WG	12/21/16		Stage 2B													X									
	I-W 122116-20161221	440-170911-2	WG	12/21/16		Stage 2B													X									
	I-W 122116-20161221-FD	440-170911-9	WG	12/21/16	FD	Stage 2B													X									
	I-Z 122116-20161221	440-170911-5	WG	12/21/16		Stage 2B													X									
440-171145-1	**M-10-20161227**	440-171145-1	WG	12/27/16		Stage 4	X			X			X	X			X			X	X							

Notes:

EB = Equipment Blank

FB = Field Blank

FD = Field Duplicate

ID = Identification

QC = Quality Control

SDG = Sample Delivery Group

VOCs = Volatile Organic Compounds

W = Water

WG = Groundwater

WQ = Blank Water

TABLE IIa. VALIDATION ELEMENTS
Nevada Environmental Response Trust
Henderson, Nevada

Quality Control Elements	Stage 2B		
	VOCs	Metals	Wet Chemistry
Sample Receipt & Technical Holding Time	√	√	√
Instrument Performance Check	√	√	**N/A**
Initial Calibration (ICAL)	√	√	√
Initial Calibration Verification (ICV)	√	√	√
Continuing Calibration Verification (CCV)	√	√	√
Laboratory Blanks	√	√	√
Initial Calibration Blank and Continuing Calibration Blank (ICB/CCB)	**N/A**	√	√
Field Blanks	√	√	√
Inductively Coupled Plasma (ICP) Interference Check Sample	**N/A**	√	**N/A**
Surrogate Spikes	√	√	√
Matrix Spike (MS), Matrix Spike Duplicate (MSD)	√	√	√
Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD)	√	√	√
Serial Dilution	**N/A**	√	**N/A**
Internal Standards	√	√	**N/A**
Field Duplicate	√	√	√
Project Quantitation Limits (QL)	√	√	√
Multiple Results for One Sample	√	√	√
Target Compound Identification	—	—	—
Compound Quantitation/Sample Result Verification	—	—	—
System Performance[1]	—	—	—
Overall Data Usability Assessment	√	√	√

√ = Reviewed for Stage 2B review
N/A = Not applicable to method or not performed during this sampling event
— = Not applicable for State 2B review
[1]System performance is a thorough review of the data acquisitions that can yield indicators of degrading instrument performance affecting quality of data

TABLE IIb. VALIDATION ELEMENTS
Nevada Environmental Response Trust
Henderson, Nevada

Quality Control Elements	Stage 4		
	VOCs	Metals	Wet Chemistry
Sample Receipt & Technical Holding Time	√	√	√
Instrument Performance Check	√	√	**N/A**
Initial Calibration (ICAL)	√	√	√
Initial Calibration Verification (ICV)	√	√	√
Continuing Calibration Verification (CCV)	√	√	√
Laboratory Blanks	√	√	√
Initial Calibration Blank and Continuing Calibration Blank (ICB/CCB)	**N/A**	√	√
Field Blanks	√	√	√
Inductively Coupled Plasma (ICP) Interference Check Sample	**N/A**	√	**N/A**
Surrogate Spikes	√	√	√
Matrix Spike (MS), Matrix Spike Duplicate (MSD)	√	√	√
Laboratory Control Sample (LCS)/ Laboratory Control Sample Duplicate (LCSD)	√	√	√
Serial Dilution	**N/A**	√	**N/A**
Internal Standards	√	√	√
Field Duplicate	√	√	√
Project Quantitation Limits (QL)	√	√	√
Multiple Results for One Sample	√	√	√
Target Compound Identification	√	**N/A**	**N/A**
Compound Quantitation/Sample Result Verification	√	√	√
System Performance[1]	√	**N/A**	**N/A**
Overall Data Usability Assessment	√	√	√

√ = Reviewed for Stage 2B review

N/A = Not applicable to method or not performed during this sampling event

[1]System performance is a thorough review of the data acquisitions that can yield indicators of degrading instrument performance affecting quality of data

TABLE III. REASON CODES AND DEFINITIONS
Nevada Environmental Response Trust
Henderson, Nevada

Reason	Explanation
a	qualified due to low abundance (radiochemical activity)
be	qualified due to equipment blank contamination
bf	qualified due to field blank contamination
bl	qualified due to lab blank contamination
bt	qualified due to trip blank contamination
bp	qualified due to pump blank contamination (wells w/o dedicated pumps, when contamination is detected in the Pump Blk)
br	qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	qualified due to calibration problems
cp	qualified due to insufficient ingrowth (radiochemical only)
dc	duel column confirmation %D exceeded
e	concentration exceeded the calibration range
fd	qualified due to field duplicate imprecision
h	qualified due to holding time exceedance
i	qualified due to internal standard areas
k	qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	qualified due to LCS recoveries
ld	qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	qualified due to matrix spike recoveries
nb	qualified due to negative lab blank contamination (nondetect results only)
nd	qualified due to non-detected target analyte
o	other
p	qualified due to quantitation during shipping
pH	sample preservation not within acceptance range
q	qualified due to quantitation problem
s	qualified due to surrogate recoveries
sd	serial dilution did not meet control criteria
sp	detected value report >SQL <PQL
st	sample receipt temperature exceeded
t	qualified due to elevated helium tracer concentrations
vh	volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	qualified due to low % solids
z	qualified due to ICS results

TABLE IV. Overall Qualified Results
Nevada Environmental Response Trust Site
Henderson, Nevada

Method	CAS	Analyte	SDG	Sample ID	Sample Date	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition
200.7	7440-42-8	Boron	440-158214-1	M-161D	09/12/16	0.90		0.010	0.050	mg/l	J+	m	Matrix Spike %R
				M-162D	09/12/16	0.77		0.010	0.050	mg/l	J+	m	Matrix Spike %R
				M-162D-FD	09/12/16	0.80		0.010	0.050	mg/l	J+	m	Matrix Spike %R
				PC-151	09/12/16	1.8	F1	0.010	0.050	mg/l	J+	m	Matrix Spike %R
				PC-152	09/12/16	1.7		0.010	0.050	mg/l	J+	m	Matrix Spike %R
				PC-153	09/12/16	2.2		0.010	0.050	mg/l	J+	m	Matrix Spike %R
				PC-153-FD	09/12/16	2.2		0.010	0.050	mg/l	J+	m	Matrix Spike %R
	7440-47-3	Chromium (total)	440-154471-1	PC-56	08/02/16	0.0038	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-154590-1	ARP-4A	08/03/16	0.0042	J	0.0025	0.0050	mg/l	J	be	EB Contamination
				EB2	08/03/16	0.0038	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
				MW-K5	08/03/16	0.0027	J	0.0025	0.0050	mg/l	J	be	EB Contamination
			440-154938-1	PC-131	08/08/16	0.0031	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-155148-1	EB9	08/09/16	0.0037	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-155316-1	DUP-12	08/10/16	0.013		0.0025	0.0050	mg/l	J	fd	FD Difference
				M-37	08/10/16	0.027		0.013	0.025	mg/l	J	fd	FD Difference
				PC-55	08/10/16	0.0033	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-155494-1	DUP-14	08/11/16	2.5	F1	0.013	0.025	mg/l	J	fd	FD Difference
				I-AR	08/11/16	0.49		0.013	0.025	mg/l	J	fd	FD Difference
			440-166063-1	ART-2	11/14/16	0.0045	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-166082-1	PC-156B	11/14/16	0.0032	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
				PC-86	11/14/16	0.0036	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-166090-1	PC-56	11/14/16	0.0025	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-166109-1	ARP-4A	11/15/16	0.0035	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-166209-1	PC-55	11/15/16	0.0025	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
			440-166339-1	PC-131	11/16/16	0.0034	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
				PC-151	11/16/16	0.0035	J	0.0025	0.0050	mg/l	J	sp	Detect <PQL
300	14797-55-8	Nitrate	440-155186-1	DUP-9	08/09/16	6.9	H	0.55	1.1	mg/l	J-	h	Hold Time
				M-11	08/09/16	1.7	H	0.11	0.22	mg/l	J-	h	Hold Time
				M-12A	08/09/16	7.0	H	0.55	1.1	mg/l	J-	h	Hold Time
			440-155316-1	DUP-12	08/10/16	140		11	22	mg/l	J-	m	Matrix Spike %R
				M-22A	08/10/16	40	F1	1.1	2.2	mg/l	J-	m	Matrix Spike %R
				M-25	08/10/16	19		0.55	1.1	mg/l	J-	m	Matrix Spike %R
				M-37	08/10/16	140		11	22	mg/l	J-	m	Matrix Spike %R
			440-166060-1	I-B	11/15/16	64		5.5	11	mg/l	J-	m	Matrix Spike %R
				I-C	11/15/16	51	F1	1.1	2.2	mg/l	J-	m	Matrix Spike %R

TABLE IV: Overall Qualified Results
Nevada Environmental Response Trust Site
Henderson, Nevada

Method	CAS	Analyte	SDG	Sample ID	Sample Date	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition
300	14797-55-8	Nitrate	440-166060-1	I-D	11/15/16	35		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				I-E	11/15/16	31		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				I-F	11/15/16	50		1.1	2.2	mg/l	J+	m	Matrix Spike %R
				I-L	11/15/16	110		5.5	11	mg/l	J-	m	Matrix Spike %R
				I-M	11/15/16	35		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				I-N	11/15/16	47	F1	1.1	2.2	mg/l	J+	m	Matrix Spike %R
				I-R	11/15/16	120		5.5	11	mg/l	J-	m	Matrix Spike %R
				I-S	11/15/16	73		5.5	11	mg/l	J-	m	Matrix Spike %R
				I-X	11/15/16	82		2.8	5.5	mg/l	J-	m	Matrix Spike %R
				I-Y	11/15/16	120		5.5	11	mg/l	J-	m	Matrix Spike %R
			440-166082-1	PC-156B	11/14/16	0.18	J	0.11	0.22	mg/l	J	sp	Detect <PQL
			440-166090-1	PC-157B	11/14/16	7.4	JH	5.5	11	mg/l	DNR	o	Other
				PC-56	11/14/16	6.4	H	0.55	1.1	mg/l	DNR	o	Other
				PC-59	11/14/16	0.21	JH	0.11	0.22	mg/l	DNR	o	Other
				PC-60	11/14/16	0.74	H	0.11	0.22	mg/l	DNR	o	Other
				PC-62	11/14/16		UH	0.11	0.22	mg/l	DNR	o	Other
				PC-94	11/14/16	16	H	5.5	11	mg/l	DNR	o	Other
				PC-94-FD4	11/14/16	16	H	5.5	11	mg/l	DNR	o	Other
				PC-97	11/14/16		UH	5.5	11	mg/l	DNR	o	Other
			440-166109-1	ARP-3A	11/15/16	1.6	J	1.1	2.2	mg/l	J	sp	Detect <PQL
			440-166111-1	ARP-6B	11/15/16	20		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				ARP-6B-FD5	11/15/16	20		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				ARP-7	11/15/16	29		1.1	2.2	mg/l	J	c	Continuing Calibration %R
												ld	MS/MSD RPD
												m	Matrix Spike %R
				PC-135A	11/15/16		U	2.8	5.5	mg/l	UJ	c	Continuing Calibration %R
												ld	MS/MSD RPD
												m	Matrix Spike %R
							UF1F2	2.8	5.5	mg/l	DNR	o	Other
				PC-53	11/15/16	12		1.1	2.2	mg/l	J	c	Continuing Calibration %R
												ld	MS/MSD RPD
												m	Matrix Spike %R
			440-166112-1	PC-157A	11/14/16	4.6	H	0.11	0.22	mg/l	DNR	o	Other
				PC-157A-FB4	11/14/16		UH	0.055	0.11	mg/l	DNR	o	Other
				PC-58	11/14/16	3.2	H	0.28	0.55	mg/l	DNR	o	Other

TABLE IV: Overall Qualified Results
Nevada Environmental Response Trust Site
Henderson, Nevada

Method	CAS	Analyte	SDG	Sample ID	Sample Date	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition
300	14797-55-8	Nitrate	440-166112-1	PC-91	11/14/16	6.0	H	0.11	0.22	mg/l	DNR	o	Other
			440-166117-1	ARP-1	11/15/16	9.0		0.55	1.1	mg/l	J+	m	Matrix Spike %R
				PC-18	11/15/16	16		1.1	2.2	mg/l	J+	m	Matrix Spike %R
				PC-90	11/15/16	7.5		0.28	0.55	mg/l	J+	m	Matrix Spike %R
			440-166123-1	PC-101R	11/15/16	1.9	J	1.1	2.2	mg/l	J	sp	Detect <PQL
			440-166209-1	PC-55	11/15/16	2.1	J	1.1	2.2	mg/l	J	sp	Detect <PQL
			440-166339-1	PC-131	11/16/16	3.5	J	2.8	5.5	mg/l	J	sp	Detect <PQL
			440-166423-1	M-189	11/17/16	5.2	F2F1	0.28	0.55	mg/l	J	ld	Lab Dup Imprecision
												m	Matrix Spike %R
				M-192	11/17/16	1.8		0.28	0.55	mg/l	J	fd	FD Difference
												ld	Lab Dup Imprecision
												m	Matrix Spike %R
				M-192-FD8	11/17/16	3.6		0.28	0.55	mg/l	J	fd	FD Difference
												ld	Lab Dup Imprecision
												m	Matrix Spike %R
				PC-129	11/17/16	21		1.1	2.2	mg/l	J	ld	Lab Dup Imprecision
												m	Matrix Spike %R
				PC-152	11/17/16	11		0.55	1.1	mg/l	J	ld	Lab Dup Imprecision
												m	Matrix Spike %R
				PC-54	11/17/16	33		0.55	1.1	mg/l	J	ld	Lab Dup Imprecision
												m	Matrix Spike %R
				PC-71	11/17/16	44		1.1	2.2	mg/l	J	ld	Lab Dup Imprecision
												m	Matrix Spike %R
				PC-72	11/17/16	35		1.1	2.2	mg/l	J	ld	Lab Dup Imprecision
												m	Matrix Spike %R
			440-166433-1	PC-122	11/16/16	20	H	1.1	2.2	mg/l	DNR	o	Other
				PC-151-EB7	11/16/16		UH	0.055	0.11	mg/l	DNR	o	Other
			440-166988-1	M-83	11/21/16	76	H	5.5	11	mg/l	DNR	o	Other
			440-167564-1	ART-1	11/17/16	1.3	J	1.1	2.2	mg/l	J	sp	Detect <PQL
				PC-121	11/17/16	0.13	J	0.11	0.22	mg/l	J	sp	Detect <PQL
			440-168261-1	PC-157A	12/06/16	0.064	J	0.055	0.11	mg/l	J	sp	Detect <PQL
				PC-97	12/06/16	0.070	J	0.055	0.11	mg/l	J	sp	Detect <PQL
			440-169582-1	ART-1	12/15/16	0.85	J	0.55	1.1	mg/l	J	sp	Detect <PQL
				PC-119	12/15/16	0.13	J	0.11	0.22	mg/l	J	sp	Detect <PQL
			440-170398-1	I-H	12/20/16	61		2.8	5.5	mg/l	J-	m	Matrix Spike %R

TABLE IV: Overall Qualified Results
Nevada Environmental Response Trust Site
Henderson, Nevada

Method	CAS	Analyte	SDG	Sample ID	Sample Date	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition
300	14797-55-8	Nitrate	440-170398-1	I-O	12/20/16	53	F1	2.8	5.5	mg/l	J-	m	Matrix Spike %R
				I-P	12/20/16	61		2.8	5.5	mg/l	J-	m	Matrix Spike %R
				I-T	12/20/16	62		2.8	5.5	mg/l	J-	m	Matrix Spike %R
				I-U	12/20/16	59		2.8	5.5	mg/l	J-	m	Matrix Spike %R
				I-X-EB	12/20/16		U	0.055	0.11	mg/l	UJ	m	Matrix Spike %R
			440-170572-1	I-AB	12/21/16	36		0.28	0.55	mg/l	J-	m	Matrix Spike %R
				I-AD	12/21/16	13	F1	0.55	1.1	mg/l	J-	m	Matrix Spike %R
				I-I	12/21/16	15		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				I-J	12/21/16	19		0.55	1.1	mg/l	J-	m	Matrix Spike %R
				I-K	12/21/16	16		0.55	1.1	mg/l	J-	m	Matrix Spike %R
				I-V	12/21/16	24		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				I-W	12/21/16	47		1.1	2.2	mg/l	J-	m	Matrix Spike %R
				I-Z	12/21/16	29		1.1	2.2	mg/l	J-	m	Matrix Spike %R
			440-171145-1	M-10	12/27/16		U	0.055	0.11	mg/l	DNR	o	Other
	14797-65-0	Nitrite	440-171145-1	M-10	12/27/16		UF1	0.070	0.15	mg/l	DNR	o	Other
314.0	14797-73-0	Perchlorate	440-158214-1	M-161D	09/12/16	1.2	J	0.95	4.0	µg/l	J	sp	Detect <PQL
				M-162D	09/12/16	2.0	J	0.95	4.0	µg/l	J	sp	Detect <PQL
				M-162D-FD	09/12/16	2.0	J	0.95	4.0	µg/l	J	sp	Detect <PQL
			440-158404-1	PC-137D	09/13/16	2.2	J	0.95	4.0	µg/l	J	sp	Detect <PQL
			440-158607-1	MEB-1	09/14/16	0.54	J	0.50	1.0	µg/l	J	sp	Detect <PQL
			440-158656-1	M-145	09/14/16	83	F1	0.95	4.0	µg/l	J+	m	Matrix Spike %R
			440-161484-1	I-AA	10/10/16	91,000	H	5,000	10,000	µg/l	J-	h	Hold Time
			440-162515-1	PC-120	10/18/16	160	F1	2.5	5.0	µg/l	J-	m	Matrix Spike %R
				PC-121	10/18/16	210		2.5	5.0	µg/l	J-	m	Matrix Spike %R
			440-166988-1	M-10-FB8	11/22/16	0.50	J	0.50	1.0	µg/l	J	sp	Detect <PQL
8260	75-27-4	Bromodichloromethane	440-158656-1	M-191	09/14/16	0.34	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	108-90-7	Chlorobenzene	440-158214-1	PC-152	09/12/16	0.27	J	0.25	0.50	µg/l	J	sp	Detect <PQL
				PC-153	09/12/16	0.46	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	67-66-3	Chloroform	440-158656-1	M-145	09/14/16	0.35	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	74-87-3	Chloromethane	440-158656-1	PC-155A	09/14/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-155B	09/14/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-157B	09/14/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-160-TB	09/14/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
	541-73-1	1,3-Dichlorobenzene	440-158214-1	PC-152	09/12/16	0.33	J	0.25	0.50	µg/l	J	sp	Detect <PQL
				PC-153	09/12/16	0.79		0.25	0.50	µg/l	J	fd	FD Difference

TABLE IV: Overall Qualified Results
Nevada Environmental Response Trust Site
Henderson, Nevada

Method	CAS	Analyte	SDG	Sample ID	Sample Date	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition
8260	541-73-1	1,3-Dichlorobenzene	440-158214-1	PC-153-FD	09/12/16	1.5		0.25	0.50	µg/l	J	fd	FD Difference
			440-158404-1	PC-159	09/13/16	0.28	J	0.25	0.50	µg/l	J	sp	Detect <PQL
				PC-159-FD	09/13/16	0.29	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	106-46-7	1,4-Dichlorobenzene	440-158404-1	PC-154	09/13/16	0.26	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	75-71-8	Dichlorodifluoromethane	440-158214-1	M-161D	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-161D-TB	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-162D	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-162D-FD	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-151	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-152	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-152-FB	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-153	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-153-FD	09/12/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
			440-158404-1	M-148A	09/13/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-148A-EB	09/13/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-186	09/13/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-186D	09/13/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-186D-FB	09/13/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-186D-TB	09/13/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
			440-158656-1	M-145	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-145-TB	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-191	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				M-192	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-156A	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-156B	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-157A	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
				PC-160	09/14/16		U	0.40	1.0	µg/l	UJ	c	ICV %D
	107-06-2	1,2-Dichloroethane	440-158214-1	PC-151	09/12/16	0.36	J	0.25	0.50	µg/l	J	sp	Detect <PQL
				PC-152	09/12/16	0.43	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	79-34-5	1,1,2,2-Tetrachloroethane	440-158214-1	PC-151	09/12/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-152	09/12/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-152-FB	09/12/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-153	09/12/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				PC-153-FD	09/12/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
			440-158404-1	M-148A	09/13/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D

TABLE IV: Overall Qualified Results
Nevada Environmental Response Trust Site
Henderson, Nevada

Method	CAS	Analyte	SDG	Sample ID	Sample Date	Lab Result	Lab Qualifier	SQL	PQL	Units	Validator Qualifier	Reason Code	Reason Code Definition
8260	79-34-5	1,1,2,2-Tetrachloroethane	440-158404-1	M-148A-EB	09/13/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				M-186	09/13/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				M-186D	09/13/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				M-186D-FB	09/13/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
				M-186D-TB	09/13/16		U	0.25	0.50	µg/l	UJ	c	Continuing Calibration %D
	127-18-4	Tetrachloroethene	440-158214-1	PC-152	09/12/16	0.27	J	0.25	0.50	µg/l	J	sp	Detect <PQL
			440-158404-1	PC-154	09/13/16	0.28	J	0.25	0.50	µg/l	J	sp	Detect <PQL
			440-158656-1	M-191	09/14/16	0.26	J	0.25	0.50	µg/l	J	sp	Detect <PQL
	87-61-6	1,2,3-Trichlorobenzene	440-158214-1	PC-151	09/12/16	0.55	J	0.40	1.0	µg/l	J	sp	Detect <PQL
				PC-152	09/12/16	0.61	J	0.40	1.0	µg/l	J	sp	Detect <PQL
			440-158404-1	PC-159	09/13/16	0.66	J	0.40	1.0	µg/l	J+	c	Continuing Calibration %D
				PC-159-FD	09/13/16	0.71	J	0.40	1.0	µg/l	J+	c	Continuing Calibration %D
			440-158656-1	PC-160	09/14/16	0.64	J	0.40	1.0	µg/l	J	sp	Detect <PQL
	120-82-1	1,2,4-Trichlorobenzene	440-158404-1	PC-159	09/13/16	0.73	J	0.40	1.0	µg/l	J+	c	Continuing Calibration %D
				PC-159-FD	09/13/16	0.82	J	0.40	1.0	µg/l	J+	c	Continuing Calibration %D
			440-158656-1	PC-156B	09/14/16	0.40	J	0.40	1.0	µg/l	J	sp	Detect <PQL
	79-01-6	Trichloroethene	440-158404-1	PC-159	09/13/16	0.29	J	0.25	0.50	µg/l	J	sp	Detect <PQL
				PC-159-FD	09/13/16	0.28	J	0.25	0.50	µg/l	J	sp	Detect <PQL
			440-158656-1	PC-160	09/14/16	0.28	J	0.25	0.50	µg/l	J	sp	Detect <PQL
8260BSIM	123-91-1	1,4-Dioxane	440-158214-1	PC-153	09/12/16	0.60	J	0.50	2.0	µg/l	J	sp	Detect <PQL
				PC-153-FD	09/12/16	0.65	J	0.50	2.0	µg/l	J	sp	Detect <PQL
			440-158404-1	M-148A	09/13/16	0.75	J	0.50	2.0	µg/l	J	sp	Detect <PQL
			440-158656-1	M-145	09/14/16	0.92	J	0.50	2.0	µg/l	J	sp	Detect <PQL
				PC-160	09/14/16	0.50	J	0.50	2.0	µg/l	J	sp	Detect <PQL
	96-18-4	1,2,3-Trichloropropane	440-158404-1	M-148A	09/13/16	0.0047	J	0.0025	0.0050	µg/l	J+	c	ICV %D
				M-186	09/13/16	0.055		0.0025	0.0050	µg/l	J+	c	ICV %D
				M-190	09/13/16	0.0071		0.0025	0.0050	µg/l	J+	c	ICV %D
				M-193	09/13/16	0.010		0.0025	0.0050	µg/l	J+	c	ICV %D
			440-158656-1	M-192	09/14/16	0.0035	J	0.0025	0.0050	µg/l	J	sp	Detect <PQL
9020	TOH	Organic Halides (total)	440-155320-1	M-5A	08/10/16	4,600	JH	1,500	6,000	µg/l	J-	h	Hold Time

Notes:
< = Less than
%D = Percent Difference
EB = Equipment Blank
ICV = Initial Calibration Verification
ID = Identification
J = Estimated with undetermined bias
J+ = Estimated with a high bias
J- = Estimated with a low bias
PQL = Practical Quantitation Limit
%R = Percent Recovery
SDG = Sample Delivery Group
SQL = Sample Quantitation Limit
UJ = Estimated Non-Detect

ATTACHMENT A
VOC DATA VALIDATION REPORT

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NERT 2016 Q3

LDC Report Date: February 6, 2017

Parameters: Volatiles

Validation Level: Stage 2B & 4

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 440-158214-1, 440-158404-1, 440-158656-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-161D-20160912-TB	440-158214-1	Water	09/12/16
M-161D-20160912	440-158214-2	Water	09/12/16
M-162D-20160912	440-158214-3	Water	09/12/16
M-162D-20160912-FD	440-158214-4	Water	09/12/16
PC-153-20160912	440-158214-5	Water	09/12/16
PC-153-20160912-FD	440-158214-6	Water	09/12/16
PC-152-20160912-FB	440-158214-7	Water	09/12/16
PC-152-20160912	440-158214-8	Water	09/12/16
PC-151-20160912	440-158214-9	Water	09/12/16
M-186D-20160913-TB**	440-158404-1**	Water	09/13/16
M-186D-20160913-FB**	440-158404-2**	Water	09/13/16
M-186D-20160913**	440-158404-3**	Water	09/13/16
M-186-20160913**	440-158404-4**	Water	09/13/16
M-148A-20160913-EB**	440-158404-5**	Water	09/13/16
M-148A-20160913**	440-158404-6**	Water	09/13/16
M-190-20160913**	440-158404-7**	Water	09/13/16
M-193-20160913**	440-158404-8**	Water	09/13/16
PC-154-20160913-TB**	440-158404-9**	Water	09/13/16
PC-154-20160913**	440-158404-10**	Water	09/13/16
PC-158-20160913**	440-158404-11**	Water	09/13/16
PC-159-20160913**	440-158404-12**	Water	09/13/16
PC-159-20160913-FD**	440-158404-13**	Water	09/13/16
PC-137D-20160913-EB**	440-158404-14**	Water	09/13/16
PC-137D-20160913**	440-158404-15**	Water	09/13/16
PC-134D-20160913**	440-158404-16**	Water	09/13/16
M-186D-20160913MS	440-158404-3MS	Water	09/13/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-186D-20160913MSD	440-158404-3MSD	Water	09/13/16
M-145-20160914-TB	440-158656-1	Water	09/14/16
M-145-20160914	440-158656-2	Water	09/14/16
M-191-20160914	440-158656-3	Water	09/14/16
M-192-20160914	440-158656-4	Water	09/14/16
PC-157A-20160914	440-158656-5	Water	09/14/16
PC-160-20160914	440-158656-6	Water	09/14/16
PC-156A-20160914	440-158656-7	Water	09/14/16
PC-156B-20160914	440-158656-8	Water	09/14/16
PC-155A-20160914	440-158656-9	Water	09/14/16
PC-155B-20160914	440-158656-10	Water	09/14/16
PC-157B-20160914	440-158656-11	Water	09/14/16
PC-160-20160914-TB	440-158656-12	Water	09/14/16
M-145-20160914MS	440-158656-2MS	Water	09/14/16
M-145-20160914MSD	440-158656-2MSD	Water	09/14/16

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan Revision 1, Nevada Environmental Response Trust (NERT) Site, Henderson, Nevada (July 2014) and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

DNR (Do Not Report): A more appropriate result is reported from another analysis or dilution.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Codes and Definitions

a	Qualified due to low abundance (radiochemical activity)
be	Qualified due to equipment blank contamination
bf	Qualified due to field blank contamination
bl	Qualified due to lab blank contamination
bt	Qualified due to trip blank contamination
bp	Qualified due to pump blank contamination (wells without dedicated pumps, when contamination is detected in the pump blank)
br	Qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	Qualified due to calibration problems
cp	Qualified due to insufficient ingrowth (Radiochemical only)
dc	Duel column confirmation %D exceeded
e	Concentration exceeded the calibration range
fd	Qualified due to field duplicate imprecision
h	Qualified due to holding time exceedance
i	Qualified due to internal standard areas
k	Qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	Qualified due to LCS recoveries
ld	Qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	Qualified due to matrix spike recoveries
nb	Qualified due to negative lab blank contamination (nondetect results only)
nd	Qualified due to non-detected target analyte
o	Other
p	Qualified as a false positive due to contamination during shipping
pH	Sample preservation not within acceptance range
q	Qualified due to quantitation problems
s	Qualified due to surrogate recoveries
sd	Serial dilution did not meet control criteria
sp	Detected value reported >SQL <PQL
st	Sample receipt temperature exceeded
t	Qualified due to elevated helium tracer concentrations
vh	Volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	Qualified due to low % solids
z	Qualified due to ICS results

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds with the following exceptions:

SDG	Date	Compound	%D	Associated Samples	Flag	A or P
440-158214-1 440-158404-1	08/27/16	Dichlorodifluoromethane	23.7	M-161D-20160912-TB M-161D-20160912 M-162D-20160912 M-162D-20160912-FD PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB PC-152-20160912 PC-151-20160912 M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-186-20160913** M-148A-20160913-EB** M-148A-20160913**	UJ (all non-detects)	A

SDG	Date	Compound	%D	Associated Samples	Flag	A or P
440-158656-1	09/13/16	Dichlorodifluoromethane	24	M-145-20160914-TB M-145-20160914 M-191-20160914 M-192-20160914 PC-157A-20160914 PC-160-20160914 PC-156A-20160914 PC-156B-20160914	UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

SDG	Date	Compound	%D	Associated Samples	Flag	A or P
440-158214-1	09/16/16 (07:19)	Dichlorodifluoromethane Trichlorofluoromethane	30.9 27.2	M-161D-20160912-TB M-161D-20160912 M-162D-20160912 M-162D-20160912-FD	NA	-
440-158214-1	09/16/16 (19:17)	Dichlorodifluoromethane Trichlorofluoromethane 2,2-Dichloropropane	29.1 25.0 21.3	PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB	NA	-
440-158214-1	09/16/16 (19:17)	1,1,2,2-Tetrachloroethane	21.8	PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB	UJ (all non-detects)	A
440-158214-1	09/17/16 (10:02)	Dichlorodifluoromethane Trichlorofluoromethane	29.5 29.9	PC-152-20160912 PC-151-20160912	NA	-
440-158214-1	09/17/16 (10:02)	1,1,2,2-Tetrachloroethane	24.5	PC-152-20160912 PC-151-20160912	UJ (all non-detects)	A
440-158404-1	09/19/16 (17:09)	2,2-Dichloropropane Hexachlorobutadiene	25.1 24.0	M-190-20160913** M-193-20160913** PC-154-20160913-TB** PC-154-20160913** PC-158-20160913** PC-159-20160913** PC-159-20160913-FD** PC-137D-20160913-EB** PC-137D-20160913** PC-134D-20160913**	NA	-
440-158404-1	09/19/16 (17:09)	1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene	26.6 26.5	PC-159-20160913** PC-159-20160913-FD**	J+ (all detects) J+ (all detects)	A

SDG	Date	Compound	%D	Associated Samples	Flag	A or P
440-158404-1	09/19/16 (17:09)	1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene	26.6 26.5	M-190-20160913** M-193-20160913** PC-154-20160913-TB** PC-154-20160913** PC-158-20160913** PC-137D-20160913-EB** PC-137D-20160913** PC-134D-20160913**	NA	-
440-158404-1	09/19/16 (07:36)	Dichlorodifluoromethane Trichlorofluoromethane	25.0 25.7	M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-186-20160913** M-148A-20160913-EB** M-148A-20160913**	NA	-
440-158404-1	09/19/16 (07:36)	1,1,2,2-Tetrachloroethane	23.8	M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-186-20160913** M-148A-20160913-EB** M-148A-20160913**	UJ (all non-detects)	A
440-158656-1	09/20/16 (18:18)	Chloromethane	22.8	PC-155A-20160914 PC-155B-20160914 PC-157B-20160914 PC-160-20160914-TB	UJ (all non-detects)	A
440-158656-1	09/20/16 (18:18)	1,2,4-Trichlorobenzene Naphthalene 1,2,3-Trichlorobenzene	24.3 22.8 27.9	PC-155A-20160914 PC-155B-20160914 PC-157B-20160914 PC-160-20160914-TB	NA	-

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

SDG	Blank ID	Analysis Date	Compound	Concentration	Associated Samples
440-158214-1	MB 440-356196	09/16/16	Chloroform	0.381 ng/L	PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB
440-158404-1	MB 440-356411	09/19/16	1,2,4-Trimethylbenzene	0.286 ug/L	M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-186-20160913** M-148A-20160913-EB** M-148A-20160913**

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

Samples M-161D-20160912-TB (from SDG 440-158214-1), M-186D-20160913-TB** (from SDG 440-158404-1), PC-154-20160913-TB** (from SDG 440-158404-1), M-145-20160914-TB, (from SDG 440-158656-1), and PC-160-20160914-TB (from SDG 440-158656-1) were identified as trip blanks. No contaminants were found.

Samples M-148A-20160913-EB** and PC-137D-20160913-EB** (both from SDG 440-158404-1) were identified as equipment blanks. No contaminants were found.

Samples PC-152-20160912-FB (from SDG 440-158214-1), M-186D-20160913-FB** (from SDG 440-158404-1) were identified as field blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples M-162D-20160912 and M-162D-20160912-FD (from SDG 440-158214-1), samples PC-153-20160912 and PC-153-20160912-FD (from SDG 440-158214-1), and samples PC-159-20160913** and PC-159-20160913-FD** (from SDG 440-158404-1) were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

SDG	Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		PC-153-20160912	PC-153-20160912-FD			
440-158214-1	Chlorobenzene	0.46	0.52	12 (≤30)	-	-
	1,2-Dichlorobenzene	7.1	7.4	4 (≤30)	-	-
	1,3-Dichlorobenzene	0.79	1.5	62 (≤30)	J (all detects)	A
	1,4-Dichlorobenzene	9.5	10	5 (≤30)	-	-
	1,1-Dichloroethane	1.2	1.3	8 (≤30)	-	-
	1,2,4-Trichlorobenzene	6.4	7.6	17 (≤30)	-	-
	Trichloroethene	0.91	0.95	4 (≤30)	-	-

SDG	Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		PC-159-20160913**	PC-159-20160913-FD**			
440-158404-1	Chloroform	0.89	0.86	3 (≤30)	-	-
	1,2-Dichlorobenzene	0.57	0.57	0 (≤30)	-	-
	1,3-Dichlorobenzene	0.28	0.29	4 (≤30)	-	-
	1,4-Dichlorobenzene	0.62	0.62	0 (≤30)	-	-
	1,1-Dichloroethane	1.8	1.7	6 (≤30)	-	-
	1,2,3-Trichlorobenzene	0.66	0.71	7 (≤30)	-	-
	1,2,4-Trichlorobenzene	0.73	0.82	12 (≤30)	-	-
	Trichloroethene	0.29	0.28	4 (≤30)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in these SDGs.

Due to ICV and continuing calibration %D and field duplicate RPD, data were qualified as estimated in twenty-nine samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

NERT 2016 Q3
Volatiles - Data Qualification Summary - SDG 440-158214-1, 440-158404-1, 440-158656-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
440-158214-1 440-158404-1 440-158656-1	M-161D-20160912-TB M-161D-20160912 M-162D-20160912 M-162D-20160912-FD PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB PC-152-20160912 PC-151-20160912 M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-186-20160913** M-148A-20160913-EB** M-148A-20160913** M-145-20160914-TB M-145-20160914 M-191-20160914 M-192-20160914 PC-157A-20160914 PC-160-20160914 PC-156A-20160914 PC-156B-20160914	Dichlorodifluoromethane	UJ (all non-detects)	A	Initial calibration verification (%D) (c)
440-158214-1 440-158404-1	PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB PC-152-20160912 PC-151-20160912 M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-186-20160913** M-148A-20160913-EB** M-148A-20160913**	1,1,2,2-Tetrachloroethane	UJ (all non-detects)	A	Continuing calibration (%D) (c)
440-158404-1	PC-159-20160913** PC-159-20160913-FD**	1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene	J+ (all detects) J+ (all detects)	A	Continuing calibration (%D) (c)
440-158656-1	PC-155A-20160914 PC-155B-20160914 PC-157B-20160914 PC-160-20160914-TB	Chloromethane	UJ (all non-detects)	A	Continuing calibration (%D) (c)
440-158214-1	PC-153-20160912 PC-153-20160912-FD	1,3-Dichlorobenzene	J (all detects)	A	Field duplicates (RPD) (fd)

NERT 2016 Q3
Volatiles - Laboratory Blank Data Qualification Summary - SDG 440-158214-1, 440-158404-1, 440-158656-1

No Sample Data Qualified in these SDGs

NERT 2016 Q3
Volatiles - Field Blank Data Qualification Summary - SDG 440-158214-1, 440-158404-1, 440-158656-1

No Sample Data Qualified in these SDGs

ATTACHMENT B
1,4-DIOXANE AND 1,2,3-TRICHLOROPROPANE DATA VALIDATION REPORT

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NERT 2016 Q3

LDC Report Date: February 6, 2017

Parameters: 1,4-Dioxane & 1,2,3-Trichloropropane

Validation Level: Stage 2B & 4

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 440-158214-1, 440-158404-1, 440-158656-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-161D-20160912-TB	440-158214-1	Water	09/12/16
M-161D-20160912	440-158214-2	Water	09/12/16
M-162D-20160912	440-158214-3	Water	09/12/16
M-162D-20160912-FD	440-158214-4	Water	09/12/16
PC-153-20160912	440-158214-5	Water	09/12/16
PC-153-20160912-FD	440-158214-6	Water	09/12/16
PC-152-20160912-FB	440-158214-7	Water	09/12/16
PC-152-20160912	440-158214-8	Water	09/12/16
PC-151-20160912	440-158214-9	Water	09/12/16
M-186D-20160913-TB**	440-158404-1**	Water	09/13/16
M-186D-20160913-FB**	440-158404-2**	Water	09/13/16
M-186D-20160913**	440-158404-3**	Water	09/13/16
M-186-20160913**	440-158404-4**	Water	09/13/16
M-148A-20160913-EB**	440-158404-5**	Water	09/13/16
M-148A-20160913**	440-158404-6**	Water	09/13/16
M-190-20160913**	440-158404-7**	Water	09/13/16
M-193-20160913**	440-158404-8**	Water	09/13/16
PC-154-20160913-TB**	440-158404-9**	Water	09/13/16
PC-154-20160913**	440-158404-10**	Water	09/13/16
PC-158-20160913**	440-158404-11**	Water	09/13/16
PC-159-20160913**	440-158404-12**	Water	09/13/16
PC-159-20160913-FD**	440-158404-13**	Water	09/13/16
PC-137D-20160913-EB**	440-158404-14**	Water	09/13/16
PC-137D-20160913**	440-158404-15**	Water	09/13/16
PC-134D-20160913**	440-158404-16**	Water	09/13/16
M-186D-20160913MS	440-158404-3MS	Water	09/13/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-186D-20160913MSD	440-158404-3MSD	Water	09/13/16
M-145-20160914-TB	440-158656-1	Water	09/14/16
M-145-20160914	440-158656-2	Water	09/14/16
M-191-20160914	440-158656-3	Water	09/14/16
M-192-20160914	440-158656-4	Water	09/14/16
PC-157A-20160914	440-158656-5	Water	09/14/16
PC-160-20160914	440-158656-6	Water	09/14/16
PC-156A-20160914	440-158656-7	Water	09/14/16
PC-156B-20160914	440-158656-8	Water	09/14/16
PC-155A-20160914	440-158656-9	Water	09/14/16
PC-155B-20160914	440-158656-10	Water	09/14/16
PC-157B-20160914	440-158656-11	Water	09/14/16
PC-160-20160914-TB	440-158656-12	Water	09/14/16
M-145-20160914MS	440-158656-2MS	Water	09/14/16
M-145-20160914MSD	440-158656-2MSD	Water	09/14/16
PC-155B-20160914MS	440-158656-10MS	Water	09/14/16
PC-155B-20160914MSD	440-158656-10MSD	Water	09/14/16

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan Revision 1, Nevada Environmental Response Trust (NERT) Site, Henderson, Nevada (July 2014) and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

1,4-Dioxane and 1,2,3-Trichloropropane by Environmental Protection Agency (EPA) SW 846 Method 8260B in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

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J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

DNR (Do Not Report): A more appropriate result is reported from another analysis or dilution.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Codes and Definitions

a	Qualified due to low abundance (radiochemical activity)
be	Qualified due to equipment blank contamination
bf	Qualified due to field blank contamination
bl	Qualified due to lab blank contamination
bt	Qualified due to trip blank contamination
bp	Qualified due to pump blank contamination (wells without dedicated pumps, when contamination is detected in the pump blank)
br	Qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	Qualified due to calibration problems
cp	Qualified due to insufficient ingrowth (Radiochemical only)
dc	Duel column confirmation %D exceeded
e	Concentration exceeded the calibration range
fd	Qualified due to field duplicate imprecision
h	Qualified due to holding time exceedance
i	Qualified due to internal standard areas
k	Qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	Qualified due to LCS recoveries
ld	Qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	Qualified due to matrix spike recoveries
nb	Qualified due to negative lab blank contamination (nondetect results only)
nd	Qualified due to non-detected target analyte
o	Other
p	Qualified as a false positive due to contamination during shipping
pH	Sample preservation not within acceptance range
q	Qualified due to quantitation problems
s	Qualified due to surrogate recoveries
sd	Serial dilution did not meet control criteria
sp	Detected value reported >SQL <PQL
st	Sample receipt temperature exceeded
t	Qualified due to elevated helium tracer concentrations
vh	Volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	Qualified due to low % solids
z	Qualified due to ICS results

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds with the following exceptions:

SDG	Date	Compound	%D	Associated Samples	Flag	A or P
440-158404-1	04/27/16 (04:19)	1,2,3-Trichloropropane	28.4	M-186-20160913** M-148A-20160913** M-190-20160913** M-193-20160913**	J+ (all detects)	A

SDG	Date	Compound	%D	Associated Samples	Flag	A or P
440-158214-1 440-158404-1 440-158656-1	04/27/16 (04:19)	1,2,3-Trichloropropane	28.4	M-161D-20160912-TB M-161D-20160912 M-162D-20160912 M-162D-20160912-FD PC-153-20160912 PC-153-20160912-FD PC-152-20160912-FB PC-152-20160912 PC-151-20160912 M-186D-20160913-TB** M-186D-20160913-FB** M-186D-20160913** M-148A-20160913-EB** PC-154-20160913-TB** PC-154-20160913** PC-158-20160913** PC-159-20160913** PC-159-20160913-FD** PC-137D-20160913-EB** PC-137D-20160913** PC-134D-20160913** M-145-20160914-TB M-145-20160914 M-191-20160914	NA	-

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples M-161D-20160912-TB (from SDG 440-158214-1), M-186D-20160913-TB** (from SDG 440-158404-1), PC-154-20160913-TB** (from SDG 440-158404-1), M-145-20160914-TB, (from SDG 440-158656-1), and PC-160-20160914-TB (from SDG 440-158656-1) were identified as trip blanks. No contaminants were found.

Samples M-148A-20160913-EB** and PC-137D-20160913-EB** (both from SDG 440-158404-1) were identified as equipment blanks. No contaminants were found.

Samples PC-152-20160912-FB (from SDG 440-158214-1), M-186D-20160913-FB** (from SDG 440-158404-1) were identified as field blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

SDG	Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
440-158656-1	M-191-20160914	Dibromofluoromethane	121 (80-120)	All compounds	NA	-

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples M-162D-20160912 and M-162D-20160912-FD (from SDG 440-158214-1), samples PC-153-20160912 and PC-153-20160912-FD (from SDG 440-158214-1), and samples PC-159-20160913** and PC-159-20160913-FD** (from SDG 440-158404-1) were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

SDG	Compound	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		PC-153-20160912	PC-153-20160912-FD			
440-158214-1	1,4-Dioxane	0.60	0.65	8 (≤30)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in these SDGs.

Due to ICV %D, data were qualified as estimated in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

NERT 2016 Q3
1,4-Dioxane & 1,2,3-Trichloropropane - Data Qualification Summary - SDG 440-158214-1, 440-158404-1, 440-158656-1

SDG	Sample	Compound	Flag	A or P	Reason (Code)
440-158404-1	M-186-20160913** M-148A-20160913** M-190-20160913** M-193-20160913**	1,2,3-Trichloropropane	J+ (all detects)	A	Initial calibration verification (%D) (c)

NERT 2016 Q3
1,4-Dioxane & 1,2,3-Trichloropropane - Laboratory Blank Data Qualification Summary - SDG 440-158214-1, 440-158404-1, 440-158656-1

No Sample Data Qualified in these SDGs

NERT 2016 Q3
1,4-Dioxane & 1,2,3-Trichloropropane - Field Blank Data Qualification Summary - SDG 440-158214-1, 440-158404-1, 440-158656-1

No Sample Data Qualified in these SDGs

ATTACHMENT C
METALS DATA VALIDATION REPORT

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NERT 2016 Q3

LDC Report Date: March 2, 2017

Parameters: Metals

Validation Level: Stage 2B & 4

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 440-151677-1, 440-152035-1, 440-152574-1, 440-153241-1, 440-154229-1, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-155035-1, 440-155148-1, 440-155316-1, 440-155320-1, 440-155490-1, 440-155494-1, 440-156317-1, 440-157616-1, 440-157843-1, 440-158214-1, 440-158404-1, 440-158406-1, 440-158607-1, 440-158656-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ART-2	440-151677-1	Water	07/05/16
PC-150	440-151677-2	Water	07/05/16
ART-8A	440-151677-3	Water	07/05/16
ART-7B	440-151677-4	Water	07/05/16
ART-1A	440-151677-5	Water	07/05/16
ART-3A	440-151677-6	Water	07/05/16
ART-9	440-151677-7	Water	07/05/16
ART-4	440-151677-8	Water	07/05/16
PC-99R2/R3	440-151677-9	Water	07/05/16
PC-115R	440-151677-10	Water	07/05/16
PC-116R	440-151677-11	Water	07/05/16
PC-118	440-151677-12	Water	07/05/16
PC-119	440-151677-13	Water	07/05/16
PC-117	440-151677-14	Water	07/05/16
PC-133	440-151677-15	Water	07/05/16
PC-121	440-151677-16	Water	07/05/16
PC-120	440-151677-17	Water	07/05/16
ART-4MS	440-151677-8MS	Water	07/05/16
ART-4MSD	440-151677-8MSD	Water	07/05/16
I-O	440-152035-1	Water	07/06/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-W	440-152035-2	Water	07/06/16
I-P	440-152035-3	Water	07/06/16
I-H	440-152035-4	Water	07/06/16
I-U	440-152035-5	Water	07/06/16
I-T	440-152035-6	Water	07/06/16
I-Q	440-152035-7	Water	07/06/16
I-F	440-152035-8	Water	07/06/16
I-C	440-152035-9	Water	07/06/16
I-S	440-152035-10	Water	07/06/16
I-L	440-152035-11	Water	07/06/16
I-Y	440-152035-12	Water	07/06/16
I-R	440-152035-13	Water	07/06/16
I-B	440-152035-14	Water	07/06/16
I-AA	440-152035-15	Water	07/06/16
I-AR	440-152035-16	Water	07/06/16
I-HMS	440-152035-4MS	Water	07/06/16
I-HMSD	440-152035-4MSD	Water	07/06/16
I-CMS	440-152035-9MS	Water	07/06/16
I-CMSD	440-152035-9MSD	Water	07/06/16
I-N	440-152574-1	Water	07/12/16
I-D	440-152574-2	Water	07/12/16
I-X	440-152574-3	Water	07/12/16
I-M	440-152574-4	Water	07/12/16
I-AB	440-152574-5	Water	07/12/16
I-G	440-152574-6	Water	07/12/16
I-E	440-152574-7	Water	07/12/16
I-V	440-152574-8	Water	07/12/16
I-I	440-152574-9	Water	07/12/16
I-Z	440-152574-10	Water	07/12/16
I-J	440-152574-11	Water	07/12/16
I-K	440-152574-12	Water	07/12/16
I-AC	440-152574-13	Water	07/12/16
I-AD	440-152574-14	Water	07/12/16
I-EMS	440-152574-7MS	Water	07/12/16
I-EMSD	440-152574-7MSD	Water	07/12/16
ART-6	440-153241-14	Water	07/19/16
PC-99R2/R3	440-154229-1	Water	08/01/16
PC-115R	440-154229-2	Water	08/01/16
PC-116R	440-154229-3	Water	08/01/16
PC-117	440-154229-4	Water	08/01/16
PC-118	440-154229-5	Water	08/01/16
PC-119	440-154229-6	Water	08/01/16
PC-133	440-154229-7	Water	08/01/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-120	440-154229-8	Water	08/01/16
PC-121	440-154229-9	Water	08/01/16
ART-4	440-154229-10	Water	08/01/16
ART-3A	440-154229-11	Water	08/01/16
ART-8A	440-154229-12	Water	08/01/16
ART-2A	440-154229-13	Water	08/01/16
ART-1A	440-154229-14	Water	08/01/16
ART-7B	440-154229-15	Water	08/01/16
ART-9	440-154229-16	Water	08/01/16
PC-150	440-154229-17	Water	08/01/16
ART-2AMS	440-154229-13MS	Water	08/01/16
ART-2AMSD	440-154229-13MSD	Water	08/01/16
PC-122	440-154471-1	Water	08/02/16
PC-58	440-154471-2	Water	08/02/16
PC-56	440-154471-3	Water	08/02/16
FB-1	440-154471-4	Water	08/02/16
PC-60	440-154471-5	Water	08/02/16
PC-59	440-154471-6	Water	08/02/16
PC-62	440-154471-7	Water	08/02/16
EB-1	440-154471-8	Water	08/02/16
PC-68	440-154471-9	Water	08/02/16
PC-86	440-154471-10	Water	08/02/16
PC-97	440-154471-11	Water	08/02/16
PC-90	440-154471-12	Water	08/02/16
PC-91	440-154471-13	Water	08/02/16
PC-94	440-154471-14	Water	08/02/16
PC-86MS	440-154471-10MS	Water	08/02/16
PC-86MSD	440-154471-10MSD	Water	08/02/16
ART-6	440-154485-1	Water	08/02/16
PC-18	440-154590-1	Water	08/03/16
ARP-1	440-154590-2	Water	08/03/16
PC-136	440-154590-3	Water	08/03/16
PC-53	440-154590-4	Water	08/03/16
EB2	440-154590-5	Water	08/03/16
MW-K5	440-154590-6	Water	08/03/16
PC-103	440-154590-7	Water	08/03/16
PC-98R	440-154590-8	Water	08/03/16
ARP-7	440-154590-9	Water	08/03/16
ARP-6B	440-154590-10	Water	08/03/16
ARP-5A	440-154590-11	Water	08/03/16
ARP-4A	440-154590-13	Water	08/03/16
MW-K4	440-154590-14	Water	08/03/16
PC-144	440-154590-15	Water	08/03/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-135A	440-154590-16	Water	08/03/16
PC-101R	440-154590-17	Water	08/03/16
ARP-3A	440-154590-18	Water	08/03/16
ARP-2A	440-154590-19	Water	08/03/16
PC-18MS	440-154590-1MS	Water	08/03/16
PC-18MSD	440-154590-1MSD	Water	08/03/16
ARP-2AMS	440-154590-19MS	Water	08/03/16
ARP-2AMSD	440-154590-19MSD	Water	08/03/16
PC-123**	440-154938-1**	Water	08/08/16
DUP6**	440-154938-2**	Water	08/08/16
PC-128**	440-154938-3**	Water	08/08/16
PC-129**	440-154938-4**	Water	08/08/16
PC-130**	440-154938-5**	Water	08/08/16
PC-131**	440-154938-6**	Water	08/08/16
PC-132**	440-154938-7**	Water	08/08/16
PC-124**	440-154938-8**	Water	08/08/16
PC-125**	440-154938-9**	Water	08/08/16
PC-126**	440-154938-10**	Water	08/08/16
PC-127**	440-154938-11**	Water	08/08/16
EB4**	440-154938-12**	Water	08/08/16
PC-148**	440-154938-13**	Water	08/08/16
PC-149**	440-154938-14**	Water	08/08/16
PC-54**	440-154938-15**	Water	08/08/16
M-48A**	440-154938-16**	Water	08/08/16
M-44**	440-154938-17**	Water	08/08/16
DUP7**	440-154938-18**	Water	08/08/16
PC-71**	440-154938-19**	Water	08/08/16
PC-72**	440-154938-20**	Water	08/08/16
PC-73**	440-154938-21**	Water	08/08/16
PC-37**	440-154938-22**	Water	08/08/16
PC-131MS	440-154938-6MS	Water	08/08/16
PC-131MSD	440-154938-6MSD	Water	08/08/16
M-48AMS	440-154938-16MS	Water	08/08/16
M-48AMSD	440-154938-16MSD	Water	08/08/16
M-10**	440-155035-1**	Water	08/09/16
M-83	440-155148-1	Water	08/09/16
M-80	440-155148-2	Water	08/09/16
M-81A	440-155148-3	Water	08/09/16
M-73	440-155148-4	Water	08/09/16
M-67	440-155148-5	Water	08/09/16
DUP8	440-155148-6	Water	08/09/16
M-74	440-155148-7	Water	08/09/16
EB9	440-155148-8	Water	08/09/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-68	440-155148-9	Water	08/09/16
M-19	440-155148-10	Water	08/09/16
M-35	440-155148-11	Water	08/09/16
M-31A	440-155148-12	Water	08/09/16
M-52	440-155148-13	Water	08/09/16
M-11	440-155148-14	Water	08/09/16
M-12A	440-155148-15	Water	08/09/16
DUP9	440-155148-16	Water	08/09/16
M-80MS	440-155148-2MS	Water	08/09/16
M-80MSD	440-155148-2MSD	Water	08/09/16
M-25**	440-155316-1**	Water	08/10/16
M-37**	440-155316-2**	Water	08/10/16
DUP12**	440-155316-3**	Water	08/10/16
M-14A**	440-155316-4**	Water	08/10/16
M-131**	440-155316-5**	Water	08/10/16
M-57A**	440-155316-6**	Water	08/10/16
M-135**	440-155316-7**	Water	08/10/16
M-69**	440-155316-8**	Water	08/10/16
EB-10**	440-155316-9**	Water	08/10/16
M-79**	440-155316-10**	Water	08/10/16
M-70**	440-155316-11**	Water	08/10/16
M-71**	440-155316-12**	Water	08/10/16
M-72**	440-155316-13**	Water	08/10/16
M-65**	440-155316-14**	Water	08/10/16
DUP10**	440-155316-15**	Water	08/10/16
M-66**	440-155316-16**	Water	08/10/16
M-38**	440-155316-17**	Water	08/10/16
DUP11**	440-155316-18**	Water	08/10/16
M-22A**	440-155316-19**	Water	08/10/16
M-23**	440-155316-20**	Water	08/10/16
PC-55**	440-155316-21**	Water	08/10/16
M-64**	440-155316-22**	Water	08/10/16
M-57AMS	440-155316-6MS	Water	08/10/16
M-57AMSD	440-155316-6MSD	Water	08/10/16
M-66MS	440-155316-16MS	Water	08/10/16
M-66MSD	440-155316-16MSD	Water	08/10/16
M-5A**	440-155320-1**	Water	08/10/16
H-28A	440-155490-1	Water	08/11/16
M-6A	440-155490-2	Water	08/11/16
M-7B	440-155490-3	Water	08/11/16
I-O	440-155494-1	Water	08/11/16
I-W	440-155494-2	Water	08/11/16
I-P	440-155494-3	Water	08/11/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-H	440-155494-4	Water	08/11/16
I-U	440-155494-5	Water	08/11/16
I-T	440-155494-6	Water	08/11/16
I-G	440-155494-7	Water	08/11/16
I-Q	440-155494-8	Water	08/11/16
I-F	440-155494-9	Water	08/11/16
I-X	440-155494-10	Water	08/11/16
I-N	440-155494-11	Water	08/11/16
I-E	440-155494-12	Water	08/11/16
I-M	440-155494-13	Water	08/11/16
I-D	440-155494-14	Water	08/11/16
I-C	440-155494-15	Water	08/11/16
I-S	440-155494-16	Water	08/11/16
I-L	440-155494-17	Water	08/11/16
I-Y	440-155494-18	Water	08/11/16
I-R	440-155494-19	Water	08/11/16
I-B	440-155494-20	Water	08/11/16
I-AB	440-155494-21	Water	08/11/16
I-AA	440-155494-22	Water	08/11/16
I-AR	440-155494-23	Water	08/11/16
DUP14	440-155494-24	Water	08/11/16
I-AD	440-155494-25	Water	08/11/16
I-K	440-155494-26	Water	08/11/16
I-J	440-155494-27	Water	08/11/16
I-Z	440-155494-28	Water	08/11/16
I-I	440-155494-29	Water	08/11/16
I-V	440-155494-30	Water	08/11/16
I-HMS	440-155494-4MS	Water	08/11/16
I-HMSD	440-155494-4MSD	Water	08/11/16
I-DMS	440-155494-14MS	Water	08/11/16
I-DMSD	440-155494-14MSD	Water	08/11/16
DUP14MS	440-155494-24MS	Water	08/11/16
DUP14MSD	440-155494-24MSD	Water	08/11/16
I-AC	440-156317-1	Water	08/22/16
PC-99R2/R3	440-157616-1	Water	09/06/16
PC-115R	440-157616-2	Water	09/06/16
PC-116R	440-157616-3	Water	09/06/16
PC-117	440-157616-4	Water	09/06/16
PC-118	440-157616-5	Water	09/06/16
PC-119	440-157616-6	Water	09/06/16
PC-120	440-157616-7	Water	09/06/16
PC-121	440-157616-8	Water	09/06/16
PC-133	440-157616-9	Water	09/06/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ART-1A	440-157616-10	Water	09/06/16
ART-2A	440-157616-11	Water	09/06/16
ART-3A	440-157616-12	Water	09/06/16
ART-4	440-157616-13	Water	09/06/16
ART-7B	440-157616-14	Water	09/06/16
ART-8A	440-157616-15	Water	09/06/16
ART-9	440-157616-16	Water	09/06/16
PC-150	440-157616-17	Water	09/06/16
PC-117MS	440-157616-4MS	Water	09/06/16
PC-117MSD	440-157616-4MSD	Water	09/06/16
ART-7BMS	440-157616-14MS	Water	09/06/16
ART-7BMSD	440-157616-14MSD	Water	09/06/16
I-O	440-157843-1	Water	09/07/16
I-W	440-157843-2	Water	09/07/16
I-P	440-157843-3	Water	09/07/16
I-H	440-157843-4	Water	09/07/16
I-U	440-157843-5	Water	09/07/16
I-T	440-157843-6	Water	09/07/16
I-G	440-157843-7	Water	09/07/16
I-Q	440-157843-8	Water	09/07/16
I-F	440-157843-9	Water	09/07/16
I-X	440-157843-10	Water	09/07/16
I-N	440-157843-11	Water	09/07/16
I-E	440-157843-12	Water	09/07/16
I-M	440-157843-13	Water	09/07/16
I-D	440-157843-14	Water	09/07/16
I-C	440-157843-15	Water	09/07/16
I-S	440-157843-16	Water	09/07/16
I-L	440-157843-17	Water	09/07/16
I-Y	440-157843-18	Water	09/07/16
I-R	440-157843-19	Water	09/07/16
I-B	440-157843-20	Water	09/07/16
I-AB	440-157843-21	Water	09/07/16
I-AA	440-157843-22	Water	09/07/16
I-AR	440-157843-23	Water	09/07/16
I-AD	440-157843-24	Water	09/07/16
I-AC	440-157843-25	Water	09/07/16
I-K	440-157843-26	Water	09/07/16
I-Z	440-157843-27	Water	09/07/16
I-I	440-157843-28	Water	09/07/16
I-V	440-157843-29	Water	09/07/16
I-FMS	440-157843-9MS	Water	09/07/16
I-FMSD	440-157843-9MSD	Water	09/07/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-RMS	440-157843-19MS	Water	09/07/16
I-RMSD	440-157843-19MSD	Water	09/07/16
I-VMS	440-157843-29MS	Water	09/07/16
I-VMSD	440-157843-29MSD	Water	09/07/16
M-161D-20160912	440-158214-2	Water	09/12/16
M-162D-20160912	440-158214-3	Water	09/12/16
M-162D-20160912-FD	440-158214-4	Water	09/12/16
PC-153-20160912	440-158214-5	Water	09/12/16
PC-153-20160912-FD	440-158214-6	Water	09/12/16
PC-152-20160912-FB	440-158214-7	Water	09/12/16
PC-152-20160912	440-158214-8	Water	09/12/16
PC-151-20160912	440-158214-9	Water	09/12/16
PC-151-20160912MS	440-158214-9MS	Water	09/12/16
PC-151-20160912MSD	440-158214-9MSD	Water	09/12/16
M-186D-20160913-FB**	440-158404-2**	Water	09/13/16
M-186D-20160913**	440-158404-3**	Water	09/13/16
M-186-20160913**	440-158404-4**	Water	09/13/16
M-148A-20160913-EB**	440-158404-5**	Water	09/13/16
M-148A-20160913**	440-158404-6**	Water	09/13/16
M-190-20160913**	440-158404-7**	Water	09/13/16
M-193-20160913**	440-158404-8**	Water	09/13/16
PC-154-20160913**	440-158404-10**	Water	09/13/16
PC-158-20160913**	440-158404-11**	Water	09/13/16
PC-159-20160913**	440-158404-12**	Water	09/13/16
PC-159-20160913-FD**	440-158404-13**	Water	09/13/16
PC-137D-20160913-EB**	440-158404-14**	Water	09/13/16
PC-137D-20160913**	440-158404-15**	Water	09/13/16
PC-134D-20160913**	440-158404-16**	Water	09/13/16
M-186D-20160913MS	440-158404-3MS	Water	09/13/16
M-186D-20160913MSD	440-158404-3MSD	Water	09/13/16
PC-159-20160913-FDMS	440-158404-13MS	Water	09/13/16
PC-159-20160913-FDMSD	440-158404-13MSD	Water	09/13/16
I-J	440-158406-12	Water	09/13/16
I-JMS	440-158406-12MS	Water	09/13/16
I-JMSD	440-158406-12MSD	Water	09/13/16
ART-6	440-158607-5	Water	09/14/16
M-145-20160914	440-158656-2	Water	09/14/16
M-191-20160914	440-158656-3	Water	09/14/16
M-192-20160914	440-158656-4	Water	09/14/16
PC-157A-20160914	440-158656-5	Water	09/14/16
PC-160-20160914	440-158656-6	Water	09/14/16
PC-156A-20160914	440-158656-7	Water	09/14/16
PC-156B-20160914	440-158656-8	Water	09/14/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-155A-20160914	440-158656-9	Water	09/14/16
PC-155B-20160914	440-158656-10	Water	09/14/16
PC-157B-20160914	440-158656-11	Water	09/14/16
M-145-20160914MS	440-158656-2MS	Water	09/14/16
M-145-20160914MSD	440-158656-2MSD	Water	09/14/16

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan Revision 1, Nevada Environmental Response Trust (NERT) Site, Henderson, Nevada (July 2014) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Boron, Chromium, Iron, Manganese, and Sodium by Environmental Protection Agency (EPA) SW 846 Method 6020A and EPA Method 200.7

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

DNR (Do Not Report): A more appropriate result is reported from another analysis or dilution.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Codes and Definitions

a	Qualified due to low abundance (radiochemical activity)
be	Qualified due to equipment blank contamination
bf	Qualified due to field blank contamination
bl	Qualified due to lab blank contamination
bt	Qualified due to trip blank contamination
bp	Qualified due to pump blank contamination (wells without dedicated pumps, when contamination is detected in the pump blank)
br	Qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	Qualified due to calibration problems
cp	Qualified due to insufficient ingrowth (Radiochemical only)
dc	Duel column confirmation %D exceeded
e	Concentration exceeded the calibration range
fd	Qualified due to field duplicate imprecision
h	Qualified due to holding time exceedance
i	Qualified due to internal standard areas
k	Qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	Qualified due to LCS recoveries
ld	Qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	Qualified due to matrix spike recoveries
nb	Qualified due to negative lab blank contamination (nondetect results only)
nd	Qualified due to non-detected target analyte
o	Other
p	Qualified as a false positive due to contamination during shipping
pH	Sample preservation not within acceptance range
q	Qualified due to quantitation problems
s	Qualified due to surrogate recoveries
sd	Serial dilution did not meet control criteria
sp	Detected value reported >SQL <PQL
st	Sample receipt temperature exceeded
t	Qualified due to elevated helium tracer concentrations
vh	Volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	Qualified due to low % solids
z	Qualified due to ICS results

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

SDG	Blank ID	Analyte	Maximum Concentration	Associated Samples
440-155035-1 440-155490-1	PB (prep blank)	Iron	0.0269 mg/L	All samples in SDG 440-155035-1 All samples in SDG 440-155490-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

V. Field Blanks

Samples EB-1 (from SDG 440-154471-1), EB2 (from SDG 440-154590-1), EB4** (from SDG 440-154938-1), EB9 (from SDG 440-155148-1), EB-10** (from SDG 440-155316-1, M-148A-20160913-EB** and PC-137D-20160913-EB** (from SDG 440-158404-1) were identified as equipment blanks. No contaminants were found with the following exceptions:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
440-154590-1	EB2	08/03/16	Chromium	0.0038 mg/L	PC-18 ARP-1 PC-136 PC-53 MW-K5 PC-103 PC-98R ARP-7 ARP-6B ARP-5A ARP-4A MW-K4 PC-144 PC-135A PC-101R ARP-3A ARP-2A
440-155148-1	EB9	08/09/16	Chromium	0.0037 mg/L	M-83 M-80 M-81A M-73 M-67 DUP8 M-74 M-68 M-19 M-35 M-31A M-52 M-11 M-12A DUP9

Samples FB-1 (from SDG 440-154471-1), PC-152-20160912-FB (from SDG 440-158214-1), and M-186D-20160913-FB** (from SDG 440-158404-1) were identified as field blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks with the following exceptions:

SDG	Sample	Analyte	Reported Concentration	Modified Final Concentration
440-154590-1	MW-K5	Chromium	0.0027 mg/L	0.0027J mg/L
440-154590-1	ARP-4A	Chromium	0.0042 mg/L	0.0042J mg/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

SDG	Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
440-158214-1	PC-151-20160912MS/MSD (M-161D-20160912 M-162D-20160912 M-162D-20160912-FD PC-153-20160912 PC-153-20160912-FD PC-152-20160912 PC-151-20160912)	Boron	-	149 (70-130)	J+ (all detects)	A
440-158214-1	PC-151-20160912MS/MSD (PC-152-20160912-FB)	Boron	-	149 (70-130)	NA	-

For I-HMS/MSD and I-CMS/MSD (from SDG 440-152035-1), I-EMS/MSD (from SDG 440-152574-1), M-66MS/MSD (from SDG 440-155316-1), I-HMS/MSD, I-DMS/MSD and DUP14MS/MSD (from SDG 440-155494-1), I-FMS/MSD and I-VMS/MSD (from SDG 440-157843-1), no data were qualified for Chromium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For no data were qualified for Chromium and Sodium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For PC-159-20160913-FDMS/MSD (from SDG 440-158404-1), and M-145-20160914MS/MSD (from SDG 440-158656-1), no data were qualified for Boron percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in these SDGs, and therefore duplicate analyses were not performed for these SDGs.

VIII. Serial Dilution

Serial dilution was not performed for these SDGs.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples PC-123** and DUP6** (from SDG 440-154938-1), samples M-44** and DUP7** (from SDG 440-154938-1), samples M-67 and DUP8, samples M-12A and DUP9 (from SDG 440-155148-1), samples M-37** and DUP12** (from SDG 440-155316-1), samples M-65** and DUP10** (from SDG 440-155316-1), samples M-38** and DUP11** (from SDG 440-155316-1), and samples I-AR and DUP14 (from SDG 440-155494-1), M-162D-20160912 and M-162D-20160912-FD (from SDG 440-158214-1), and samples PC-153-20160912 and PC-153-20160912-FD (from SDG 440-158214-1) were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		PC-123**	DUP6**			
440-154938-1	Chromium	0.73	0.73	0 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-44**	DUP7**			
440-154938-1	Chromium	0.79	0.78	1 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-67	DUP8			
440-155148-1	Chromium	5.6	6.1	9 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-12A	DUP9			
440-155148-1	Chromium	5.9	6.0	2 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-37**	DUP12**			
440-155316-1	Chromium	0.027	0.013	70 (≤30)	J (all detects)	A

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-65**	DUP10**			
440-155316-1	Chromium	22	20	10 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-38**	DUP11**			
440-155316-1	Chromium	4.6	4.5	2 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		I-AR	DUP14			
440-155494-1	Chromium	0.49	2.5	134 (≤30)	J (all detects)	A

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-162D-20160912	M-162D-20160912-FD			
440-158214-1	Boron	0.77	0.80	4 (≤30)	-	-
	Chromium	0.020	0.021	5 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		PC-153-20160912	PC-153-20160912-FD			
440-158214-1	Boron	2.2	2.2	0 (≤30)	-	-

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in these SDGs.

Due to MS/MSD %R and field duplicate RPD, data were qualified as estimated in eleven samples.

Due to equipment blank contamination, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

NERT 2016 Q3

Metals - Data Qualification Summary - SDGs 440-151677-1, 440-152035-1, 440-152574-1, 440-153241-1, 440-154229-1, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-155035-1, 440-155148-1, 440-155316-1, 440-155320-1, 440-155490-1, 440-155494-1, 440-156317-1, 440-157616-1, 440-157843-1, 440-158214-1, 440-158404-1, 440-158406-1, 440-158607-1, 440-158656-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
440-158214-1	M-161D-20160912 M-162D-20160912 M-162D-20160912-FD PC-153-20160912 PC-153-20160912-FD PC-152-20160912 PC-151-20160912	Boron	J+ (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-155316-1 440-155494-1	M-37** DUP12** I-AR DUP14	Chromium	J (all detects)	A	Field duplicates (RPD) (fd)

NERT 2016 Q3

Metals - Laboratory Blank Data Qualification Summary - SDGs 440-151677-1, 440-152035-1, 440-152574-1, 440-153241-1, 440-154229-1, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-155035-1, 440-155148-1, 440-155316-1, 440-155320-1, 440-155490-1, 440-155494-1, 440-156317-1, 440-157616-1, 440-157843-1, 440-158214-1, 440-158404-1, 440-158406-1, 440-158607-1, 440-158656-1

No Sample Data Qualified in these SDGs

NERT 2016 Q3

Metals - Field Blank Data Qualification Summary - SDGs 440-151677-1, 440-152035-1, 440-152574-1, 440-153241-1, 440-154229-1, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-155035-1, 440-155148-1, 440-155316-1, 440-155320-1, 440-155490-1, 440-155494-1, 440-156317-1, 440-157616-1, 440-157843-1, 440-158214-1, 440-158404-1, 440-158406-1, 440-158607-1, 440-158656-1

SDG	Sample	Analyte	Modified Final Concentration	A or P	Code
440-154590-1	MW-K5	Chromium	0.0027J mg/L	A	be
440-154590-1	ARP-4A	Chromium	0.0042J mg/L	A	be

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NERT 2016 Q4

LDC Report Date: February 24, 2017

Parameters: Metals

Validation Level: Stage 2B & 4

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 440-160680-1, 440-161336-1, 440-161556-1, 440-162514-1, 440-163453-1, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-166442-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167631-1, 440-169582-1, 440-170796-1, 440-171145-1, 440-170151-1, 440-170398-1, 440-170572-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-AD	440-160680-1	Water	10/04/16
I-AC	440-160680-2	Water	10/04/16
I-K	440-160680-3	Water	10/04/16
I-J	440-160680-4	Water	10/04/16
I-Z	440-160680-5	Water	10/04/16
I-I	440-160680-6	Water	10/04/16
I-O	440-161336-1	Water	10/10/16
I-W	440-161336-2	Water	10/10/16
I-P	440-161336-3	Water	10/10/16
I-H	440-161336-4	Water	10/10/16
I-U	440-161336-5	Water	10/10/16
I-T	440-161336-6	Water	10/10/16
I-G	440-161336-7	Water	10/10/16
I-Q	440-161336-8	Water	10/10/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-F	440-161336-9	Water	10/10/16
I-X	440-161336-10	Water	10/10/16
I-N	440-161336-11	Water	10/10/16
I-E	440-161336-12	Water	10/10/16
I-M	440-161336-13	Water	10/10/16
I-D	440-161336-14	Water	10/10/16
I-C	440-161336-15	Water	10/10/16
I-S	440-161336-16	Water	10/10/16
I-L	440-161336-17	Water	10/10/16
I-Y	440-161336-18	Water	10/10/16
I-R	440-161336-19	Water	10/10/16
I-B	440-161336-20	Water	10/10/16
I-AB	440-161336-21	Water	10/10/16
I-AA	440-161336-22	Water	10/10/16
I-AR	440-161336-23	Water	10/10/16
I-OMS	440-161336-1MS	Water	10/10/16
I-OMSD	440-161336-1MSD	Water	10/10/16
I-NMS	440-161336-11MS	Water	10/10/16
I-NMSD	440-161336-11MSD	Water	10/10/16
I-V	440-161556-1	Water	10/11/16
PC-99R2/R3	440-162514-1	Water	10/18/16
PC-115R	440-162514-2	Water	10/18/16
PC-116R	440-162514-3	Water	10/18/16
PC-117	440-162514-4	Water	10/18/16
PC-118	440-162514-5	Water	10/18/16
PC-119	440-162514-6	Water	10/18/16
PC-120	440-162514-7	Water	10/18/16
PC-121	440-162514-8	Water	10/18/16
PC-133	440-162514-9	Water	10/18/16
ART-1A	440-163453-1	Water	10/26/16
ART-2	440-163453-2	Water	10/26/16
ART-3	440-163453-3	Water	10/26/16
ART-4	440-163453-4	Water	10/26/16
ART-6	440-163453-5	Water	10/26/16
ART-7B	440-163453-6	Water	10/26/16
ART-8	440-163453-7	Water	10/26/16
ART-9	440-163453-8	Water	10/26/16
PC-150	440-163453-9	Water	10/26/16
ART-1AMS	440-163453-1MS	Water	10/26/16
ART-1AMSD	440-163453-1MSD	Water	10/26/16
I-AR	440-166056-1	Water	11/15/16
I-AA	440-166056-2	Water	11/15/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-O	440-166056-3	Water	11/15/16
I-W	440-166056-4	Water	11/15/16
I-P	440-166056-5	Water	11/15/16
I-H	440-166056-6	Water	11/15/16
I-U	440-166056-7	Water	11/15/16
I-T	440-166056-8	Water	11/15/16
I-G	440-166056-9	Water	11/15/16
I-Q	440-166056-10	Water	11/15/16
I-ARMS	440-166056-1MS	Water	11/15/16
I-ARMSD	440-166056-1MSD	Water	11/15/16
I-C	440-166060-1	Water	11/15/16
I-S	440-166060-2	Water	11/15/16
I-L	440-166060-3	Water	11/15/16
I-Y	440-166060-4	Water	11/15/16
I-R	440-166060-5	Water	11/15/16
I-B	440-166060-6	Water	11/15/16
I-E	440-166060-7	Water	11/15/16
I-X	440-166060-8	Water	11/15/16
I-D	440-166060-9	Water	11/15/16
I-M	440-166060-10	Water	11/15/16
I-F	440-166060-11	Water	11/15/16
I-N	440-166060-12	Water	11/15/16
I-CMS	440-166060-1MS	Water	11/15/16
I-CMSD	440-166060-1MSD	Water	11/15/16
I-FMS	440-166060-11MS	Water	11/15/16
I-FMSD	440-166060-11MSD	Water	11/15/16
ART-1	440-166063-1	Water	11/14/16
ART-2	440-166063-2	Water	11/14/16
ART-3A	440-166063-3	Water	11/14/16
ART-4	440-166063-4	Water	11/14/16
ART-6	440-166063-5	Water	11/14/16
ART-7B	440-166063-6	Water	11/14/16
ART-8A	440-166063-7	Water	11/14/16
ART-9	440-166063-8	Water	11/14/16
PC-150	440-166063-9	Water	11/14/16
PC-150MS	440-166063-9MS	Water	11/14/16
PC-150MSD	440-166063-9MSD	Water	11/14/16
PC-155B-20161114	440-166082-1	Water	11/14/16
PC-86-20161114	440-166082-2	Water	11/14/16
PC-156B-20161114	440-166082-3	Water	11/14/16
PC-155A-20161114	440-166082-4	Water	11/14/16
PC-156A-20161114	440-166082-5	Water	11/14/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-155A-20161114MS	440-166082-4MS	Water	11/14/16
PC-155A-20161114MSD	440-166082-4MSD	Water	11/14/16
PC-60-20161114	440-166090-1	Water	11/14/16
PC-59-20161114	440-166090-2	Water	11/14/16
PC-56-20161114	440-166090-3	Water	11/14/16
PC-62-20161114	440-166090-4	Water	11/14/16
PC-97-20161114	440-166090-5	Water	11/14/16
PC-94-20161114	440-166090-6	Water	11/14/16
PC-94-20161114-FD4	440-166090-7	Water	11/14/16
PC-157B-20161114	440-166090-8	Water	11/14/16
PC-94-20161114-FD4MS	440-166090-7MS	Water	11/14/16
PC-94-20161114-FD4MSD	440-166090-7MSD	Water	11/14/16
PC-99R2/R3	440-166103-1	Water	11/14/16
PC-115R	440-166103-2	Water	11/14/16
PC-116R	440-166103-3	Water	11/14/16
PC-117	440-166103-4	Water	11/14/16
PC-118	440-166103-5	Water	11/14/16
PC-119	440-166103-6	Water	11/14/16
PC-120	440-166103-7	Water	11/14/16
PC-121	440-166103-8	Water	11/14/16
PC-133	440-166103-9	Water	11/14/16
PC-133MS	440-166103-9MS	Water	11/14/16
PC-133MSD	440-166103-9MSD	Water	11/14/16
PC-98R-20161115	440-166109-1	Water	11/15/16
PC-98R-20161115-FD6	440-166109-2	Water	11/15/16
ARP-2A-20161115	440-166109-3	Water	11/15/16
ARP-3A-20161115	440-166109-4	Water	11/15/16
MW-K4-20161115	440-166109-5	Water	11/15/16
ARP-4A-20161115	440-166109-6	Water	11/15/16
PC-53-20161115	440-166111-1	Water	11/15/16
ARP-7-20161115	440-166111-2	Water	11/15/16
ARP-6B-20161115	440-166111-3	Water	11/15/16
ARP-6B-20161115-FD5	440-166111-4	Water	11/15/16
PC-135A-20161115	440-166111-5	Water	11/15/16
PC-53-20161115MS	440-166111-1MS	Water	11/15/16
PC-53-20161115MSD	440-166111-1MSD	Water	11/15/16
PC-58-20161114	440-166112-1	Water	11/14/16
PC-91-20161114	440-166112-2	Water	11/14/16
PC-157A-20161114	440-166112-3	Water	11/14/16
PC-157A-20161114-FB4	440-166112-4	Water	11/14/16
PC-90-20161115	440-166117-1	Water	11/15/16
ARP-1-20161115	440-166117-2	Water	11/15/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-18-20161115	440-166117-3	Water	11/15/16
PC-103-20161115	440-166123-1	Water	11/15/16
MW-K5-20161115	440-166123-2	Water	11/15/16
ARP-5A-20161115	440-166123-3	Water	11/15/16
PC-101R-20161115	440-166123-4	Water	11/15/16
MW-K5-20161115MS	440-166123-2MS	Water	11/15/16
MW-K5-20161115MSD	440-166123-2MSD	Water	11/15/16
PC-55-20161115-EB5	440-166209-1	Water	11/15/16
PC-136-20161115	440-166209-2	Water	11/15/16
PC-55-20161115	440-166209-3	Water	11/15/16
PC-136-20161115-FB5	440-166209-4	Water	11/15/16
PC-134D-20161115-EB4	440-166209-5	Water	11/15/16
PC-137D-20161115	440-166209-6	Water	11/15/16
PC-134D-20161115	440-166209-7	Water	11/15/16
I-AD	440-166210-1	Water	11/16/16
I-AC	440-166210-2	Water	11/16/16
I-K	440-166210-3	Water	11/16/16
I-J	440-166210-4	Water	11/16/16
I-Z	440-166210-5	Water	11/16/16
I-I	440-166210-6	Water	11/16/16
I-V	440-166210-7	Water	11/16/16
I-ACMS	440-166210-2MS	Water	11/16/16
I-ACMSD	440-166210-2MSD	Water	11/16/16
PC-144-20161116	440-166337-1	Water	11/16/16
PC-144-20161116-FB6	440-166337-2	Water	11/16/16
PC-124-20161116	440-166337-3	Water	11/16/16
PC-126-20161116	440-166337-4	Water	11/16/16
PC-130-20161116	440-166337-5	Water	11/16/16
PC-144-20161116MS	440-166337-1MS	Water	11/16/16
PC-144-20161116MSD	440-166337-1MSD	Water	11/16/16
PC-123-20161116	440-166339-1	Water	11/16/16
PC-127-20161116	440-166339-2	Water	11/16/16
PC-131-20161116	440-166339-3	Water	11/16/16
PC-151-20161116	440-166339-4	Water	11/16/16
PC-149-20161116	440-166340-1	Water	11/16/16
PC-149-20161116-EB6	440-166340-2	Water	11/16/16
PC-160-20161116	440-166340-3	Water	11/16/16
PC-158-20161116	440-166340-4	Water	11/16/16
PC-154-20161116	440-166340-5	Water	11/16/16
PC-153-20161116	440-166340-6	Water	11/16/16
PC-149-20161116-EB6MS	440-166340-2MS	Water	11/16/16
PC-149-20161116-EB6MSD	440-166340-2MSD	Water	11/16/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-148-20161116	440-166342-1	Water	11/16/16
PC-148-20161116-FD7	440-166342-2	Water	11/16/16
PC-159-20161116	440-166342-3	Water	11/16/16
PC-125-20161116	440-166342-4	Water	11/16/16
PC-128-20161116	440-166342-5	Water	11/16/16
PC-132-20161116	440-166342-6	Water	11/16/16
PC-132-20161116MS	440-166342-6MS	Water	11/16/16
PC-132-20161116MSD	440-166342-6MSD	Water	11/16/16
M-66-20161117	440-166420-1	Water	11/17/16
M-65-20161117	440-166420-2	Water	11/17/16
M-64-20161117	440-166420-3	Water	11/17/16
M-25-20161117	440-166420-4	Water	11/17/16
M-22A-20161117-FB7	440-166420-5	Water	11/17/16
M-22A-20161117	440-166420-6	Water	11/17/16
M-22A-20161117-FB7MS	440-166420-5MS	Water	11/17/16
M-22A-20161117-FB7MSD	440-166420-5MSD	Water	11/17/16
PC-54-20161117	440-166423-1	Water	11/17/16
PC-129-20161117	440-166423-2	Water	11/17/16
M-192-20161117	440-166423-3	Water	11/17/16
M-192-20161117-FD8	440-166423-4	Water	11/17/16
PC-71-20161117	440-166423-5	Water	11/17/16
PC-72-20161117	440-166423-6	Water	11/17/16
PC-152-20161117	440-166423-7	Water	11/17/16
M-189-20161117	440-166423-8	Water	11/17/16
M-192-20161117MS	440-166423-3MS	Water	11/17/16
M-192-20161117MSD	440-166423-3MSD	Water	11/17/16
M-14A-20161117	440-166430-1	Water	11/17/16
M-38-20161117	440-166430-2	Water	11/17/16
M-38-20161117-EB8	440-166430-3	Water	11/17/16
PC-151-20161116-EB7	440-166433-1	Water	11/16/16
PC-122-20161116	440-166433-2	Water	11/16/16
PC-122-20161116MS	440-166433-2MS	Water	11/16/16
PC-122-20161116MSD	440-166433-2MSD	Water	11/16/16
I-AB	440-166442-1	Water	11/17/16
M-79-20161117	440-166552-1	Water	11/17/16
M-69-20161117	440-166552-2	Water	11/17/16
M-193-20161117	440-166552-3	Water	11/17/16
M-71-20161117	440-166552-4	Water	11/17/16
M-57A-20161118	440-166600-1	Water	11/18/16
M-72-20161118	440-166600-2	Water	11/18/16
M-70-20161118	440-166600-3	Water	11/18/16
M-161D-20161118	440-166600-4	Water	11/18/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-80-20161118	440-166602-1	Water	11/18/16
M-73-20161118	440-166602-2	Water	11/18/16
M-67-20161118	440-166602-3	Water	11/18/16
M-80-20161118MS	440-166602-1MS	Water	11/18/16
M-80-20161118MSD	440-166602-1MSD	Water	11/18/16
M-81A-20161118	440-166603-1	Water	11/18/16
M-74-20161118	440-166603-2	Water	11/18/16
M-68-20161118	440-166603-3	Water	11/18/16
M-19-20161118	440-166603-4	Water	11/18/16
M-35-20161118	440-166603-5	Water	11/18/16
PC-37-20161121	440-166790-1	Water	11/21/16
PC-73-20161121	440-166790-2	Water	11/21/16
M-135-20161121	440-166790-3	Water	11/21/16
M-135-20161121-FB9	440-166790-4	Water	11/21/16
M-11-20161121	440-166790-5	Water	11/21/16
M-11-20161121-FD9	440-166790-6	Water	11/21/16
M-37-20161122	440-166980-1	Water	11/22/16
M-162D-20161122	440-166980-2	Water	11/22/16
M-48A-20161122	440-166980-3	Water	11/22/16
M-23-20161122	440-166980-4	Water	11/22/16
M-23-20161122-EB9	440-166980-5	Water	11/22/16
M-83-20161121	440-166988-1	Water	11/21/16
M-10-20161122	440-166988-2	Water	11/22/16
M-10-20161122-FB8	440-166988-3	Water	11/22/16
M-190-20161122	440-166988-4	Water	11/22/16
M-52-20161122	440-166988-5	Water	11/22/16
M-186D-20161122	440-166988-6	Water	11/22/16
M-12A-20161122	440-166988-7	Water	11/22/16
M-190-20161122MS	440-166988-4MS	Water	11/22/16
M-190-20161122MSD	440-166988-4MSD	Water	11/22/16
M-191-20161122	440-167033-1	Water	11/22/16
M-31A-20161130	440-167631-1	Water	11/30/16
ART-1-121516**	440-169582-1**	Water	12/15/16
ART-2-121516**	440-169582-2**	Water	12/15/16
ART-3-121516**	440-169582-3**	Water	12/15/16
ART-4-121516**	440-169582-4**	Water	12/15/16
ART-6-121516**	440-169582-5**	Water	12/15/16
ART-7A-121516**	440-169582-6**	Water	12/15/16
ART-8A-121516**	440-169582-7**	Water	12/15/16
ART-9-121516**	440-169582-8**	Water	12/15/16
PC-150-121516**	440-169582-9**	Water	12/15/16
ART-1-121516-FB**	440-169582-10**	Water	12/15/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ART-9-121516-FD**	440-169582-11**	Water	12/15/16
PC-117-121516**	440-169582-12**	Water	12/15/16
PC-118-121516**	440-169582-13**	Water	12/15/16
PC-119-121516**	440-169582-14**	Water	12/15/16
PC-120-121516**	440-169582-15**	Water	12/15/16
PC-121-121516**	440-169582-16**	Water	12/15/16
PC-150-121516MS	440-169582-9MS	Water	12/15/16
PC-150-121516MSD	440-169582-9MSD	Water	12/15/16
I-AC-122116	440-170796-1	Water	12/22/16
M-10-20161227**	440-171145-1**	Water	12/27/16
PC-99R2/R3-121916	440-170151-1	Water	12/19/16
PC-115R-121916	440-170151-2	Water	12/19/16
PC-116R-121916	440-170151-3	Water	12/19/16
PC-133-121916	440-170151-4	Water	12/19/16
PC-116R-121916-FD	440-170151-5	Water	12/19/16
PC-133-121916-EB	440-170151-6	Water	12/19/16
PC-116R-121916MS	440-170151-3MS	Water	12/19/16
PC-116R-121916MSD	440-170151-3MSD	Water	12/19/16
I-AR-122016**	440-170398-1**	Water	12/20/16
I-AA-122016**	440-170398-2**	Water	12/20/16
I-B-122016**	440-170398-3**	Water	12/20/16
I-R-122016**	440-170398-4**	Water	12/20/16
I-Y-122016**	440-170398-5**	Water	12/20/16
I-L-122016**	440-170398-6**	Water	12/20/16
I-S-122016**	440-170398-7**	Water	12/20/16
I-C-122016**	440-170398-8**	Water	12/20/16
I-D-122016**	440-170398-9**	Water	12/20/16
I-M-122016**	440-170398-10**	Water	12/20/16
I-E-122016**	440-170398-11**	Water	12/20/16
I-N-122016**	440-170398-12**	Water	12/20/16
I-X-122016**	440-170398-13**	Water	12/20/16
I-F-122016**	440-170398-14**	Water	12/20/16
I-Q-122016**	440-170398-15**	Water	12/20/16
I-G-122016**	440-170398-16**	Water	12/20/16
I-T-122016**	440-170398-17**	Water	12/20/16
I-U-122016**	440-170398-18**	Water	12/20/16
I-H-122016**	440-170398-19**	Water	12/20/16
I-P-122016**	440-170398-20**	Water	12/20/16
I-O-122016**	440-170398-21**	Water	12/20/16
I-X-122016-EB**	440-170398-22**	Water	12/20/16
I-B-122016MS	440-170398-3MS	Water	12/20/16
I-B-122016MSD	440-170398-3MSD	Water	12/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-X-122016MS	440-170398-13MS	Water	12/20/16
I-X-122016MSD	440-170398-13MSD	Water	12/20/16
I-AB-122116	440-170572-1	Water	12/21/16
I-W-122116	440-170572-2	Water	12/21/16
I-V-122116	440-170572-3	Water	12/21/16
I-I-122116	440-170572-4	Water	12/21/16
I-Z-122116	440-170572-5	Water	12/21/16
I-J-122116	440-170572-6	Water	12/21/16
I-K-122116	440-170572-7	Water	12/21/16
I-AD-122116	440-170572-8	Water	12/21/16
I-W-122116-FD	440-170572-9	Water	12/21/16
I-V-122116MS	440-170572-3MS	Water	12/21/16
I-V-122116MSD	440-170572-3MSD	Water	12/21/16

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan Revision 1, Nevada Environmental Response Trust Site, Henderson, Nevada (July 2014) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Boron, Chromium, Iron, and Manganese by Environmental Protection Agency (EPA) Method 200.7

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

DNR (Do Not Report): A more appropriate result is reported from another analysis or dilution.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Codes and Definitions

a	Qualified due to low abundance (radiochemical activity)
be	Qualified due to equipment blank contamination
bf	Qualified due to field blank contamination
bl	Qualified due to lab blank contamination
bt	Qualified due to trip blank contamination
bp	Qualified due to pump blank contamination (wells without dedicated pumps, when contamination is detected in the pump blank)
br	Qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	Qualified due to calibration problems
cp	Qualified due to insufficient ingrowth (Radiochemical only)
dc	Duel column confirmation %D exceeded
e	Concentration exceeded the calibration range
fd	Qualified due to field duplicate imprecision
h	Qualified due to holding time exceedance
i	Qualified due to internal standard areas
k	Qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	Qualified due to LCS recoveries
ld	Qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	Qualified due to matrix spike recoveries
nb	Qualified due to negative lab blank contamination (nondetect results only)
nd	Qualified due to non-detected target analyte
o	Other
p	Qualified as a false positive due to contamination during shipping
pH	Sample preservation not within acceptance range
q	Qualified due to quantitation problems
s	Qualified due to surrogate recoveries
sd	Serial dilution did not meet control criteria
sp	Detected value reported >SQL <PQL
st	Sample receipt temperature exceeded
t	Qualified due to elevated helium tracer concentrations
vh	Volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	Qualified due to low % solids
z	Qualified due to ICS results

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

SDG	Blank ID	Analyte	Maximum Concentration	Associated Samples
440-170796-1 440-170572-1	PB (prep blank)	Chromium	0.00425 mg/L	I-AC-122116 I-V-122116 I-I-122116 I-Z-122116 I-J-122116 I-K-122116

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

V. Field Blanks

Samples PC-55-20161115-EB5, and PC-134D-20161115-EB4 (both from SDG 440-166209-1), PC-149-20161116-EB6, (from SDG 440-166340-1), M-38-20161117-EB8 (from SDG 440-166430-1), PC-151-20161116-EB7 (from SDG 440-166433-1), M-23-20161122-EB9 (from SDG 440-166980-1), PC-133-121916-EB (from SDG 440-170151-1), and I-X-122016-EB** (from SDG 440-170398-1) were identified as equipment blanks. No contaminants were found with the following exceptions:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
440-166430-1	M-38-20161117-EB8	11/17/16	Chromium	0.0063 mg/L	M-38-20161117

Samples PC-157A-20161114-FB4 (from SDG 440-166112-1), PC-136-20161115-FB5 (from SDG 440-166209-1), PC-144-20161116-FB6 (from SDG 440-166337-1), M-22A-20161117-FB7 (from SDG 440-166420-1), M-135-20161121-FB9 (from SDG 440-166790-1), M-10-20161122-FB8 (from SDG 440-166988-1), and ART-1-121516-FB** (from SDG 440-169582-1) were identified as field blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample.

For I-OMS/MSD, and I-NMS/MSD (both from SDG 440-161336-1), I-CMS/MSD, and I-FMS/MSD (both from SDG 440-166060-1), PC-150MS/MSD (from SDG 440-166063-1), I-X-122016MS/MSD (from SDG 440-170398-1),and I-V-122116MS/MSD (from SDG 440-170572-1), no data were qualified for Chromium percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in these SDGs, and therefore duplicate analyses were not performed for these SDGs.

VIII. Serial Dilution

Serial dilution was not performed for these SDGs.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples PC-94-20161114 and PC-94-20161114-FD4 (from SDG 440-166090-1), samples PC-98R-20161115 and PC-98R-20161115-FD6 (from SDG 440-166109-1), samples ARP-6B-20161115 and ARP-6B-20161115-FD5 from SDG 440-166111-1), samples PC-148-20161116 and PC-148-20161116-FD7 (from SDG 440-166342-1), samples M-192-20161117 and M-192-20161117-FD8 (from SDG 440-166423-1), samples M-11-20161121 and M-11-20161121-FD9 (from SDG 440-166790-1), samples ART-9-121516** and ART-9-121516-FD** (from SDG 440-169582-1), samples PC-116R-121916 and PC-116R-121916-FD (from SDG 440-170151-1), and samples I-W-122116 and I-W-122116-FD (from SDG 440-170572-1) were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		PC-94-20161114	PC-94-20161114-FD4			
440-166090-1	Chromium	0.083	0.079	5 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		PC-98R-20161115	PC-98R-20161115-FD6			
440-166109-1	Chromium	0.0077	0.0071	8 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		ARP-6B-20161115	ARP-6B-20161115-FD5			
440-166111-1	Chromium	0.42	0.42	0 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		PC-148-20161116	PC-148-20161116-FD7			
440-166342-1	Chromium	0.014	0.013	7 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-192-20161117	M-192-20161117-FD8			
440-166423-1	Chromium	0.52	0.53	2 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		M-11-20161121	M-11-20161121-FD9			
440-166790-1	Chromium	1.1	1.3	17 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		ART-9-121516**	ART-9-121516-FD**			
440-169582-1	Chromium	1.0	0.90	11 (≤30)	-	-

SDG	Analyte	Concentration (mg/L)		RPD (Limits)	Flag	A or P
		I-W-122116	I-W-122116-FD			
440-170572-1	Chromium	17	20	16 (≤30)	-	-

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Stage 4 validation. Raw data were reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

NERT 2016 Q4
Metals - Data Qualification Summary - SDGs 440-160680-1, 440-161336-1, 440-161556-1, 440-162514-1, 440-163453-1, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-16642-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167631-1, 440-169582-1, 440-170796-1, 440-171145-1, 440-170151-1, 440-170398-1, 440-170572-1

No Sample Data Qualified in this SDG

NERT 2016 Q4
Metals - Laboratory Blank Data Qualification Summary - SDGs 440-160680-1, 440-161336-1, 440-161556-1, 440-162514-1, 440-163453-1, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-16642-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167631-1, 440-169582-1, 440-170796-1, 440-171145-1, 440-170151-1, 440-170398-1, 440-170572-1

No Sample Data Qualified in these SDGs

NERT 2016 Q4
Metals - Field Blank Data Qualification Summary - SDGs 440-160680-1, 440-161336-1, 440-161556-1, 440-162514-1, 440-163453-1, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-16642-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167631-1, 440-169582-1, 440-170796-1, 440-171145-1, 440-170151-1, 440-170398-1, 440-170572-1

No Sample Data Qualified in these SDGs

ATTACHMENT D
WET CHEMISTRY DATA VALIDATION REPORT

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NERT 2016 Q3

LDC Report Date: March 2, 2017

Parameters: Wet Chemistry

Validation Level: Stage 2B & 4

Laboratory: TestAmerica, Inc./SilverState Analytical Laboratories

Sample Delivery Group (SDG): 440-151677-1, 440-151794-1/16070065, 440-152035-1, 440-152574-1, 440-153307-1/16070511, 440-153241-1, 440-153408-1, 440-152845-1/16070262, 440-152846-1/16070119, 440-154229-1, 440-154365-1/16080017, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-154944-1/16080276, 440-155035-1, 440-155148-1, 440-155186-1/16080317, 440-155316-1, 440-155320-1, 440-155320-2, 440-155334-1/16080415, 440-155490-1, 440-155494-1, 440-156239-1/16080089, 440-156317-1, 440-156610-1, 440-157616-1, 440-157843-1, 440-157936-1/16080416, 440-158103-1/16080663, 440-158214-1, 440-158404-1, 440-158406-1, 440-158478-1/16090425, 440-158607-1, 440-158652-1/16090503, 440-158656-1, 440-159190-1, 440-159527-1/16090165, 440-159532-1/16090237

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ART-2	440-151677-1	Water	07/05/16
PC-150	440-151677-2	Water	07/05/16
ART-8A	440-151677-3	Water	07/05/16
ART-7B	440-151677-4	Water	07/05/16
ART-1A	440-151677-5	Water	07/05/16
ART-3A	440-151677-6	Water	07/05/16
ART-9	440-151677-7	Water	07/05/16
ART-4	440-151677-8	Water	07/05/16
PC-99R2/R3	440-151677-9	Water	07/05/16
PC-115R	440-151677-10	Water	07/05/16
PC-116R	440-151677-11	Water	07/05/16
PC-118	440-151677-12	Water	07/05/16
PC-119	440-151677-13	Water	07/05/16
PC-117	440-151677-14	Water	07/05/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-133	440-151677-15	Water	07/05/16
PC-121	440-151677-16	Water	07/05/16
PC-120	440-151677-17	Water	07/05/16
PC-116RDUP	440-151677-11DUP	Water	07/05/16
ART-2	440-151794-1/16070065-01	Water	07/05/16
PC-150	440-151794-2/16070065-02	Water	07/05/16
ART-8A	440-151794-3/16070065-03	Water	07/05/16
ART-7B	440-151794-4/16070065-04	Water	07/05/16
ART-1A	440-151794-5/16070065-05	Water	07/05/16
ART-3A	440-151794-6/16070065-06	Water	07/05/16
ART-9	440-151794-7/16070065-07	Water	07/05/16
ART-4	440-151794-8/16070065-08	Water	07/05/16
PC-99R2/R3	440-151794-9/16070065-09	Water	07/05/16
PC-115R	440-151794-10/16070065-10	Water	07/05/16
PC-116R	440-151794-11/16070065-11	Water	07/05/16
PC-118	440-151794-12/16070065-12	Water	07/05/16
PC-119	440-151794-13/16070065-13	Water	07/05/16
PC-117	440-151794-14/16070065-14	Water	07/05/16
PC-133	440-151794-15/16070065-15	Water	07/05/16
PC-121	440-151794-16/16070065-16	Water	07/05/16
PC-120	440-151794-17/16070065-17	Water	07/05/16
ART-2MS	440-151794-1/16070065-01MS	Water	07/05/16
ART-2MSD	440-151794-1/16070065-01MSD	Water	07/05/16
PC-117MS	440-151794-14/16070065-14MS	Water	07/05/16
PC-117MSD	440-151794-14/16070065-14MSD	Water	07/05/16
I-O	440-152035-1	Water	07/06/16
I-W	440-152035-2	Water	07/06/16
I-P	440-152035-3	Water	07/06/16
I-H	440-152035-4	Water	07/06/16
I-U	440-152035-5	Water	07/06/16
I-T	440-152035-6	Water	07/06/16
I-Q	440-152035-7	Water	07/06/16
I-F	440-152035-8	Water	07/06/16
I-C	440-152035-9	Water	07/06/16
I-S	440-152035-10	Water	07/06/16
I-L	440-152035-11	Water	07/06/16
I-Y	440-152035-12	Water	07/06/16
I-R	440-152035-13	Water	07/06/16
I-B	440-152035-14	Water	07/06/16
I-AA	440-152035-15	Water	07/06/16
I-AR	440-152035-16	Water	07/06/16
I-FDUP	440-152035-8DUP	Water	07/06/16
I-N	440-152574-1	Water	07/12/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-D	440-152574-2	Water	07/12/16
I-X	440-152574-3	Water	07/12/16
I-M	440-152574-4	Water	07/12/16
I-AB	440-152574-5	Water	07/12/16
I-G	440-152574-6	Water	07/12/16
I-E	440-152574-7	Water	07/12/16
I-V	440-152574-8	Water	07/12/16
I-I	440-152574-9	Water	07/12/16
I-Z	440-152574-10	Water	07/12/16
I-J	440-152574-11	Water	07/12/16
I-K	440-152574-12	Water	07/12/16
I-AC	440-152574-13	Water	07/12/16
I-AD	440-152574-14	Water	07/12/16
I-NDUP	440-152574-1DUP	Water	07/12/16
I-JDUP	440-152574-11DUP	Water	07/12/16
ART-6	440-153307-1/16070511-01	Water	07/19/16
M-83	440-153241-1	Water	07/19/16
PC-58	440-153241-2	Water	07/19/16
PC-56	440-153241-3	Water	07/19/16
PC-60	440-153241-4	Water	07/19/16
PC-59	440-153241-5	Water	07/19/16
PC-62	440-153241-6	Water	07/19/16
PC-68	440-153241-7	Water	07/19/16
PC-86	440-153241-8	Water	07/19/16
PC-91	440-153241-9	Water	07/19/16
PC-90	440-153241-10	Water	07/19/16
PC-97	440-153241-11	Water	07/19/16
MEB-1	440-153241-12	Water	07/19/16
PC-122	440-153241-13	Water	07/19/16
ART-6	440-153241-14	Water	07/19/16
PC-101R	440-153241-15	Water	07/19/16
M-83DUP	440-153241-1DUP	Water	07/19/16
PC-97DUP	440-153241-11DUP	Water	07/19/16
MEB-1MS	440-153241-12MS	Water	07/19/16
MEB-1MSD	440-153241-12MSD	Water	07/19/16
PC-18	440-153408-1	Water	07/20/16
ARP-1	440-153408-2	Water	07/20/16
PC-53	440-153408-3	Water	07/20/16
MW-K5	440-153408-4	Water	07/20/16
ARP-7	440-153408-5	Water	07/20/16
ARP-6B	440-153408-6	Water	07/20/16
ARP-5A	440-153408-7	Water	07/20/16
ARP-4A	440-153408-8	Water	07/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-K4	440-153408-9	Water	07/20/16
ARP-3A	440-153408-10	Water	07/20/16
ARP-2A	440-153408-11	Water	07/20/16
PC-103	440-153408-12	Water	07/20/16
PC-98R	440-153408-13	Water	07/20/16
PC-55	440-153408-14	Water	07/20/16
PC-18DUP	440-153408-1DUP	Water	07/20/16
ARP-2ADUP	440-153408-11DUP	Water	07/20/16
I-N	440-152845-1/16070262-01	Water	07/12/16
I-D	440-152845-2/16070262-02	Water	07/12/16
I-X	440-152845-3/16070262-03	Water	07/12/16
I-M	440-152845-4/16070262-04	Water	07/12/16
I-AB	440-152845-5/16070262-05	Water	07/12/16
I-G	440-152845-6/16070262-06	Water	07/12/16
I-E	440-152845-7/16070262-07	Water	07/12/16
I-V	440-152845-8/16070262-08	Water	07/12/16
I-I	440-152845-9/16070262-09	Water	07/12/16
I-J	440-152845-10/16070262-10	Water	07/12/16
I-Z	440-152845-11/16070262-11	Water	07/12/16
I-K	440-152845-12/16070262-12	Water	07/12/16
I-AC	440-152845-13/16070262-13	Water	07/12/16
I-AD	440-152845-14/16070262-14	Water	07/12/16
I-EMS	440-152845-7/16070262-07MS	Water	07/12/16
I-EMSD	440-152845-7/16070262-07MSD	Water	07/12/16
I-O	440-152846-1/16070119-01	Water	07/06/16
I-W	440-152846-2/16070119-02	Water	07/06/16
I-P	440-152846-3/16070119-03	Water	07/06/16
I-H	440-152846-4/16070119-04	Water	07/06/16
I-U	440-152846-5/16070119-05	Water	07/06/16
I-T	440-152846-6/16070119-06	Water	07/06/16
I-Q	440-152846-7/16070119-07	Water	07/06/16
I-F	440-152846-8/16070119-08	Water	07/06/16
I-C	440-152846-9/16070119-09	Water	07/06/16
I-S	440-152846-10/16070119-10	Water	07/06/16
I-L	440-152846-11/16070119-11	Water	07/06/16
I-Y	440-152846-12/16070119-12	Water	07/06/16
I-R	440-152846-13/16070119-13	Water	07/06/16
I-B	440-152846-14/16070119-14	Water	07/06/16
I-AA	440-152846-15/16070119-15	Water	07/06/16
I-AR	440-152846-16/16070119-16	Water	07/06/16
I-HMS	440-152846-4/16070119-04MS	Water	07/06/16
I-HMSD	440-152846-4/16070119-04MSD	Water	07/06/16
PC-99R2/R3	440-154229-1	Water	08/01/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-115R	440-154229-2	Water	08/01/16
PC-116R	440-154229-3	Water	08/01/16
PC-117	440-154229-4	Water	08/01/16
PC-118	440-154229-5	Water	08/01/16
PC-119	440-154229-6	Water	08/01/16
PC-133	440-154229-7	Water	08/01/16
PC-120	440-154229-8	Water	08/01/16
PC-121	440-154229-9	Water	08/01/16
ART-4	440-154229-10	Water	08/01/16
ART-3A	440-154229-11	Water	08/01/16
ART-8A	440-154229-12	Water	08/01/16
ART-2A	440-154229-13	Water	08/01/16
ART-1A	440-154229-14	Water	08/01/16
ART-7B	440-154229-15	Water	08/01/16
ART-9	440-154229-16	Water	08/01/16
PC-150	440-154229-17	Water	08/01/16
PC-99R2/R3DUP	440-154229-1DUP	Water	08/01/16
PC-120MS	440-154229-8MS	Water	08/01/16
PC-120MSD	440-154229-8MSD	Water	08/01/16
ART-3ADUP	440-154229-11DUP	Water	08/01/16
PC-99R2/R3	440-154365-1/16080017-01	Water	08/01/16
PC-115R	440-154365-2/16080017-02	Water	08/01/16
PC-116R	440-154365-3/16080017-03	Water	08/01/16
PC-117	440-154365-4/16080017-04	Water	08/01/16
PC-118	440-154365-5/16080017-05	Water	08/01/16
PC-119	440-154365-6/16080017-06	Water	08/01/16
PC-133	440-154365-7/16080017-07	Water	08/01/16
PC-120	440-154365-8/16080017-08	Water	08/01/16
PC-121	440-154365-9/16080017-09	Water	08/01/16
ART-4	440-154365-10/16080017-10	Water	08/01/16
ART-3A	440-154365-11/16080017-11	Water	08/01/16
ART-8A	440-154365-12/16080017-12	Water	08/01/16
ART-2A	440-154365-13/16080017-13	Water	08/01/16
ART-1A	440-154365-14/16080017-14	Water	08/01/16
ART-7B	440-154365-15/16080017-15	Water	08/01/16
ART-9	440-154365-16/16080017-16	Water	08/01/16
PC-150	440-154365-17/16080017-17	Water	08/01/16
PC-99R2/R3MS	440-154365-1/16080017-01MS	Water	08/01/16
PC-99R2/R3MSD	440-154365-1/16080017-01MSD	Water	08/01/16
PC-150MS	440-154365-17/16080017-17MS	Water	08/01/16
PC-150MSD	440-154365-17/16080017-17MSD	Water	08/01/16
PC-122	440-154471-1	Water	08/02/16
PC-58	440-154471-2	Water	08/02/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-56	440-154471-3	Water	08/02/16
FB-1	440-154471-4	Water	08/02/16
PC-60	440-154471-5	Water	08/02/16
PC-59	440-154471-6	Water	08/02/16
PC-62	440-154471-7	Water	08/02/16
EB-1	440-154471-8	Water	08/02/16
PC-68	440-154471-9	Water	08/02/16
PC-86	440-154471-10	Water	08/02/16
PC-97	440-154471-11	Water	08/02/16
PC-90	440-154471-12	Water	08/02/16
PC-91	440-154471-13	Water	08/02/16
PC-94	440-154471-14	Water	08/02/16
PC-86DUP	440-154471-10DUP	Water	08/02/16
FB-1MS	440-154471-4MS	Water	08/02/16
FB-1MSD	440-154471-4MSD	Water	08/02/16
ART-6	440-154485-1	Water	08/02/16
ART-6DUP	440-154485-1DUP	Water	08/02/16
PC-18	440-154590-1	Water	08/03/16
ARP-1	440-154590-2	Water	08/03/16
PC-136	440-154590-3	Water	08/03/16
PC-53	440-154590-4	Water	08/03/16
EB2	440-154590-5	Water	08/03/16
MW-K5	440-154590-6	Water	08/03/16
PC-103	440-154590-7	Water	08/03/16
PC-98R	440-154590-8	Water	08/03/16
ARP-7	440-154590-9	Water	08/03/16
ARP-6B	440-154590-10	Water	08/03/16
ARP-5A	440-154590-11	Water	08/03/16
MEB-1	440-154590-12	Water	08/03/16
ARP-4A	440-154590-13	Water	08/03/16
MW-K4	440-154590-14	Water	08/03/16
PC-144	440-154590-15	Water	08/03/16
PC-135A	440-154590-16	Water	08/03/16
PC-101R	440-154590-17	Water	08/03/16
ARP-3A	440-154590-18	Water	08/03/16
ARP-2A	440-154590-19	Water	08/03/16
PC-18DUP	440-154590-1DUP	Water	08/03/16
EB2MS	440-154590-5MS	Water	08/03/16
EB2MSD	440-154590-5MSD	Water	08/03/16
ARP-5ADUP	440-154590-11DUP	Water	08/03/16
PC-123**	440-154938-1**	Water	08/08/16
DUP6**	440-154938-2**	Water	08/08/16
PC-128**	440-154938-3**	Water	08/08/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-129**	440-154938-4**	Water	08/08/16
PC-130**	440-154938-5**	Water	08/08/16
PC-131**	440-154938-6**	Water	08/08/16
PC-132**	440-154938-7**	Water	08/08/16
PC-124**	440-154938-8**	Water	08/08/16
PC-125**	440-154938-9**	Water	08/08/16
PC-126**	440-154938-10**	Water	08/08/16
PC-127**	440-154938-11**	Water	08/08/16
EB4**	440-154938-12**	Water	08/08/16
PC-148**	440-154938-13**	Water	08/08/16
PC-149**	440-154938-14**	Water	08/08/16
PC-54**	440-154938-15**	Water	08/08/16
M-48A**	440-154938-16**	Water	08/08/16
M-44**	440-154938-17**	Water	08/08/16
DUP7**	440-154938-18**	Water	08/08/16
PC-71**	440-154938-19**	Water	08/08/16
PC-72**	440-154938-20**	Water	08/08/16
PC-73**	440-154938-21**	Water	08/08/16
PC-37**	440-154938-22**	Water	08/08/16
PC-123DUP	440-154938-1DUP	Water	08/08/16
PC-127DUP	440-154938-11DUP	Water	08/08/16
EB4MS	440-154938-12MS	Water	08/08/16
EB4MSD	440-154938-12MSD	Water	08/08/16
M-44	440-154944-1/16080276-01	Water	08/08/16
Dup-7	440-154944-2/16080276-02	Water	08/08/16
M-44MS	440-154944-1/16080276-01MS	Water	08/08/16
M-44MSD	440-154944-1/16080276-01MSD	Water	08/08/16
M-10**	440-155035-1**	Water	08/09/16
M-83	440-155148-1	Water	08/09/16
M-80	440-155148-2	Water	08/09/16
M-81A	440-155148-3	Water	08/09/16
M-73	440-155148-4	Water	08/09/16
M-67	440-155148-5	Water	08/09/16
DUP8	440-155148-6	Water	08/09/16
M-74	440-155148-7	Water	08/09/16
EB9	440-155148-8	Water	08/09/16
M-68	440-155148-9	Water	08/09/16
M-19	440-155148-10	Water	08/09/16
M-35	440-155148-11	Water	08/09/16
M-31A	440-155148-12	Water	08/09/16
M-52	440-155148-13	Water	08/09/16
M-11	440-155148-14	Water	08/09/16
M-12A	440-155148-15	Water	08/09/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
DUP9	440-155148-16	Water	08/09/16
M-83DUP	440-155148-1DUP	Water	08/09/16
EB9MS	440-155148-8MS	Water	08/09/16
EB9MSD	440-155148-8MSD	Water	08/09/16
M-35DUP	440-155148-11DUP	Water	08/09/16
DUP9MS	440-155148-16MS	Water	08/09/16
DUP9MSD	440-155148-16MSD	Water	08/09/16
M-80	440-155186-1/16080317-01	Water	08/09/16
M-11	440-155186-2/16080317-02	Water	08/09/16
M-12A	440-155186-3/16080317-03	Water	08/09/16
DUP9	440-155186-4/16080317-04	Water	08/09/16
M-25	440-155316-1**	Water	08/10/16
M-37	440-155316-2**	Water	08/10/16
DUP12	440-155316-3**	Water	08/10/16
M-14A	440-155316-4**	Water	08/10/16
M-131	440-155316-5**	Water	08/10/16
M-57A	440-155316-6**	Water	08/10/16
M-135	440-155316-7**	Water	08/10/16
M-69	440-155316-8**	Water	08/10/16
EB-10	440-155316-9**	Water	08/10/16
M-79	440-155316-10**	Water	08/10/16
M-70	440-155316-11**	Water	08/10/16
M-71	440-155316-12**	Water	08/10/16
M-72	440-155316-13**	Water	08/10/16
M-65	440-155316-14**	Water	08/10/16
DUP10	440-155316-15**	Water	08/10/16
M-66	440-155316-16**	Water	08/10/16
M-38	440-155316-17**	Water	08/10/16
DUP11	440-155316-18**	Water	08/10/16
M-22A	440-155316-19**	Water	08/10/16
M-23	440-155316-20**	Water	08/10/16
PC-55	440-155316-21**	Water	08/10/16
M-64	440-155316-22**	Water	08/10/16
M-25DUP	440-155316-1DUP	Water	08/10/16
EB-10MS	440-155316-9MS	Water	08/10/16
EB-10MSD	440-155316-9MSD	Water	08/10/16
M-70DUP	440-155316-11DUP	Water	08/10/16
M-22AMS	440-155316-19MS	Water	08/10/16
M-22AMSD	440-155316-19MSD	Water	08/10/16
M-5A**	440-155320-1**	Water	08/10/16
M-5ADUP	440-155320-1DUP	Water	08/10/16
M-37	440-155334-1/16080415-01	Water	08/10/16
DUP-12	440-155334-2/16080415-02	Water	08/10/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-38	440-155334-3/16080415-03	Water	08/10/16
DUP11	440-155334-4/16080415-04	Water	08/10/16
H-28A	440-155490-1	Water	08/11/16
M-6A	440-155490-2	Water	08/11/16
M-7B	440-155490-3	Water	08/11/16
M-7BDUP	440-155490-3DUP	Water	08/11/16
I-O	440-155494-1	Water	08/11/16
I-W	440-155494-2	Water	08/11/16
I-P	440-155494-3	Water	08/11/16
I-H	440-155494-4	Water	08/11/16
I-U	440-155494-5	Water	08/11/16
I-T	440-155494-6	Water	08/11/16
I-G	440-155494-7	Water	08/11/16
I-Q	440-155494-8	Water	08/11/16
I-F	440-155494-9	Water	08/11/16
I-X	440-155494-10	Water	08/11/16
I-N	440-155494-11	Water	08/11/16
I-E	440-155494-12	Water	08/11/16
I-M	440-155494-13	Water	08/11/16
I-D	440-155494-14	Water	08/11/16
I-C	440-155494-15	Water	08/11/16
I-S	440-155494-16	Water	08/11/16
I-L	440-155494-17	Water	08/11/16
I-Y	440-155494-18	Water	08/11/16
I-R	440-155494-19	Water	08/11/16
I-B	440-155494-20	Water	08/11/16
I-AB	440-155494-21	Water	08/11/16
I-AA	440-155494-22	Water	08/11/16
I-AR	440-155494-23	Water	08/11/16
DUP14	440-155494-24	Water	08/11/16
I-AD	440-155494-25	Water	08/11/16
I-K	440-155494-26	Water	08/11/16
I-J	440-155494-27	Water	08/11/16
I-Z	440-155494-28	Water	08/11/16
I-I	440-155494-29	Water	08/11/16
I-V	440-155494-30	Water	08/11/16
I-ODUP	440-155494-1DUP	Water	08/11/16
I-NDUP	440-155494-11DUP	Water	08/11/16
I-ABDUP	440-155494-21DUP	Water	08/11/16
ART-6	440-156239-1/16080089-01	Water	08/02/16
I-AC	440-156317-1	Water	08/22/16
M-48A	440-156610-1	Water	08/24/16
M-48AMS	440-156610-1MS	Water	08/24/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-48AMSD	440-156610-1MSD	Water	08/24/16
PC-99R2/R3	440-157616-1	Water	09/06/16
PC-115R	440-157616-2	Water	09/06/16
PC-116R	440-157616-3	Water	09/06/16
PC-117	440-157616-4	Water	09/06/16
PC-118	440-157616-5	Water	09/06/16
PC-119	440-157616-6	Water	09/06/16
PC-120	440-157616-7	Water	09/06/16
PC-121	440-157616-8	Water	09/06/16
PC-133	440-157616-9	Water	09/06/16
ART-1A	440-157616-10	Water	09/06/16
ART-2A	440-157616-11	Water	09/06/16
ART-3A	440-157616-12	Water	09/06/16
ART-4	440-157616-13	Water	09/06/16
ART-7B	440-157616-14	Water	09/06/16
ART-8A	440-157616-15	Water	09/06/16
ART-9	440-157616-16	Water	09/06/16
PC-150	440-157616-17	Water	09/06/16
PC-99R2/R3DUP	440-157616-1DUP	Water	09/06/16
ART-2ADUP	440-157616-11DUP	Water	09/06/16
I-O	440-157843-1	Water	09/07/16
I-W	440-157843-2	Water	09/07/16
I-P	440-157843-3	Water	09/07/16
I-H	440-157843-4	Water	09/07/16
I-U	440-157843-5	Water	09/07/16
I-T	440-157843-6	Water	09/07/16
I-G	440-157843-7	Water	09/07/16
I-Q	440-157843-8	Water	09/07/16
I-F	440-157843-9	Water	09/07/16
I-X	440-157843-10	Water	09/07/16
I-N	440-157843-11	Water	09/07/16
I-E	440-157843-12	Water	09/07/16
I-M	440-157843-13	Water	09/07/16
I-D	440-157843-14	Water	09/07/16
I-C	440-157843-15	Water	09/07/16
I-S	440-157843-16	Water	09/07/16
I-L	440-157843-17	Water	09/07/16
I-Y	440-157843-18	Water	09/07/16
I-R	440-157843-19	Water	09/07/16
I-B	440-157843-20	Water	09/07/16
I-AB	440-157843-21	Water	09/07/16
I-AA	440-157843-22	Water	09/07/16
I-AR	440-157843-23	Water	09/07/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-AD	440-157843-24	Water	09/07/16
I-AC	440-157843-25	Water	09/07/16
I-K	440-157843-26	Water	09/07/16
I-Z	440-157843-27	Water	09/07/16
I-I	440-157843-28	Water	09/07/16
I-V	440-157843-29	Water	09/07/16
I-OMS	440-157843-1MS	Water	09/07/16
I-OMSD	440-157843-1MSD	Water	09/07/16
I-ODUP	440-157843-1DUP	Water	09/07/16
I-NDUP	440-157843-11DUP	Water	09/07/16
I-SMS	440-157843-16MS	Water	09/07/16
I-SMSD	440-157843-16MSD	Water	09/07/16
I-ABDUP	440-157843-21DUP	Water	09/07/16
I-O**	440-157936-1/16080416-01**	Water	08/11/16
I-W**	440-157936-2/16080416-02**	Water	08/11/16
I-P**	440-157936-3/16080416-03**	Water	08/11/16
I-H**	440-157936-4/16080416-04**	Water	08/11/16
I-U**	440-157936-5/16080416-05**	Water	08/11/16
I-T**	440-157936-6/16080416-06**	Water	08/11/16
I-G**	440-157936-7/16080416-07**	Water	08/11/16
I-Q**	440-157936-8/16080416-08**	Water	08/11/16
I-F**	440-157936-9/16080416-09**	Water	08/11/16
I-X**	440-157936-10/16080416-10**	Water	08/11/16
I-N**	440-157936-11/16080416-30**	Water	08/11/16
I-E**	440-157936-12/16080416-11**	Water	08/11/16
I-M**	440-157936-13/16080416-12**	Water	08/11/16
I-D**	440-157936-14/16080416-13**	Water	08/11/16
I-C**	440-157936-15/16080416-14**	Water	08/11/16
I-S**	440-157936-16/16080416-15**	Water	08/11/16
I-L**	440-157936-17/16080416-16**	Water	08/11/16
I-Y**	440-157936-18/16080416-17**	Water	08/11/16
I-R**	440-157936-19/16080416-18**	Water	08/11/16
I-B**	440-157936-20/16080416-19**	Water	08/11/16
I-AB**	440-157936-21/16080416-20**	Water	08/11/16
I-AA**	440-157936-22/16080416-21**	Water	08/11/16
I-AR**	440-157936-23/16080416-22**	Water	08/11/16
DUP14**	440-157936-24/16080416-23**	Water	08/11/16
I-AD**	440-157936-25/16080416-24**	Water	08/11/16
I-K**	440-157936-26/16080416-25**	Water	08/11/16
I-J**	440-157936-27/16080416-26**	Water	08/11/16
I-Z**	440-157936-28/16080416-27**	Water	08/11/16
I-I**	440-157936-29/16080416-28**	Water	08/11/16
I-V**	440-157936-30/16080416-29**	Water	08/11/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-OMS	440-157936-1MS	Water	08/11/16
I-OMSD	440-157936-1MSD	Water	08/11/16
I-CMS	440-157936-15MS	Water	08/11/16
I-CMSD	440-157936-15MSD	Water	08/11/16
I-KMS	440-157936-26MS	Water	08/11/16
I-KMSD	440-157936-26MSD	Water	08/11/16
I-AC	440-158103-1/16080663-01	Water	08/22/16
M-161D-20160912	440-158214-2	Water	09/12/16
M-162D-20160912	440-158214-3	Water	09/12/16
M-162D-20160912-FD	440-158214-4	Water	09/12/16
PC-153-20160912	440-158214-5	Water	09/12/16
PC-153-20160912-FD	440-158214-6	Water	09/12/16
PC-152-20160912-FB	440-158214-7	Water	09/12/16
PC-152-20160912	440-158214-8	Water	09/12/16
PC-151-20160912	440-158214-9	Water	09/12/16
M-186D-20160913-FB**	440-158404-2**	Water	09/13/16
M-186D-20160913**	440-158404-3**	Water	09/13/16
M-186-20160913**	440-158404-4**	Water	09/13/16
M-148A-20160913-EB**	440-158404-5**	Water	09/13/16
M-148A-20160913**	440-158404-6**	Water	09/13/16
M-190-20160913**	440-158404-7**	Water	09/13/16
M-193-20160913**	440-158404-8**	Water	09/13/16
PC-154-20160913**	440-158404-10**	Water	09/13/16
PC-158-20160913**	440-158404-11**	Water	09/13/16
PC-159-20160913**	440-158404-12**	Water	09/13/16
PC-159-20160913-FD**	440-158404-13**	Water	09/13/16
PC-137D-20160913-EB**	440-158404-14**	Water	09/13/16
PC-137D-20160913**	440-158404-15**	Water	09/13/16
PC-134D-20160913**	440-158404-16**	Water	09/13/16
M-186D-20160913MS	440-158404-3MS	Water	09/13/16
M-186D-20160913MSD	440-158404-3MSD	Water	09/13/16
M-186D-20160913DUP	440-158404-3DUP	Water	09/13/16
PC-159-20160913-FDDUP	440-158404-13DUP	Water	09/13/16
PC-137D-20160913MS	440-158404-15MS	Water	09/13/16
PC-137D-20160913MSD	440-158404-15MSD	Water	09/13/16
PC-56	440-158406-1	Water	09/13/16
PC-60	440-158406-2	Water	09/13/16
PC-58	440-158406-3	Water	09/13/16
PC-59	440-158406-4	Water	09/13/16
PC-62	440-158406-5	Water	09/13/16
PC-68	440-158406-6	Water	09/13/16
PC-86	440-158406-7	Water	09/13/16
PC-91	440-158406-8	Water	09/13/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-90	440-158406-9	Water	09/13/16
PC-97	440-158406-10	Water	09/13/16
M-83	440-158406-11	Water	09/13/16
I-J	440-158406-12	Water	09/13/16
PC-56DUP	440-158406-1DUP	Water	09/13/16
M-83DUP	440-158406-11DUP	Water	09/13/16
I-JDUP	440-158406-12DUP	Water	09/13/16
I-J	440-158478-1/16090425-01	Water	09/13/16
PC-18	440-158607-1	Water	09/14/16
PC-55	440-158607-2	Water	09/14/16
PC-122	440-158607-3	Water	09/14/16
PC-101R	440-158607-4	Water	09/14/16
ART-6	440-158607-5	Water	09/14/16
MEB-1	440-158607-6	Water	09/14/16
ART-6	440-158652-1/16090503-01	Water	09/14/16
ART-6MS	440-158652-1/16090503-01MS	Water	09/14/16
ART-6MSD	440-158652-1/16090503-01MSD	Water	09/14/16
M-145-20160914	440-158656-2	Water	09/14/16
M-191-20160914	440-158656-3	Water	09/14/16
M-192-20160914	440-158656-4	Water	09/14/16
PC-157A-20160914	440-158656-5	Water	09/14/16
PC-160-20160914	440-158656-6	Water	09/14/16
PC-156A-20160914	440-158656-7	Water	09/14/16
PC-156B-20160914	440-158656-8	Water	09/14/16
PC-155A-20160914	440-158656-9	Water	09/14/16
PC-155B-20160914	440-158656-10	Water	09/14/16
PC-157B-20160914	440-158656-11	Water	09/14/16
M-145-20160914MS	440-158656-2MS	Water	09/14/16
M-145-20160914MSD	440-158656-2MSD	Water	09/14/16
PC-155B-20160914DUP	440-158656-10DUP	Water	09/14/16
ARP-1	440-159190-1	Water	09/20/16
PC-53	440-159190-2	Water	09/20/16
MW-K5	440-159190-3	Water	09/20/16
ARP-7	440-159190-4	Water	09/20/16
ARP-6B	440-159190-5	Water	09/20/16
ARP-5A	440-159190-6	Water	09/20/16
ARP-4A	440-159190-7	Water	09/20/16
MW-K4	440-159190-8	Water	09/20/16
ARP-3A	440-159190-9	Water	09/20/16
ARP-2A	440-159190-10	Water	09/20/16
PC-103	440-159190-11	Water	09/20/16
PC-98R	440-159190-12	Water	09/20/16
PC-53DUP	440-159190-2DUP	Water	09/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-98RDUP	440-159190-12DUP	Water	09/20/16
PC-99R2/R3	440-159527-1/16090165-01	Water	09/06/16
PC-115R	440-159527-2/16090165-02	Water	09/06/16
PC-116R	440-159527-3/16090165-03	Water	09/06/16
PC-117	440-159527-4/16090165-04	Water	09/06/16
PC-118	440-159527-5/16090165-05	Water	09/06/16
PC-119	440-159527-6/16090165-06	Water	09/06/16
PC-120	440-159527-7/16090165-07	Water	09/06/16
PC-121	440-159527-8/16090165-08	Water	09/06/16
PC-133	440-159527-9/16090165-09	Water	09/06/16
ART-1A	440-159527-10/16090165-10	Water	09/06/16
ART-2A	440-159527-11/16090165-11	Water	09/06/16
ART-3A	440-159527-12/16090165-12	Water	09/06/16
ART-4	440-159527-13/16090165-13	Water	09/06/16
ART-7B	440-159527-14/16090165-14	Water	09/06/16
ART-8A	440-159527-15/16090165-15	Water	09/06/16
ART-9	440-159527-16/16090165-16	Water	09/06/16
PC-150	440-159527-17/16090165-17	Water	09/06/16
PC-99R2/R3MS	440-159527-1/16090165-01MS	Water	09/06/16
PC-99R2/R3MSD	440-159527-1/16090165-01MSD	Water	09/06/16
I-O	440-159532-1/16090237-01	Water	09/07/16
I-W	440-159532-2/16090237-02	Water	09/07/16
I-P	440-159532-3/16090237-03	Water	09/07/16
I-H	440-159532-4/16090237-04	Water	09/07/16
I-U	440-159532-5/16090237-05	Water	09/07/16
I-T	440-159532-6/16090237-06	Water	09/07/16
I-G	440-159532-7/16090237-07	Water	09/07/16
I-Q	440-159532-8/16090237-08	Water	09/07/16
I-F	440-159532-9/16090237-09	Water	09/07/16
I-X	440-159532-10/16090237-10	Water	09/07/16
I-N	440-159532-11/16090237-11	Water	09/07/16
I-E	440-159532-12/16090237-12	Water	09/07/16
I-M	440-159532-13/16090237-13	Water	09/07/16
I-D	440-159532-14/16090237-14	Water	09/07/16
I-C	440-159532-15/16090237-15	Water	09/07/16
I-S	440-159532-16/16090237-16	Water	09/07/16
I-L	440-159532-17/16090237-17	Water	09/07/16
I-Y	440-159532-18/16090237-18	Water	09/07/16
I-R	440-159532-19/16090237-19	Water	09/07/16
I-B	440-159532-20/16090237-20	Water	09/07/16
I-AB	440-159532-21/16090237-21	Water	09/07/16
I-AA	440-159532-22/16090237-22	Water	09/07/16
I-AR	440-159532-23/16090237-23	Water	09/07/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-AD	440-159532-24/16090237-24	Water	09/07/16
I-AC	440-159532-25/16090237-25	Water	09/07/16
I-K	440-159532-26/16090237-26	Water	09/07/16
I-Z	440-159532-27/16090237-27	Water	09/07/16
I-I	440-159532-28/16090237-28	Water	09/07/16
I-V	440-159532-29/16090237-29	Water	09/07/16
I-HMS	440-159532-4/16090237-04MS	Water	09/07/16
I-HMSD	440-159532-4/16090237-04MSD	Water	09/07/16
I-CMS	440-159532-15/16090237-15MS	Water	09/07/16
I-CMSD	440-159532-15/16090237-15MSD	Water	09/07/16
I-VMS	440-159532-29/16090237-29MS	Water	09/07/16
I-VMSD	440-159532-29/16090237-29MSD	Water	09/07/16

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan Revision 1, Nevada Environmental Response Trust (NERT) Site, Henderson, Nevada (July 2014) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Perchlorate by Environmental Protection Agency (EPA) Method 314.0
pH by Field Test
Total Dissolved Solids by Standard Method 2540C
Nitrate as Nitrogen, Chloride, and Nitrite as Nitrogen by EPA Method 300.0
Hexavalent Chromium by EPA Method 218.6
Ammonia as Nitrogen by EPA Method 350.1
Chlorate by EPA Method 300.1B
Nitrate/Nitrite as Nitrogen by EPA Method 353.2
Total Inorganic Nitrogen by Calculation Method
Conductivity by Standard Method 2510B
Total Recoverable Phenolics by EPA Method 420.1
Total Organic Carbon by Standard Method 5310C
Toxic Organic Halides by EPA SW 846 Method 9020B

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

DNR (Do Not Report): A more appropriate result is reported from another analysis or dilution.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Codes and Definitions

a	Qualified due to low abundance (radiochemical activity)
be	Qualified due to equipment blank contamination
bf	Qualified due to field blank contamination
bl	Qualified due to lab blank contamination
bt	Qualified due to trip blank contamination
bp	Qualified due to pump blank contamination (wells without dedicated pumps, when contamination is detected in the pump blank)
br	Qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	Qualified due to calibration problems
cp	Qualified due to insufficient ingrowth (Radiochemical only)
dc	Duel column confirmation %D exceeded
e	Concentration exceeded the calibration range
fd	Qualified due to field duplicate imprecision
h	Qualified due to holding time exceedance
i	Qualified due to internal standard areas
k	Qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	Qualified due to LCS recoveries
ld	Qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	Qualified due to matrix spike recoveries
nb	Qualified due to negative lab blank contamination (nondetect results only)
nd	Qualified due to non-detected target analyte
o	Other
p	Qualified as a false positive due to contamination during shipping
pH	Sample preservation not within acceptance range
q	Qualified due to quantitation problems
s	Qualified due to surrogate recoveries
sd	Serial dilution did not meet control criteria
sp	Detected value reported >SQL <PQL
st	Sample receipt temperature exceeded
t	Qualified due to elevated helium tracer concentrations
vh	Volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	Qualified due to low % solids
z	Qualified due to ICS results

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

SDG	Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
440-155148-1	M-11	Nitrate as N	61.85 hours	48 hours	J- (all detects)	P
440-155148-1	M-12A	Nitrate as N	61.43 hours	48 hours	J- (all detects)	P
440-155148-1	DUP9	Nitrate as N	61.67 hours	48 hours	J- (all detects)	P
440-155320-2	M-5A**	Toxic organic halides	36 days	28 days	J- (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

SDG	Blank ID	Analyte	Maximum Concentration	Associated Samples
440-155148-1	ICB/CCB	Perchlorate	0.508 ug/L	M-83 M-80 M-81A M-73 M-67 DUP8 M-74 M-68 M-19 M-35 M-31A M-52 M-11 M-12A DUP9
440-155320-1	ICB/CCB	Total organic carbon	0.0745 mg/L	M-5A**

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

V. Field Blanks

Samples MEB-1 (from SDG 440-153241-1), EB-1 (from SDG 440-154471-1), EB2 and MEB-1 (both from SDG 440-154590-1), EB4 (from SDG 440-154938-1), EB9 (from SDG 440-155148-1), EB-10** (from SDG 440-155316-1), M-148A-20160913-EB** and PC-137D-20160913-EB** (both from SDG 440-158404-1), and MEB-1 (from SDG 440-158607-1) were identified as equipment blanks. No contaminants were found with the following exceptions:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
440-153241-1	MEB-1	07/19/16	Perchlorate	1.2 ug/L	M-83 PC-58 PC-56 PC-60 PC-59 PC-62 PC-68 PC-86 PC-91 PC-90 PC-97 PC-122 ART-6 PC-101R
440-155148-1	EB9	08/09/16	Perchlorate	1.2 ug/L	M-83 M-80 M-81A M-73 M-67 DUP8 M-74 M-68 M-19 M-35 M-31A M-52 M-11 M-12A DUP9

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
440-155316-1	EB-10	08/10/16	Perchlorate	1.1 ug/L	M-25 M-37 DUP12 M-14A M-131 M-57A M-135 M-69 M-79 M-70 M-71 M-72 M-65 DUP10 M-66 M-38 DUP11 M-22A M-23 PC-55 M-64
440-158607-1	MEB-1	09/14/16	Perchlorate	0.54 ug/L	PC-18 PC-55 PC-122 PC-101R ART-6

Samples FB-1 (from SDG 440-154471-1), PC-152-20160912-FB (from SDG 440-158214-1), and M-186D-20160913-FB** (from SDG 440-158404-1) were identified as field blanks. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

VI. Surrogates

Surrogates were added to all chlorate samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

SDG	Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
440-155316-1	M-22AMS/MSD (M-25 M-37 DUP12 M-22A)	Nitrate as N	23 (80-120)	12 (80-120)	J- (all detects)	A
440-158656-1	M-145-20160914MS/MSD (M-145-20160914)	Perchlorate	197 (80-120)	191 (80-120)	J+ (all detects)	A

For M-48AMS/MSD (from SDG 440-156610-1), no data were qualified for Nitrate as N percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For I-OMS/MSD and I-SMS/MSD (both from SDG 440-157843-1), no data were qualified for Perchlorate percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For M-186D-20160913MS/MSD (from SDG 440-158404-1), no data were qualified for Perchlorate and Chlorate percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits.

VIII. Duplicate Sample Analysis

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples PC-123** and DUP6** (from SDG 440-154938-1), samples M-44** and DUP7** (from SDG 440-154938-1), samples M-44 and Dup-7 (from SDG 440-154944-1/16080276), samples M-67 and DUP8 (from SDG 440-155148-1), samples M-12A and DUP9 (from SDG 440-155148-1), samples M-12A and DUP9 (from SDG 440-155186-1/16080317), samples M-37** and DUP12** (from SDG 440-155316-1), samples M-65** and DUP10** (from SDG 440-155316-1), samples M-38** and DUP11** (from SDG 440-155316-1), samples M-37** and DUP-12** (from SDG 440-155334-1/16080415), samples M-38 and DUP11 (from SDG 440-155334-1/16080415), samples I-AR and DUP14 (from SDG 440-155494-1), I-AR** and DUP14** (from SDG 440-157936-1/160804016), samples M-162D-20160912 and M-162D-20160912-FD (from SDG 440-158214-1), samples PC-153-20160912 and PC-153-20160912-FD (from SDG 440-158214-1), samples PC-159-20160913** and PC-159-20160913-FD** (from SDG 440-158404-1) were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		PC-123**	DUP6**			
440-154938-1	Perchlorate	230000 ug/L	210000 ug/L	9 (≤30)	-	-
	pH	7.41 SU	7.40 SU	0 (≤30)	-	-
	Total dissolved solids	6500 mg/L	6600 mg/L	2 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-44**	DUP7**			
440-154938-1	Perchlorate	660000 ug/L	630000 ug/L	5 (≤30)	-	-
	pH	7.33 SU	7.28 SU	1 (≤30)	-	-
	Total dissolved solids	8700 mg/L	8800 mg/L	1 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-44	Dup-7			
440-154944-1/16080276	Hexavalent chromium	810	920	13 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-67	DUP8			
440-155148-1	Perchlorate	250000 ug/L	250000 ug/L	0 (≤30)	-	-
	pH	7.20 SU	7.20 SU	0 (≤30)	-	-
	Total dissolved solids	6100 mg/L	6100 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-12A	DUP9			
440-155148-1	Perchlorate	150000 ug/L	160000 ug/L	6 (≤30)	-	-
	pH	7.97 SU	7.96 SU	0 (≤30)	-	-
	Nitrate as N	7.0 mg/L	6.9 mg/L	1 (≤30)	-	-
	Chlorate	1300000 ug/L	1300000 ug/L	0 (≤30)	-	-
	Total dissolved solids	5800 mg/L	5700 mg/L	2 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-12A	DUP9			
440-155186-1/16080317	Hexavalent chromium	8000	8100	1 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-37**	DUP12**			
440-155316-1	Perchlorate	740000 ug/L	770000 ug/L	4 (≤30)	-	-
	Nitrate as N	140 mg/L	140 mg/L	0 (≤30)	-	-
	Chlorate	9000 ug/L	8500 ug/L	6 (≤30)	-	-
	pH	6.81 SU	6.81 SU	0 (≤30)	-	-
	Total dissolved solids	4600 mg/L	4500 mg/L	2 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-65**	DUP10**			
440-155316-1	Perchlorate	910000 ug/L	940000 ug/L	3 (≤30)	-	-
	pH	7.12 SU	7.12 SU	0 (≤30)	-	-
	Total dissolved solids	12000 mg/L	12000 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-38**	DUP11**			
440-155316-1	Perchlorate	300000 ug/L	310000 ug/L	3 (≤30)	-	-
	pH	7.46 SU	7.49 SU	0 (≤30)	-	-
	Total dissolved solids	5000 mg/L	4900 mg/L	2 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-37	DUP-12			
440-155334-1/16080415	Hexavalent chromium	12	12	0 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-38	DUP11			
440-155334-1/16080415	Hexavalent chromium	6700	7600	13 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		I-AR	DUP14			
440-155494-1	Perchlorate	1800000 ug/L	1700000 ug/L	6 (≤30)	-	-
	pH	7.10 SU	7.06 SU	1 (≤30)	-	-
	Total dissolved solids	6200 mg/L	6200 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		I-AR**	DUP14**			
440-157936-1/16080416	Hexavalent chromium	48.0	56	15 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		M-162D-20160912	M-162D-20160912-FD			
440-158214-1	Perchlorate	2.0	2.0	0 (≤30)	-	-
	Total dissolved solids	520000	520000	0 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		PC-153-20160912	PC-153-20160912-FD			
440-158214-1	Perchlorate	4200	4200	0 (≤30)	-	-
	Total dissolved solids	5800000	5900000	2 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		PC-159-20160913**	PC-159-20160913-FD**			
440-158404-1	Perchlorate	41000	40000	2 (≤30)	-	-
	Chlorate	6400	6300	2 (≤30)	-	-
	Total dissolved solids	5000000	5100000	2 (≤30)	-	-

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in these SDGs.

Due to technical holding time and MS/MSD %R, data were qualified as estimated in nine samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

NERT 2016 Q3

Wet Chemistry - Data Qualification Summary - SDGs 440-151677-1, 440-151794-1/16070065, 440-152035-1, 440-152574-1, 440-153307-1/16070511, 440-153241-1, 440-153408-1, 440-152845-1/16070262, 440-152846-1/16070119, 440-154229-1, 440-154365-1/16080017, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-154944-1/16080276, 440-155035-1, 440-155148-1, 440-155186-1/16080317, 440-155316-1, 440-155320-1, 440-155320-2, 440-155334-1/16080415, 440-155490-1, 440-155494-1, 440-156239-1/16080089, 440-156317-1, 440-156610-1, 440-157616-1, 440-157843-1, 440-157936-1/16080416, 440-158103-1/16080663, 440-158214-1, 440-158404-1, 440-158406-1, 440-158478-1/16090425, 440-158607-1, 440-158652-1/16090503, 440-158656-1, 440-159190-1, 440-159527-1/16090165, 440-159532-1/16090237

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
440-155148-1	M-11 M-12A DUP9	Nitrate as N	J- (all detects)	P	Technical holding times (h)
440-155320-2	M-5A**	Toxic organic halides	J- (all detects)	P	Technical holding times (h)
440-155316-1	M-25 M-37 DUP12 M-22A	Nitrate as N	J- (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-158656-1	M-145-20160914	Perchlorate	J+ (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)

NERT 2016 Q3

Wet Chemistry - Laboratory Blank Data Qualification Summary – SDGs 440-151677-1, 440-151794-1/16070065, 440-152035-1, 440-152574-1, 440-153307-1/16070511, 440-153241-1, 440-153408-1, 440-152845-1/16070262, 440-152846-1/16070119, 440-154229-1, 440-154365-1/16080017, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-154944-1/16080276, 440-155035-1, 440-155148-1, 440-155186-1/16080317, 440-155316-1, 440-155320-1, 440-155320-2, 440-155334-1/16080415, 440-155490-1, 440-155494-1, 440-156239-1/16080089, 440-156317-1, 440-156610-1, 440-157616-1, 440-157843-1, 440-157936-1/16080416, 440-158103-1/16080663, 440-158214-1, 440-158404-1, 440-158406-1, 440-158478-1/16090425, 440-158607-1, 440-158652-1/16090503, 440-158656-1, 440-159190-1, 440-159527-1/16090165, 440-159532-1/16090237

No Sample Data Qualified in these SDGs

NERT 2016 Q3

Wet Chemistry - Field Blank Data Qualification Summary - SDGs 440-151677-1, 440-151794-1/16070065, 440-152035-1, 440-152574-1, 440-153307-1/16070511, 440-153241-1, 440-153408-1, 440-152845-1/16070262, 440-152846-1/16070119, 440-154229-1, 440-154365-1/16080017, 440-154471-1, 440-154485-1, 440-154590-1, 440-154938-1, 440-154944-1/16080276, 440-155035-1, 440-155148-1, 440-155186-1/16080317, 440-155316-1, 440-155320-1, 440-155320-2, 440-155334-1/16080415, 440-155490-1, 440-155494-1, 440-156239-1/16080089, 440-156317-1, 440-156610-1, 440-157616-1, 440-157843-1, 440-157936-1/16080416, 440-158103-1/16080663, 440-158214-1, 440-158404-1, 440-158406-1, 440-158478-1/16090425, 440-158607-1, 440-158652-1/16090503, 440-158656-1, 440-159190-1, 440-159527-1/16090165, 440-159532-1/16090237

No Sample Data Qualified in these SDGs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NERT 2016 Q4

LDC Report Date: March 28, 2017

Parameters: Wet Chemistry

Validation Level: Stage 2B & 4

Laboratory: TestAmerica, Inc./Asset Laboratories

Sample Delivery Group (SDG): 440-160590-1, 440-160680-1, 440-161336-1, 440-161484-1/N021214, 440-161552-1, 440-161556-1, 440-161752-1, 440-162515-1/N021299, 440-162514-1, 440-163451-1/N021393, 440-163453-1, 440-163816-1/N021226, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-166437-1, 440-166442-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167238-1/N021682, 440-167500-1/N021701, 440-167564-1/N021725, 440-167568-1/N021724, 440-167631-1, 440-167718-1/N021707, 440-168227-1/N021751, 440-168260-1, 440-168261-1, 440-168264-1/N021752, 440-168537-1, 440-169256-1/N021841, 440-169258-1/N021869, 440-169582-1, 440-170796-1, 440-170899-1/N022324, 440-170907-1/N022351, 440-170911-1/N022336, 440-171145-1, 440-170151-1, 440-170150-1/N022233, 440-170153-1/N022300, 440-170398-1, 440-170572-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-AD	440-160590-1	Water	10/04/16
I-AC	440-160590-2	Water	10/04/16
I-K	440-160590-3	Water	10/04/16
I-J	440-160590-4	Water	10/04/16
I-Z	440-160590-5	Water	10/04/16
I-I	440-160590-6	Water	10/04/16
I-ACMS	440-160590-2MS	Water	10/04/16
I-ACMSD	440-160590-2MSD	Water	10/04/16
I-AD	440-160680-1	Water	10/04/16
I-AC	440-160680-2	Water	10/04/16
I-K	440-160680-3	Water	10/04/16
I-J	440-160680-4	Water	10/04/16
I-Z	440-160680-5	Water	10/04/16
I-I	440-160680-6	Water	10/04/16
I-JDUP	440-160680-4DUP	Water	10/04/16
I-O	440-161336-1	Water	10/10/16
I-W	440-161336-2	Water	10/10/16
I-P	440-161336-3	Water	10/10/16
I-H	440-161336-4	Water	10/10/16
I-U	440-161336-5	Water	10/10/16
I-T	440-161336-6	Water	10/10/16
I-G	440-161336-7	Water	10/10/16
I-Q	440-161336-8	Water	10/10/16
I-F	440-161336-9	Water	10/10/16
I-X	440-161336-10	Water	10/10/16
I-N	440-161336-11	Water	10/10/16
I-E	440-161336-12	Water	10/10/16
I-M	440-161336-13	Water	10/10/16
I-D	440-161336-14	Water	10/10/16
I-C	440-161336-15	Water	10/10/16
I-S	440-161336-16	Water	10/10/16
I-L	440-161336-17	Water	10/10/16
I-Y	440-161336-18	Water	10/10/16
I-R	440-161336-19	Water	10/10/16
I-B	440-161336-20	Water	10/10/16
I-AB	440-161336-21	Water	10/10/16
I-AA	440-161336-22	Water	10/10/16
I-AR	440-161336-23	Water	10/10/16
I-ODUP	440-161336-1DUP	Water	10/10/16
I-NDUP	440-161336-11DUP	Water	10/10/16
I-O	440-161484-1/N021214-001	Water	10/10/16
I-W	440-161484-2/N021214-002	Water	10/10/16
I-P	440-161484-3/N021214-003	Water	10/10/16
I-H	440-161484-4/N021214-004	Water	10/10/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-U	440-161484-5/N021214-005	Water	10/10/16
I-T	440-161484-6/N021214-006	Water	10/10/16
I-G	440-161484-7/N021214-007	Water	10/10/16
I-Q	440-161484-8/N021214-008	Water	10/10/16
I-F	440-161484-9/N021214-009	Water	10/10/16
I-X	440-161484-10/N021214-010	Water	10/10/16
I-N	440-161484-11/N021214-011	Water	10/10/16
I-E	440-161484-12/N021214-012	Water	10/10/16
I-M	440-161484-13/N021214-013	Water	10/10/16
I-D	440-161484-14/N021214-014	Water	10/10/16
I-C	440-161484-15/N021214-015	Water	10/10/16
I-S	440-161484-16/N021214-016	Water	10/10/16
I-L	440-161484-17/N021214-017	Water	10/10/16
I-Y	440-161484-18/N021214-018	Water	10/10/16
I-R	440-161484-19/N021214-019	Water	10/10/16
I-B	440-161484-20/N021214-020	Water	10/10/16
I-AB	440-161484-21/N021214-021	Water	10/10/16
I-AA	440-161484-22/N021214-022	Water	10/10/16
I-AR	440-161484-23/N021214-021	Water	10/10/16
I-WMS	440-161484-2MS/N021214-002MS	Water	10/10/16
I-WMSD	440-161484-2MSD/N021214-002MSD	Water	10/10/16
I-HMS	440-161484-4MS/N021214-004MS	Water	10/10/16
I-HMSD	440-161484-4MSD/N021214-004MSD	Water	10/10/16
I-QMS	440-161484-8MS/N021214-008MS	Water	10/10/16
I-0DUP	440-161484-1DUP/N021214-001DUP	Water	10/10/16
I-TDUP	440-161484-6DUP/N021214-006DUP	Water	10/10/16
M-83	440-161552-1	Water	10/11/16
PC-58	440-161552-2	Water	10/11/16
PC-56	440-161552-3	Water	10/11/16
PC-59	440-161552-4	Water	10/11/16
PC-60	440-161552-5	Water	10/11/16
PC-62	440-161552-6	Water	10/11/16
PC-68	440-161552-7	Water	10/11/16
PC-86	440-161552-8	Water	10/11/16
PC-91	440-161552-9	Water	10/11/16
PC-90	440-161552-10	Water	10/11/16
PC-97	440-161552-11	Water	10/11/16
M-83DUP	440-161552-1DUP	Water	10/11/16
PC-97DUP	440-161552-11DUP	Water	10/11/16
I-V	440-161556-1	Water	10/11/16
PC-18	440-161752-1	Water	10/12/16
ARP-1	440-161752-2	Water	10/12/16
PC-122	440-161752-3	Water	10/12/16
PC-53	440-161752-4	Water	10/12/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
MW-K5	440-161752-5	Water	10/12/16
PC-103	440-161752-6	Water	10/12/16
PC-98R	440-161752-7	Water	10/12/16
ARP-7	440-161752-8	Water	10/12/16
ARP-6B	440-161752-9	Water	10/12/16
ARP-5A	440-161752-10	Water	10/12/16
ARP-4A	440-161752-11	Water	10/12/16
MEB-1	440-161752-12	Water	10/12/16
MW-K4	440-161752-13	Water	10/12/16
ARP-3A	440-161752-14	Water	10/12/16
PC-101R	440-161752-15	Water	10/12/16
ARP-2A	440-161752-16	Water	10/12/16
PC-55	440-161752-17	Water	10/12/16
PC-18DUP	440-161752-1DUP	Water	10/12/16
ARP-4ADUP	440-161752-11DUP	Water	10/12/16
PC-99R2/R3	440-162515-1/N021299-001	Water	10/18/16
PC-115R	440-162515-2/N021299-002	Water	10/18/16
PC-116R	440-162515-3/N021299-003	Water	10/18/16
PC-117	440-162515-4/N021299-004	Water	10/18/16
PC-118	440-162515-5/N021299-005	Water	10/18/16
PC-119	440-162515-6/N021299-006	Water	10/18/16
PC-120	440-162515-7/N021299-007	Water	10/18/16
PC-121	440-162515-8/N021299-008	Water	10/18/16
PC-133	440-162515-9/N021299-009	Water	10/18/16
PC-99R2/R3	440-162514-1	Water	10/18/16
PC-115R	440-162514-2	Water	10/18/16
PC-116R	440-162514-3	Water	10/18/16
PC-117	440-162514-4	Water	10/18/16
PC-118	440-162514-5	Water	10/18/16
PC-119	440-162514-6	Water	10/18/16
PC-120	440-162514-7	Water	10/18/16
PC-121	440-162514-8	Water	10/18/16
PC-133	440-162514-9	Water	10/18/16
PC-99R2/R3DUP	440-162514-1DUP	Water	10/18/16
PC-120MS	440-162514-7MS	Water	10/18/16
PC-120MSD	440-162514-7MSD	Water	10/18/16
ART-1A	440-163451-1/N021393-001	Water	10/26/16
ART-2	440-163451-2/N021393-002	Water	10/26/16
ART-3	440-163451-3/N021393-003	Water	10/26/16
ART-4	440-163451-4/N021393-004	Water	10/26/16
ART-6	440-163451-5/N021393-005	Water	10/26/16
ART-7B	440-163451-6/N021393-006	Water	10/26/16
ART-8	440-163451-7/N021393-007	Water	10/26/16
ART-9	440-163451-8/N021393-008	Water	10/26/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-150	440-163451-9/N021393-009	Water	10/26/16
ART-1A	440-163453-1	Water	10/26/16
ART-2	440-163453-2	Water	10/26/16
ART-3	440-163453-3	Water	10/26/16
ART-4	440-163453-4	Water	10/26/16
ART-6	440-163453-5	Water	10/26/16
ART-7B	440-163453-6	Water	10/26/16
ART-8	440-163453-7	Water	10/26/16
ART-9	440-163453-8	Water	10/26/16
PC-150	440-163453-9	Water	10/26/16
ART-1ADUP	440-163453-1DUP	Water	10/26/16
I-V	440-163816-1/N021226-001	Water	10/11/16
I-AR	440-166056-1	Water	11/15/16
I-AA	440-166056-2	Water	11/15/16
I-O	440-166056-3	Water	11/15/16
I-W	440-166056-4	Water	11/15/16
I-P	440-166056-5	Water	11/15/16
I-H	440-166056-6	Water	11/15/16
I-U	440-166056-7	Water	11/15/16
I-T	440-166056-8	Water	11/15/16
I-G	440-166056-9	Water	11/15/16
I-Q	440-166056-10	Water	11/15/16
I-ARDUP	440-166056-1DUP	Water	11/15/16
I-AAMS	440-166056-2MS	Water	11/15/16
I-AAMSD	440-166056-2MSD	Water	11/15/16
I-TMS	440-166056-8MS	Water	11/15/16
I-TMSD	440-166056-8MSD	Water	11/15/16
I-C	440-166060-1	Water	11/15/16
I-S	440-166060-2	Water	11/15/16
I-L	440-166060-3	Water	11/15/16
I-Y	440-166060-4	Water	11/15/16
I-R	440-166060-5	Water	11/15/16
I-B	440-166060-6	Water	11/15/16
I-E	440-166060-7	Water	11/15/16
I-X	440-166060-8	Water	11/15/16
I-D	440-166060-9	Water	11/15/16
I-M	440-166060-10	Water	11/15/16
I-F	440-166060-11	Water	11/15/16
I-N	440-166060-12	Water	11/15/16
I-CMS	440-166060-1MS	Water	11/15/16
I-CMSD	440-166060-1MSD	Water	11/15/16
I-SMS	440-166060-2MS	Water	11/15/16
I-SMSD	440-166060-2MSD	Water	11/15/16
I-DDUP	440-166060-9DUP	Water	11/15/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-NMS	440-166060-12MS	Water	11/15/16
I-NMSD	440-166060-12MSD	Water	11/15/16
ART-1	440-166063-1	Water	11/14/16
ART-2	440-166063-2	Water	11/14/16
ART-3A	440-166063-3	Water	11/14/16
ART-4	440-166063-4	Water	11/14/16
ART-6	440-166063-5	Water	11/14/16
ART-7B	440-166063-6	Water	11/14/16
ART-8A	440-166063-7	Water	11/14/16
ART-9	440-166063-8	Water	11/14/16
PC-150	440-166063-9	Water	11/14/16
ART-1DUP	440-166063-1DUP	Water	11/14/16
PC-155B-20161114	440-166082-1	Water	11/14/16
PC-86-20161114	440-166082-2	Water	11/14/16
PC-156B-20161114	440-166082-3	Water	11/14/16
PC-155A-20161114	440-166082-4	Water	11/14/16
PC-156A-20161114	440-166082-5	Water	11/14/16
PC-155B-20161114DUP	440-166082-1DUP	Water	11/14/16
PC-60-20161114	440-166090-1	Water	11/14/16
PC-59-20161114	440-166090-2	Water	11/14/16
PC-56-20161114	440-166090-3	Water	11/14/16
PC-62-20161114	440-166090-4	Water	11/14/16
PC-97-20161114	440-166090-5	Water	11/14/16
PC-94-20161114	440-166090-6	Water	11/14/16
PC-94-20161114-FD4	440-166090-7	Water	11/14/16
PC-157B-20161114	440-166090-8	Water	11/14/16
PC-59-20161114DUP	440-166090-2DUP	Water	11/14/16
PC-62-20161114MS	440-166090-4MS	Water	11/14/16
PC-62-20161114MSD	440-166090-4MSD	Water	11/14/16
PC-99R2/R3	440-166103-1	Water	11/14/16
PC-115R	440-166103-2	Water	11/14/16
PC-116R	440-166103-3	Water	11/14/16
PC-117	440-166103-4	Water	11/14/16
PC-118	440-166103-5	Water	11/14/16
PC-119	440-166103-6	Water	11/14/16
PC-120	440-166103-7	Water	11/14/16
PC-121	440-166103-8	Water	11/14/16
PC-133	440-166103-9	Water	11/14/16
PC-99R2/R3DUP	440-166103-1DUP	Water	11/14/16
PC-118MS	440-166103-5MS	Water	11/14/16
PC-118MSD	440-166103-5MSD	Water	11/14/16
PC-119MS	440-166103-6MS	Water	11/14/16
PC-119MSD	440-166103-6MSD	Water	11/14/16
PC-121MS	440-166103-8MS	Water	11/14/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-121MSD	440-166103-8MSD	Water	11/14/16
PC-98R-20161115	440-166109-1	Water	11/15/16
PC-98R-20161115-FD6	440-166109-2	Water	11/15/16
ARP-2A-20161115	440-166109-3	Water	11/15/16
ARP-3A-20161115	440-166109-4	Water	11/15/16
MW-K4-20161115	440-166109-5	Water	11/15/16
ARP-4A-20161115	440-166109-6	Water	11/15/16
PC-98R-20161115DUP	440-166109-1DUP	Water	11/15/16
ARP-4A-20161115MS	440-166109-6MS	Water	11/15/16
ARP-4A-20161115MSD	440-166109-6MSD	Water	11/15/16
PC-53-20161115	440-166111-1	Water	11/15/16
ARP-7-20161115	440-166111-2	Water	11/15/16
ARP-6B-20161115	440-166111-3	Water	11/15/16
ARP-6B-20161115-FD5	440-166111-4	Water	11/15/16
PC-135A-20161115	440-166111-5	Water	11/15/16
PC-135A-20161115RE	440-166111-5RE	Water	11/15/16
PC-53-20161115DUP	440-166111-1DUP	Water	11/15/16
PC-135A-20161115MS	440-166111-5MS	Water	11/15/16
PC-135A-20161115MSD	440-166111-5MSD	Water	11/15/16
PC-58-20161114	440-166112-1	Water	11/14/16
PC-91-20161114	440-166112-2	Water	11/14/16
PC-157A-20161114	440-166112-3	Water	11/14/16
PC-157A-20161114-FB4	440-166112-4	Water	11/14/16
PC-90-20161115	440-166117-1	Water	11/15/16
ARP-1-20161115	440-166117-2	Water	11/15/16
PC-18-20161115	440-166117-3	Water	11/15/16
PC-103-20161115	440-166123-1	Water	11/15/16
MW-K5-20161115	440-166123-2	Water	11/15/16
ARP-5A-20161115	440-166123-3	Water	11/15/16
PC-101R-20161115	440-166123-4	Water	11/15/16
PC-103-20161115MS	440-166123-1MS	Water	11/15/16
PC-103-20161115MSD	440-166123-1MSD	Water	11/15/16
ARP-5A-20161115DUP	440-166123-3DUP	Water	11/15/16
PC-55-20161115-EB5	440-166209-1	Water	11/15/16
PC-136-20161115	440-166209-2	Water	11/15/16
PC-55-20161115	440-166209-3	Water	11/15/16
PC-136-20161115-FB5	440-166209-4	Water	11/15/16
PC-134D-20161115-EB4	440-166209-5	Water	11/15/16
PC-137D-20161115	440-166209-6	Water	11/15/16
PC-134D-20161115	440-166209-7	Water	11/15/16
PC-134D-20161115MS	440-166209-7MS	Water	11/15/16
PC-134D-20161115MSD	440-166209-7MSD	Water	11/15/16
I-AD	440-166210-1	Water	11/16/16
I-AC	440-166210-2	Water	11/16/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-K	440-166210-3	Water	11/16/16
I-J	440-166210-4	Water	11/16/16
I-Z	440-166210-5	Water	11/16/16
I-I	440-166210-6	Water	11/16/16
I-V	440-166210-7	Water	11/16/16
I-ADDUP	440-166210-1DUP	Water	11/16/16
I-VMS	440-166210-7MS	Water	11/16/16
I-VMSD	440-166210-7MSD	Water	11/16/16
PC-144-20161116	440-166337-1	Water	11/16/16
PC-144-20161116-FB6	440-166337-2	Water	11/16/16
PC-124-20161116	440-166337-3	Water	11/16/16
PC-126-20161116	440-166337-4	Water	11/16/16
PC-130-20161116	440-166337-5	Water	11/16/16
PC-126-20161116MS	440-166337-4MS	Water	11/16/16
PC-126-20161116MSD	440-166337-4MSD	Water	11/16/16
PC-126-20161116DUP	440-166337-4DUP	Water	11/16/16
PC-123-20161116	440-166339-1	Water	11/16/16
PC-127-20161116	440-166339-2	Water	11/16/16
PC-131-20161116	440-166339-3	Water	11/16/16
PC-151-20161116	440-166339-4	Water	11/16/16
PC-131-20161116MS	440-166339-3MS	Water	11/16/16
PC-131-20161116MSD	440-166339-3MSD	Water	11/16/16
PC-151-20161116MS	440-166339-4MS	Water	11/16/16
PC-151-20161116MSD	440-166339-4MSD	Water	11/16/16
PC-149-20161116	440-166340-1	Water	11/16/16
PC-149-20161116-EB6	440-166340-2	Water	11/16/16
PC-160-20161116	440-166340-3	Water	11/16/16
PC-158-20161116	440-166340-4	Water	11/16/16
PC-154-20161116	440-166340-5	Water	11/16/16
PC-153-20161116	440-166340-6	Water	11/16/16
PC-149-20161116DUP	440-166340-1DUP	Water	11/16/16
PC-160-20161116MS	440-166340-3MS	Water	11/16/16
PC-160-20161116MSD	440-166340-3MSD	Water	11/16/16
PC-148-20161116	440-166342-1	Water	11/16/16
PC-148-20161116-FD7	440-166342-2	Water	11/16/16
PC-159-20161116	440-166342-3	Water	11/16/16
PC-125-20161116	440-166342-4	Water	11/16/16
PC-128-20161116	440-166342-5	Water	11/16/16
PC-132-20161116	440-166342-6	Water	11/16/16
M-66-20161117	440-166420-1	Water	11/17/16
M-65-20161117	440-166420-2	Water	11/17/16
M-64-20161117	440-166420-3	Water	11/17/16
M-25-20161117	440-166420-4	Water	11/17/16
M-22A-20161117-FB7	440-166420-5	Water	11/17/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-22A-20161117	440-166420-6	Water	11/17/16
PC-54-20161117	440-166423-1	Water	11/17/16
PC-129-20161117	440-166423-2	Water	11/17/16
M-192-20161117	440-166423-3	Water	11/17/16
M-192-20161117-FD8	440-166423-4	Water	11/17/16
PC-71-20161117	440-166423-5	Water	11/17/16
PC-72-20161117	440-166423-6	Water	11/17/16
PC-152-20161117	440-166423-7	Water	11/17/16
M-189-20161117	440-166423-8	Water	11/17/16
M-189-20161117MS	440-166423-8MS	Water	11/17/16
M-189-20161117MSD	440-166423-8MSD	Water	11/17/16
M-189-20161117DUP	440-166423-8DUP	Water	11/17/16
M-14A-20161117	440-166430-1	Water	11/17/16
M-38-20161117	440-166430-2	Water	11/17/16
M-38-20161117-EB8	440-166430-3	Water	11/17/16
M-14A-20161117MS	440-166430-1MS	Water	11/17/16
M-14A-20161117MSD	440-166430-1MSD	Water	11/17/16
M-14A-20161117DUP	440-166430-1DUP	Water	11/17/16
PC-151-20161116-EB7	440-166433-1	Water	11/16/16
PC-122-20161116	440-166433-2	Water	11/16/16
PC-122-20161116MS	440-166433-2MS	Water	11/16/16
PC-122-20161116MSD	440-166433-2MSD	Water	11/16/16
ART-1	440-166437-1	Water	11/17/16
ART-2	440-166437-2	Water	11/17/16
ART-3A	440-166437-3	Water	11/17/16
ART-4	440-166437-4	Water	11/17/16
ART-6	440-166437-5	Water	11/17/16
ART-7B	440-166437-6	Water	11/17/16
ART-8A	440-166437-7	Water	11/17/16
ART-9	440-166437-8	Water	11/17/16
PC-150	440-166437-9	Water	11/17/16
PC-99R2/R3	440-166437-10	Water	11/17/16
PC-115R	440-166437-11	Water	11/17/16
PC-116R	440-166437-12	Water	11/17/16
PC-117	440-166437-13	Water	11/17/16
PC-118	440-166437-14	Water	11/17/16
PC-119	440-166437-15	Water	11/17/16
PC-120	440-166437-16	Water	11/17/16
PC-121	440-166437-17	Water	11/17/16
PC-133	440-166437-19	Water	11/17/16
ART-9MS	440-166437-8MS	Water	11/17/16
ART-9MSD	440-166437-8MSD	Water	11/17/16
I-AB	440-166442-1	Water	11/17/16
M-79-20161117	440-166552-1	Water	11/17/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-69-20161117	440-166552-2	Water	11/17/16
M-193-20161117	440-166552-3	Water	11/17/16
M-71-20161117	440-166552-4	Water	11/17/16
M-57A-20161118	440-166600-1	Water	11/18/16
M-72-20161118	440-166600-2	Water	11/18/16
M-70-20161118	440-166600-3	Water	11/18/16
M-161D-20161118	440-166600-4	Water	11/18/16
M-161D-20161118MS	440-166600-4MS	Water	11/18/16
M-161D-20161118MSD	440-166600-4MSD	Water	11/18/16
M-80-20161118	440-166602-1	Water	11/18/16
M-73-20161118	440-166602-2	Water	11/18/16
M-67-20161118	440-166602-3	Water	11/18/16
M-80-20161118DUP	440-166602-1DUP	Water	11/18/16
M-67-20161118MS	440-166602-3MS	Water	11/18/16
M-67-20161118MSD	440-166602-3MSD	Water	11/18/16
M-81A-20161118	440-166603-1	Water	11/18/16
M-74-20161118	440-166603-2	Water	11/18/16
M-68-20161118	440-166603-3	Water	11/18/16
M-19-20161118	440-166603-4	Water	11/18/16
M-35-20161118	440-166603-5	Water	11/18/16
PC-37-20161121	440-166790-1	Water	11/21/16
PC-73-20161121	440-166790-2	Water	11/21/16
M-135-20161121	440-166790-3	Water	11/21/16
M-135-20161121-FB9	440-166790-4	Water	11/21/16
M-11-20161121	440-166790-5	Water	11/21/16
M-11-20161121-FD9	440-166790-6	Water	11/21/16
M-11-20161121-FD9MS	440-166790-6MS	Water	11/21/16
M-11-20161121-FD9MSD	440-166790-6MSD	Water	11/21/16
M-37-20161122	440-166980-1	Water	11/22/16
M-162D-20161122	440-166980-2	Water	11/22/16
M-48A-20161122	440-166980-3	Water	11/22/16
M-23-20161122	440-166980-4	Water	11/22/16
M-23-20161122-EB9	440-166980-5	Water	11/22/16
M-37-20161122MS	440-166980-1MS	Water	11/22/16
M-37-20161122MSD	440-166980-1MSD	Water	11/22/16
M-23-20161122MS	440-166980-4MS	Water	11/22/16
M-23-20161122MSD	440-166980-4MSD	Water	11/22/16
M-83-20161121	440-166988-1	Water	11/21/16
M-10-20161122	440-166988-2	Water	11/22/16
M-10-20161122-FB8	440-166988-3	Water	11/22/16
M-190-20161122	440-166988-4	Water	11/22/16
M-52-20161122	440-166988-5	Water	11/22/16
M-186D-20161122	440-166988-6	Water	11/22/16
M-12A-20161122	440-166988-7	Water	11/22/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
M-10-20161122MS	440-166988-2MS	Water	11/22/16
M-10-20161122MSD	440-166988-2MSD	Water	11/22/16
M-186D-20161122MS	440-166988-6MS	Water	11/22/16
M-186D-20161122MSD	440-166988-6MSD	Water	11/22/16
M-191-20161122	440-167033-1	Water	11/22/16
I-AR	440-167238-1/N021682-001	Water	11/15/16
I-AA	440-167238-2/N021682-002	Water	11/15/16
I-O	440-167238-3/N021682-003	Water	11/15/16
I-W	440-167238-4/N021682-004	Water	11/15/16
I-P	440-167238-5/N021682-005	Water	11/15/16
I-H	440-167238-6/N021682-006	Water	11/15/16
I-U	440-167238-7/N021682-007	Water	11/15/16
I-T	440-167238-8/N021682-008	Water	11/15/16
I-G	440-167238-9/N021682-009	Water	11/15/16
I-Q	440-167238-10/N021682-010	Water	11/15/16
I-ARMS	440-167238-1/N021682-001MS	Water	11/15/16
I-AADUP	440-167238-2/N021682-002DUP	Water	11/15/16
I-OMS	440-167238-3/N021682-003MS	Water	11/15/16
I-OMSD	440-167238-3/N021682-003MSD	Water	11/15/16
I-C	440-167500-1/N021701-001	Water	11/15/16
I-S	440-167500-2/N021701-002	Water	11/15/16
I-L	440-167500-3/N021701-003	Water	11/15/16
I-Y	440-167500-4/N021701-004	Water	11/15/16
I-R	440-167500-5/N021701-005	Water	11/15/16
I-B	440-167500-6/N021701-006	Water	11/15/16
I-E	440-167500-7/N021701-007	Water	11/15/16
I-X	440-167500-8/N021701-008	Water	11/15/16
I-D	440-167500-9/N021701-009	Water	11/15/16
I-M	440-167500-10/N021701-010	Water	11/15/16
I-F	440-167500-11/N021701-011	Water	11/15/16
I-N	440-167500-12/N021701-012	Water	11/15/16
I-EMS	440-167500-7/N021701-007MS	Water	11/15/16
I-DDUP	440-167500-9/N021701-009DUP	Water	11/15/16
I-MMS	440-167500-10/N021701-010MS	Water	11/15/16
I-MMSD	440-167500-10/N021701-010MSD	Water	11/15/16
PC-99R2/R3	440-167564-1/N021725-001	Water	11/17/16
PC-115R	440-167564-2/N021725-002	Water	11/17/16
PC-116R	440-167564-3/N021725-003	Water	11/17/16
PC-117	440-167564-4/N021725-004	Water	11/17/16
PC-118	440-167564-5/N021725-005	Water	11/17/16
PC-119	440-167564-6/N021725-006	Water	11/17/16
PC-120	440-167564-7/N021725-007	Water	11/17/16
PC-121	440-167564-8/N021725-008	Water	11/17/16
PC-133	440-167564-9/N021725-009	Water	11/17/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ART-1	440-167564-10/N021725-010	Water	11/17/16
ART-2	440-167564-11/N021725-011	Water	11/17/16
ART-3A	440-167564-12/N021725-012	Water	11/17/16
ART-4	440-167564-13/N021725-013	Water	11/17/16
ART-6	440-167564-14/N021725-014	Water	11/17/16
ART-7B	440-167564-15/N021725-015	Water	11/17/16
ART-8A	440-167564-16/N021725-016	Water	11/17/16
ART-9	440-167564-17/N021725-017	Water	11/17/16
PC-150	440-167564-18/N021725-018	Water	11/17/16
PC-116RDUP	440-167564-3/N021725-003DUP	Water	11/17/16
PC-117MS	440-167564-4/N021725-004MS	Water	11/17/16
ART-4MS	440-167564-13/N021725-004MS	Water	11/17/16
ART-4MSD	440-167564-13/N021725-013MSD	Water	11/17/16
ART-8ADUP	440-167564-16/N021725-016DUP	Water	11/17/16
M-14A-20161117	440-167568-1/N021724-001	Water	11/17/16
M-38-20161117	440-167568-2/N021724-002	Water	11/17/16
M-38-20161117-EB8	440-167568-3/N021724-003	Water	11/17/16
M-38-20161117MS	440-167568-2/N021724-002MS	Water	11/17/16
M-38-20161117MSD	440-167568-2/N021724-002MSD	Water	11/17/16
M-31A-20161130	440-167631-1	Water	11/30/16
I-AD	440-167718-1/N021707-001	Water	11/16/16
I-AC	440-167718-2/N021707-002	Water	11/16/16
I-K	440-167718-3/N021707-003	Water	11/16/16
I-J	440-167718-4/N021707-004	Water	11/16/16
I-Z	440-167718-5/N021707-005	Water	11/16/16
I-I	440-167718-6/N021707-006	Water	11/16/16
I-V	440-167718-7/N021707-007	Water	11/16/16
I-AB	440-168227-1/N021751-001	Water	11/17/16
I-ABMS	440-168227-1/N021751-001MS	Water	11/17/16
I-ABMSD	440-168227-1/N021751-001MSD	Water	11/17/16
I-ABDUP	440-168227-1/N021751-001DUP	Water	11/17/16
PC-157B-20161206	440-168260-1	Water	12/06/16
PC-91-20161206	440-168260-2	Water	12/06/16
PC-56-20161206	440-168260-3	Water	12/06/16
PC-59-20161206	440-168260-4	Water	12/06/16
PC-59-20161206-EB7	440-168260-5	Water	12/06/16
PC-59-20161206MS	440-168260-4MS	Water	12/06/16
PC-59-20161206MSD	440-168260-4MSD	Water	12/06/16
PC-157A-20161206	440-168261-1	Water	12/06/16
PC-157A-20161206-FB4	440-168261-2	Water	12/06/16
PC-97-20161206	440-168261-3	Water	12/06/16
PC-94-20161206	440-168261-4	Water	12/06/16
PC-94-20161206-FD4	440-168261-5	Water	12/06/16
PC-62-20161206	440-168261-6	Water	12/06/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-58-20161206	440-168261-7	Water	12/06/16
PC-62-20161206	440-168261-8	Water	12/06/16
PC-122-20161206	440-168261-9	Water	12/06/16
PC-62-20161206MS	440-168261-8MS	Water	12/06/16
PC-62-20161206MSD	440-168261-8MSD	Water	12/06/16
M-80-20161118	440-168264-1/N021752-001	Water	11/18/16
M-83-20161207	440-168537-1	Water	12/07/16
M-11-20161121	440-169256-1/N021841-001	Water	11/21/16
M-11-20161121-FD9	440-169256-2/N021841-002	Water	11/21/16
M-11-20161121DUP	440-169256-1/N021841-001DUP	Water	11/21/16
M-10-20161122**	440-169258-1/N021869-001**	Water	11/22/16
M-10-20161122-FB8**	440-169258-2/N021869-001**	Water	11/22/16
M-12A-20161122**	440-169258-3/N021869-001**	Water	11/22/16
M-37-20161122**	440-169258-4/N021869-001**	Water	11/22/16
M-10-20161122MS	440-169258-1/N021869-001MS	Water	11/22/16
M-12A-20161122MS	440-169258-3/N021869-001MS	Water	11/22/16
M-12A-20161122MSD	440-169258-3/N021869-001MSD	Water	11/22/16
M-37-20161122DUP	440-169258-4/N021869-001DUP	Water	11/22/16
ART-1-121516**	440-169582-1**	Water	12/15/16
ART-2-121516**	440-169582-2**	Water	12/15/16
ART-3-121516**	440-169582-3**	Water	12/15/16
ART-4-121516**	440-169582-4**	Water	12/15/16
ART-6-121516**	440-169582-5**	Water	12/15/16
ART-7A-121516**	440-169582-6**	Water	12/15/16
ART-8A-121516**	440-169582-7**	Water	12/15/16
ART-9-121516**	440-169582-8**	Water	12/15/16
PC-150-121516**	440-169582-9**	Water	12/15/16
ART-1-121516-FB**	440-169582-10**	Water	12/15/16
ART-9-121516-FD**	440-169582-11**	Water	12/15/16
PC-117-121516**	440-169582-12**	Water	12/15/16
PC-118-121516**	440-169582-13**	Water	12/15/16
PC-119-121516**	440-169582-14**	Water	12/15/16
PC-120-121516**	440-169582-15**	Water	12/15/16
PC-121-121516**	440-169582-16**	Water	12/15/16
ART-1-121516DUP	440-169582-1DUP	Water	12/15/16
ART-9-121516DUP	440-169582-11DUP	Water	12/15/16
PC-118-121516MS	440-169582-13MS	Water	12/15/16
PC-118-121516MSD	440-169582-13MSD	Water	12/15/16
PC-121-121516MS	440-169582-16MS	Water	12/15/16
PC-121-121516MSD	440-169582-16MSD	Water	12/15/16
I-AC-122116	440-170796-1	Water	12/22/16
I-AR-122016	440-170899-1/N022324-001	Water	12/20/16
I-AA-122016	440-170899-2/N022324-002	Water	12/20/16
I-B-122016	440-170899-3/N022324-003	Water	12/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-R-122016	440-170899-4/N022324-004	Water	12/20/16
I-Y-122016	440-170899-5/N022324-005	Water	12/20/16
I-L-122016	440-170899-6/N022324-006	Water	12/20/16
I-S-122016	440-170899-7/N022324-007	Water	12/20/16
I-C-122016	440-170899-8/N022324-008	Water	12/20/16
I-D-122016	440-170899-9/N022324-009	Water	12/20/16
I-M-122016	440-170899-10/N022324-010	Water	12/20/16
I-E-122016	440-170899-11/N022324-011	Water	12/20/16
I-N-122016	440-170899-12/N022324-012	Water	12/20/16
I-X-122016	440-170899-13/N022324-013	Water	12/20/16
I-F-122016	440-170899-14/N022324-014	Water	12/20/16
I-Q-122016	440-170899-15/N022324-015	Water	12/20/16
I-G-122016	440-170899-16/N022324-016	Water	12/20/16
I-T-122016	440-170899-17/N022324-017	Water	12/20/16
I-U-122016	440-170899-18/N022324-018	Water	12/20/16
I-H-122016	440-170899-19/N022324-019	Water	12/20/16
I-P-122016	440-170899-20/N022324-020	Water	12/20/16
I-O-122016	440-170899-21/N022324-021	Water	12/20/16
I-X-122016-EB	440-170899-22/N022324-022	Water	12/20/16
I-AR-122016MS	440-170899-1/N022324-001MS	Water	12/20/16
I-AC-122216	440-170907-1/N022351-001	Water	12/22/16
I-AB-122116	440-170911-1/N02236-001	Water	12/21/16
I-W-122116	440-170911-2/N02236-002	Water	12/21/16
I-V-122116	440-170911-3/N02236-003	Water	12/21/16
I-I-122116	440-170911-4/N02236-004	Water	12/21/16
I-Z-122116	440-170911-5/N02236-005	Water	12/21/16
I-J-122116	440-170911-6/N02236-006	Water	12/21/16
I-K-122116	440-170911-7/N02236-007	Water	12/21/16
I-AD-122116	440-170911-8/N02236-008	Water	12/21/16
I-W-122116-FD	440-170911-9/N02236-009	Water	12/21/16
I-AB-122116MS	440-170911-1/N02236-001MS	Water	12/21/16
I-W-122116DUP	440-170911-2/N02236-002DUP	Water	12/21/16
I-V-122116MS	440-170911-3/N02236-003MS	Water	12/21/16
I-V-122116MSD	440-170911-3/N02236-003MSD	Water	12/21/16
M-10-20161227**	440-171145-1**	Water	12/27/16
M-10-20161227MS	440-171145-1MS	Water	12/27/16
M-10-20161227MSD	440-171145-1MSD	Water	12/27/16
PC-99R2/R3-121916	440-170151-1	Water	12/19/16
PC-115R-121916	440-170151-2	Water	12/19/16
PC-116R-121916	440-170151-3	Water	12/19/16
PC-133-121916	440-170151-4	Water	12/19/16
PC-116R-121916-FD	440-170151-5	Water	12/19/16
PC-133-121916-EB	440-170151-6	Water	12/19/16
PC-99R2/R3-121916DUP	440-170151-1DUP	Water	12/19/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
PC-133-121916MS	440-170151-4MS	Water	12/19/16
PC-133-121916MSD	440-170151-4MSD	Water	12/19/16
PC-116R-121916-FDMS	440-170151-5MS	Water	12/19/16
PC-116R-121916-FDMSD	440-170151-5MSD	Water	12/19/16
ART-4-121516	440-170150-1/N022233-001	Water	12/15/16
ART-3-121516	440-170150-2/N022233-001	Water	12/15/16
ART-8A-121516	440-170150-3/N022233-002	Water	12/15/16
ART-2-121516	440-170150-4/N022233-003	Water	12/15/16
ART-1-121516	440-170150-5/N022233-004	Water	12/15/16
ART-1-121516-FB	440-170150-6/N022233-005	Water	12/15/16
PC-150-121516	440-170150-7/N022233-006	Water	12/15/16
ART-7A-121516	440-170150-8/N022233-007	Water	12/15/16
ART-9-121516	440-170150-9/N022233-008	Water	12/15/16
ART-9-121516-FD	440-170150-10/N022233-009	Water	12/15/16
PC-118-121516	440-170150-11/N022233-010	Water	12/15/16
PC-119-121516	440-170150-12/N022233-012	Water	12/15/16
PC-120-121516	440-170150-13/N022233-013	Water	12/15/16
PC-121-121516	440-170150-14/N022233-014	Water	12/15/16
PC-117-121516	440-170150-15/N022233-015	Water	12/15/16
ART-6-121516	440-170150-16/N022233-016	Water	12/15/16
PC-99R2/R3-121916	440-170153-1/N022300-001	Water	12/19/16
PC-115R-121916	440-170153-2/N022300-002	Water	12/19/16
PC-116R-121916	440-170153-3/N022300-003	Water	12/19/16
PC-133-121916	440-170153-4/N022300-004	Water	12/19/16
PC-116R-121916-FD	440-170153-5/N022300-005	Water	12/19/16
PC-133-121916-EB	440-170153-6/N022300-006	Water	12/19/16
I-AR-122016**	440-170398-1**	Water	12/20/16
I-AA-122016**	440-170398-2**	Water	12/20/16
I-B-122016**	440-170398-3**	Water	12/20/16
I-R-122016**	440-170398-4**	Water	12/20/16
I-Y-122016**	440-170398-5**	Water	12/20/16
I-L-122016**	440-170398-6**	Water	12/20/16
I-S-122016**	440-170398-7**	Water	12/20/16
I-C-122016**	440-170398-8**	Water	12/20/16
I-D-122016**	440-170398-9**	Water	12/20/16
I-M-122016**	440-170398-10**	Water	12/20/16
I-E-122016**	440-170398-11**	Water	12/20/16
I-N-122016**	440-170398-12**	Water	12/20/16
I-X-122016**	440-170398-13**	Water	12/20/16
I-F-122016**	440-170398-14**	Water	12/20/16
I-Q-122016**	440-170398-15**	Water	12/20/16
I-G-122016**	440-170398-16**	Water	12/20/16
I-T-122016**	440-170398-17**	Water	12/20/16
I-U-122016**	440-170398-18**	Water	12/20/16

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I-H-122016**	440-170398-19**	Water	12/20/16
I-P-122016**	440-170398-20**	Water	12/20/16
I-O-122016**	440-170398-21**	Water	12/20/16
I-X-122016-EB**	440-170398-22**	Water	12/20/16
I-AR-122016MS	440-170398-1MS	Water	12/20/16
I-AR-122016MSD	440-170398-1MSD	Water	12/20/16
I-AR-122016DUP	440-170398-1DUP	Water	12/20/16
I-C-122016MS	440-170398-8MS	Water	12/20/16
I-C-122016MSD	440-170398-8MSD	Water	12/20/16
I-E-122016DUP	440-170398-11DUP	Water	12/20/16
I-G-122016MS	440-170398-16MS	Water	12/20/16
I-G-122016MSD	440-170398-16MSD	Water	12/20/16
I-O-122016MS	440-170398-21MS	Water	12/20/16
I-O-122016MSD	440-170398-21MSD	Water	12/20/16
I-AB-122116	440-170572-1	Water	12/21/16
I-W-122116	440-170572-2	Water	12/21/16
I-V-122116	440-170572-3	Water	12/21/16
I-I-122116	440-170572-4	Water	12/21/16
I-Z-122116	440-170572-5	Water	12/21/16
I-J-122116	440-170572-6	Water	12/21/16
I-K-122116	440-170572-7	Water	12/21/16
I-AD-122116	440-170572-8	Water	12/21/16
I-W-122116-FD	440-170572-9	Water	12/21/16
I-AB-122116MS	440-170572-1MS	Water	12/21/16
I-AB-122116MSD	440-170572-1MSD	Water	12/21/16
I-I-122116DUP	440-170572-4DUP	Water	12/21/16
I-AD-122116MS	440-170572-8MS	Water	12/21/16
I-AD-122116MSD	440-170572-8MSD	Water	12/21/16
I-W-122116-FDMS	440-170572-9MS	Water	12/21/16
I-W-122116-FDMSD	440-170572-9MSD	Water	12/21/16

**Indicates sample underwent Stage 4 validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Quality Assurance Project Plan Revision 1, Nevada Environmental Response Trust Site, Henderson, Nevada (July 2014) and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Hexavalent Chromium by Environmental Protection Agency (EPA) Method 218.6
Perchlorate by EPA Method 314.0
pH by Field Test
Total Dissolved Solids by Standard Method 2540C
Chlorate by EPA Method 300.1B
Total Inorganic Nitrogen by Calculation
Chloride, Nitrate as Nitrogen, Nitrite as Nitrogen, and Sulfate by EPA Method 300.0
Nitrate/Nitrite as Nitrogen by Calculation
Ammonia as Nitrogen by EPA 350.1

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Stage 4 data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detect at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

DNR (Do Not Report): A more appropriate result is reported from another analysis or dilution.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Codes and Definitions

a	Qualified due to low abundance (radiochemical activity)
be	Qualified due to equipment blank contamination
bf	Qualified due to field blank contamination
bl	Qualified due to lab blank contamination
bt	Qualified due to trip blank contamination
bp	Qualified due to pump blank contamination (wells without dedicated pumps, when contamination is detected in the pump blank)
br	Qualified due to filter blank contamination (aqueous Hexavalent Chromium and Dissolved sample fractions)
c	Qualified due to calibration problems
cp	Qualified due to insufficient ingrowth (Radiochemical only)
dc	Duel column confirmation %D exceeded
e	Concentration exceeded the calibration range
fd	Qualified due to field duplicate imprecision
h	Qualified due to holding time exceedance
i	Qualified due to internal standard areas
k	Qualified as Estimated Maximum Possible Concentrations (dioxins and PCB congeners)
l	Qualified due to LCS recoveries
ld	Qualified due to lab duplicate imprecision (matrix duplicate, MSD, LCSD)
m	Qualified due to matrix spike recoveries
nb	Qualified due to negative lab blank contamination (nondetect results only)
nd	Qualified due to non-detected target analyte
o	Other
p	Qualified as a false positive due to contamination during shipping
pH	Sample preservation not within acceptance range
q	Qualified due to quantitation problems
s	Qualified due to surrogate recoveries
sd	Serial dilution did not meet control criteria
sp	Detected value reported >SQL <PQL
st	Sample receipt temperature exceeded
t	Qualified due to elevated helium tracer concentrations
vh	Volatile headspace detected in aqueous sample containers submitted for VOC analysis
x	Qualified due to low % solids
z	Qualified due to ICS results

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

SDG	Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
440-161336-1	I-AA	Perchlorate	58 days	28 days	J- (all detects)	A
440-166988-1	M-83-20161121	Nitrate as N	52.18 hours	48 hours	J- (all detects)	A
440-166090-1	PC-60-20161114	Nitrate as N	55.05 hours	48 hours	J- (all detects)	A
440-166090-1	PC-59-20161114	Nitrate as N	53.03 hours	48 hours	J- (all detects)	A
440-166090-1	PC-56-20161114	Nitrate as N	55.95 hours	48 hours	J- (all detects)	A
440-166090-1	PC-62-20161114	Nitrate as N	55.30 hours	48 hours	UJ (all non-detects)	A
440-166090-1	PC-97-20161114	Nitrate as N	55.63 hours	48 hours	UJ (all non-detects)	A
440-166090-1	PC-94-20161114	Nitrate as N	56.78 hours	48 hours	J- (all detects)	A
440-166090-1	PC-94-20161114-FD4	Nitrate as N	57.15 hours	48 hours	J- (all detects)	A
440-166090-1	PC-157B-20161114	Nitrate as N	55.55 hours	48 hours	J- (all detects)	A
440-166112-1	PC-58-20161114	Nitrate as N	65.17 hours	48 hours	J- (all detects)	A
440-166112-1	PC-91-20161114	Nitrate as N	63.25 hours	48 hours	J- (all detects)	A
440-166112-1	PC-157A-20161114	Nitrate as N	60.97 hours	48 hours	J- (all detects)	A
440-166112-1	PC-157A-20161114-FB4	Nitrate as N	82.95 hours	48 hours	UJ (all non-detects)	A
440-166433-1	PC-151-20161116-EB	Nitrate as N	50.20 hours	48 hours	UJ (all non-detects)	A
440-166433-1	PC-122-20161116	Nitrate as N	51.17 hours	48 hours	J- (all detects)	A

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable with the following exceptions:

SDG	Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
440-166111-1	11/17/16 (12:23)	CCV (440-369576/30)	Nitrate as N	81.5 (90-110)	PC-53-20161115 ARP-7-20161115	J- (all detects)	P
440-166111-1	11/17/16 (12:23)	CCV (440-369576/30)	Nitrate as N	81.5 (90-110)	PC-135A-20161115	UJ (all non-detects)	P

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples MEB-1 (from SDG 440-161752-1), PC-55-20161115-EB5, and PC-134D-20161115-EB4 (both from SDG 440-166209-1), PC-149-20161116-EB6 (from SDG 440-166340-1), M-38-20161117-EB8 (from SDG 440-166430-1), PC-151-20161116-EB7 (from SDG 440-166433-1), M-23-20161122-EB9 (from SDG 440-166980-1), M-38-20161117-EB8 (from SDG 440-167568-1/N021724), PC-59-20161206-EB7 (from SDG 440-168260-1), I-X-122016-EB (from SDG 440-170899-1/N022324), PC-133-121916-EB** (from SDG 440-170151-1), I-X-122016-EB** (from SDG 440-170398-1), and PC-133-121916-EB (from SDG 440-170153-1/N022300) were identified as equipment blanks. No contaminants were found with the following exceptions:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
440-161752-1	MEB-1	10/12/16	Perchlorate	2.9 mg/L	PC-18 ARP-1 PC-122 PC-53 MW-K5 PC-103 PC-98R ARP-7 ARP-6B ARP-5A ARP-4A MW-K4 ARP-3A PC-101R ARP-2A PC-55
440-170398-1	I-X-122016-EB**	12/20/16	Perchlorate	2.8 mg/L	I-X-122016**

Samples PC-157A-20161114-FB4 (from SDG 440-166112-1), PC-136-20161115-FB5 (from SDG 440-166209-1), PC-144-20161116-FB6 (from SDG 440-166337-1), M-22A-20161117-FB7 (from SDG 440-166420-1), M-135-20161121-FB9 (from SDG 440-166790-1), M-10-20161122-FB8 (from SDG 440-166988-1), PC-157A-20161206-FB4 (from SDG 440-168261-1), M-10-20161122-FB8** (from SDG 440-169258-1/N021869), and ART-1-121516-FB** (from SDG 440-169582-1) and ART-1-121516-FB (from SDG 440-170150-1/N022233) were identified as field blanks. No contaminants were found with the following exceptions:

SDG	Blank ID	Collection Date	Analyte	Concentration	Associated Samples
440-166420-1	M-22A-20161117-FB7	11/17/16	Nitrate	0.22 mg/L	M-22A-20161117
440-166988-1	M-10-20161122-FB8	11/22/16	Perchlorate	0.50 mg/L	M-10-20161122

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

SDG	Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
440-162514-1	PC-120MS/MSD (PC-120 PC-121)	Perchlorate	77 (80-120)	78 (80-120)	J- (all detects)	A
440-166060-1	I-CMS/MSD (I-C I-S I-L I-Y I-R I-B I-E I-X I-D I-M)	Nitrate as N	67 (80-120)	75 (80-120)	J- (all detects)	A

SDG	Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
440-166060-1	I-NMS/MSD (I-F I-N)	Nitrate as N	-	170 (80-120)	J+ (all detects)	A
440-166060-1	I-CMS/D (ARP-6B-20161115 ARP-6B-20161115-FD5 PC-135A-20161115)	Nitrate as N	67 (80-120)	75 (80-120)	J- (all detects) UJ (all non-detects)	A
440-166111-1	PC-135A-20161115MS/MSD (PC-135A-20161115)	Nitrate as N	-	137 (80-120)	NA	-
440-166111-1	PC-135A-20161115MS/MSD (PC-53-20161115 ARP-7-20161115)	Nitrate as N	-	137 (80-120)	J+ (all detects)	A
440-166060-1	I-NMS/MSD (All samples in SDG 440-166117-1)	Nitrate as N	-	170 (80-120)	J+ (all detects)	A
440-166423-1	M-189-20161117MS/MSD (All samples in SDG 440-166423-1)	Nitrate	-	48 (80-120)	J- (all detects)	A
440-171145-1	M-10-20161227MS/MSD (All samples in SDG 440-171145-1)	Nitrite as N	156 (80-120)	155 (80-120)	NA	-
440-170398-1	I-O-122016MS/MSD (I-T-122016** I-U-122016** I-H-122016** I-P-122016** I-O-122016** I-X-122016-EB**)	Nitrate as N	78 (80-120)	76 (80-120)	J- (all detects) UJ (all non-detects)	A
440-170572-1	I-AD-122116MS/MSD (I-AB-122116 I-W-122116 I-V-122116 I-I-122116 I-Z-122116 I-J-122116 I-K-122116 I-AD-122116)	Nitrate as N	62 (80-120)	65 (80-120)	J- (all detects)	A

For PC-118MS/MSD (from SDG 440-166103-1), I-SMS/MSD (from SDG 440-166060-1), I-CMS/MSD (from SDG 440-166060-1), PC-118MS/MSD (from SDG 440-166103-1), PC-103-20161115MS/MSD (from SDG 440-166123-1), PC-160-20161116MS/MSD (from SDG 440-166340-1), 440-166340-3MS/MSD (from SDG 440-166340-1), PG-160-20161116MS/MSD (from SDG 440-166340-1), M-14A-20161117MS/MSD (from SDG 440-166430-1), M-37-20161122MS/MSD (from SDG 440-166980-1), M-23-20161122MS/MSD (from SDG 440-166980-1), M-186D-20161122MS/MSD (from SDG 440-166988-1), I-AR-122016MS/MSD (from SDG 440-170398-1), PC-133-121916MS/MSD (from SDG 440-170151-1), PC-116R-121916-FDMS/MSD (from SDG 440-170151-1), , I-C-122016MS/MSD (from SDG 440-170398-1), I-AR-122016MS/MSD (from SDG 440-170398-1), and I-AB-122116MS/MSD (from SDG 440-170572-1), no data were qualified for Chlorate percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For I-G-122016MS/MSD (from SDG 440-170398-1), no data were qualified for Nitrate as N percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits with the following exceptions:

SDG	Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
440-166111-1	PC-135A-20161115MS/MSD (PC-53-20161115 ARP-7-20161115 PC-135A-20161115)	Nitrate	33 (≤20)	J (all detects) UJ (all non-detects)	A
440-166423-1	M-189-20161117MS/MSD (All samples in SDG 440-166423-1)	Nitrate	25 (≤20)	J (all detects)	A

VIII. Duplicates

Duplicate (DUP) sample analysis was performed on an associated project sample. Results were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples PC-94-20161114 and PC-94-20161114-FD4 (from SDG 440-166090-1), samples ARP-6B-20161115 and ARP-6B-20161115-FD5 (from SDG 440-166111-1), samples PC-98R-20161115 and PC-98R-20161115-FD6 (from SDG 440-166109-1), PC-148-20161116 and PC-148-20161116-FD7 (from SDG 440-166342-1), samples M-192-20161117 and M-192-20161117-FD8 (from SDG 440-166423-1), samples M-11-20161121 and M-11-20161121-FD9 (from SDG 440-166790-1), PC-94-20161206 and PC-94-20161206-FD4 (from SDG 440-168261-1), samples M-11-20161121 and M-11-20161121-FD9 (from SDG 440-169256-1/N021841), samples ART-9-121516** and ART-9-121516-FD** (from SDG 440-169582-1), I-W-122116 and I-W-122116-FD (from SDG 440-170911-1/N022336), PC-116R-121916 and PC-116R-121916-FD (from SDG 440-170151-1), ART-9-121516 and ART-9-121516-FD (from SDG 440-170150-1/N022233), PC-116R-121916 and PC-116R-121916-FD (from SDG 440-170153-1/N022300), and samples I-W-122116 and I-W-122116-FD (from SDG 440-170572-1) were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-94-20161114	PC-94-20161114-FD4			
440-166090-1	Chlorate	62000 ug/L	63000 ug/L	2 (≤30)	-	-
440-166090-1	Nitrate as N	16 mg/L	16 mg/L	0 (≤30)	-	-
440-166090-1	Perchlorate	20000 ug/L	20000 ug/L	0 (≤30)	-	-
440-166090-1	Total dissolved solids	5800 mg/L	5800 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		ARP-6B-20161115	ARP-6B-20161115-FD5			
440-166111-1	Chlorate	220000 ug/L	230000 ug/L	4 (≤30)	-	-
440-166111-1	Nitrate as N	20 mg/L	20 mg/L	0 (≤30)	-	-
440-166111-1	Perchlorate	63000 ug/L	64000 ug/L	2 (≤30)	-	-
440-166111-1	Total dissolved solids	7100 mg/L	7100 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-98R-20161115	PC-98R-20161115-FD6			
440-166109-1	Chlorate	7700 ug/L	7900 ug/L	3 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-98R-20161115	PC-98R-20161115-FD6			
440-166109-1	Nitrate as N	8.9 mg/L	8.9 mg/L	0 (≤30)	-	-
440-166109-1	Perchlorate	40000 ug/L	40000 ug/L	0 (≤30)	-	-
440-166109-1	Total dissolved solids	5400 mg/L	5400 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-148-20161116	PC-148-20161116-FD7			
440-166342-1	Chlorate	31000 ug/L	31000 ug/L	0 (≤30)	-	-
440-166342-1	Nitrate as N	9.8 mg/L	9.6 mg/L	2 (≤30)	-	-
440-166342-1	Perchlorate	30000 ug/L	30000 ug/L	0 (≤30)	-	-
440-166342-1	Total dissolved solids	5700 mg/L	6700 mg/L	16 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		M-192-20161117	M-192-20161117-FD8			
440-166423-1	Chlorate	310000 ug/L	320000 ug/L	3 (≤30)	-	-
440-166423-1	Nitrate as N	1.8 mg/L	3.6 mg/L	67 (≤30)	J+ (all detects)	A
440-166423-1	Perchlorate	230000 ug/L	240000 ug/L	4 (≤30)	-	-
440-166423-1	Total dissolved solids	3100 mg/L	3100 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		M-11-20161121	M-11-20161121-FD9			
440-166790-1	Chlorate	230000 ug/L	230000 ug/L	0 (≤30)	-	-
440-166790-1	Nitrate as N	1.9 mg/L	2.3 mg/L	19 (≤30)	-	-
440-166790-1	Perchlorate	24000 ug/L	25000 ug/L	4 (≤30)	-	-
440-166790-1	Total dissolved solids	2600 mg/L	2600 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-94-20161206	PC-94-20161206-FD4			
440-168261-1	Nitrate as N	13 mg/L	13 mg/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		M-11-20161121	M-11-20161121-FD9			
440-169256-1/N021841	Hexavalent chromium	430 ug/L	460 ug/L	7 (≤30)	-	-

SDG	Analyte	Concentration (ug/L)		RPD (Limits)	Flag	A or P
		ART-9-121516**	ART-9-121516-FD**			
440-169582-1	Chlorate	370000 ug/L	350000 ug/L	6 (≤30)	-	-
440-169582-1	Nitrate as N	20 mg/L	19 mg/L	5 (≤30)	-	-
440-169582-1	Perchlorate	220000 ug/L	220000 ug/L	0 (≤30)	-	-
440-169582-1	Total dissolved solids	6200 mg/L	6200 mg/L	0 (≤30)	-	-
440-169582-1	pH	7.34 SU	7.34 SU	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		I-W-122116	I-W-122116-FD			
440-170911-1/N022336	Hexavalent chromium	19000 ug/L	19000 ug/L	0 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-116R-121916	PC-116R-121916-FD			
440-170151-1	Chloride	1300 mg/L	1200 mg/L	8 (≤30)	-	-
440-170151-1	Sulfate	1700 mg/L	1300 mg/L	27 (≤30)	-	-
440-170151-1	Chlorate	13000 ug/L	12000 ug/L	8 (≤30)	-	-
440-170151-1	Nitrate as N	5.2 mg/L	5.3 mg/L	2 (≤30)	-	-
440-170151-1	Perchlorate	15000 ug/L	16000 ug/L	6 (≤30)	-	-
440-170151-1	Total dissolved solids	4100 mg/L	4200 mg/L	2 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-116R-121916	PC-116R-121916-FD			
440-170151-1	pH	7.25 SU	7.32 SU	1 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		ART-9-121516	ART-9-121516-FD			
440-170150-1/N022233	Hexavalent chromium	900 ug/L	890 ug/L	1 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		PC-116R-121916	PC-116R-121916-FD			
440-170153-1/N022300	Hexavalent chromium	0.49 ug/L	0.51 ug/L	4 (≤30)	-	-

SDG	Analyte	Concentration		RPD (Limits)	Flag	A or P
		I-W-122116	I-W-122116-FD			
440-170572-1	Chlorate	3900000 ug/L	3800000 ug/L	3 (≤30)	-	-
440-170572-1	Nitrate as N	47 mg/L	47 mg/L	0 (≤30)	-	-
440-170572-1	Perchlorate	980000 ug/L	970000 ug/L	1 (≤30)	-	-
440-170572-1	Total dissolved solids	11000 mg/L	12000 mg/L	9 (≤30)	-	-
440-170572-1	pH	7.23 SU	7.23 SU	0 (≤30)	-	-

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Stage 4 validation. Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in these SDGs.

In the case where more than one result was reported for an individual sample, the least technically acceptable results were deemed unusable as follows:

SDG	Sample	Analyte	Flag	A or P
440-166111-1 440-166090-1 440-166112-1 440-166433-1 440-166988-1	PC-135A-20161115 PC-60-20161114 PC-59-20161114 PC-56-20161114 PC-62-20161114 PC-97-20161114 PC-94-20161114 PC-94-20161114-FD4 PC-157B-20161114 PC-58-20161114 PC-91-20161114 PC-157A-20161114 PC-157A-20161114-FB4 PC-151-20161116-EB7 PC-122-20161116 M-83-20161121	Nitrate as N	DNR	A
440-171145-1	M-10-20161227**	Nitrate as N (01/04/2017) Nitrite as N (01/04/2017)	DNR	A

Due to technical holding time, continuing calibration %R, MS/MSD %R and RPD, data were qualified as estimated in forty-five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

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Wet Chemistry - Data Qualification Summary - SDGs 440-160590-1, 440-160680-1, 440-161336-1, 440-161484-1/N021214, 440-161552-1, 440-161556-1, 440-161752-1, 440-162515-1/N021299, 440-162514-1, 440-163451-1/N021393, 440-163453-1, 440-163816-1/N021226, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-166437-1, 440-166442-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167238-1/N021682, 440-167500-1/N021701, 440-167564-1/N021725, 440-167568-1/N021724, 440-167631-1, 440-167718-1/N021707, 440-168227-1/N021751, 440-168260-1, 440-168261-1, 440-168264-1/N021752, 440-168537-1, 440-169256-1/N021841, 440-169258-1/N021869, 440-169582-1, 440-170796-1, 440-170899-1/N022324, 440-170907-1/N022351, 440-170911-1/N022336, 440-171145-1, 440-170151-1, 440-170150-1/N022233, 440-170153-1/N022300, 440-170398-1, 440-170572-1

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
440-161336-1	I-AA	Perchlorate	J- (all detects)	A	Technical holding time (h)
440-166111-1	PC-53-20161115 ARP-7-20161115 PC-135A-20161115	Nitrate as N	J- (all detects) UJ (all non-detects)	P	Continuing calibration (%R) (c)
440-162514-1	PC-120 PC-121	Perchlorate	J- (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-166060-1 440-170572-1	I-C I-S I-L I-Y I-R I-B I-E I-X I-D I-M I-AB-122116 I-W-122116 I-V-122116 I-I-122116 I-Z-122116 I-J-122116 I-K-122116 I-AD-122116	Nitrate as N	J- (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-166060-1	I-F I-N	Nitrate as N	J+ (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)

SDG	Sample	Analyte	Flag	A or P	Reason (Code)
440-166060-1 440-170398-1	ARP-6B-20161115 ARP-6B-20161115-FD5 PC-135A-20161115 I-T-122016** I-U-122016** I-H-122016** I-P-122016** I-O-122016** I-X-122016-EB**	Nitrate as N	J- (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-166111-1 440-166060-1	PC-53-20161115 ARP-7-20161115 PC-90-20161115 ARP-1-20161115 PC-18-20161115	Nitrate as N	J+ (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-166423-1	PC-54-20161117 PC-129-20161117 M-192-20161117 M-192-20161117-FD8 PC-71-20161117 PC-72-20161117 PC-152-20161117 M-189-20161117	Nitrate	J- (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (m)
440-166111-1	PC-53-20161115 ARP-7-20161115 PC-135A-20161115	Nitrate as N	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (RPD) (ld)
440-166423-1	PC-54-20161117 PC-129-20161117 M-192-20161117 M-192-20161117-FD8 PC-71-20161117 PC-72-20161117 PC-152-20161117 M-189-20161117	Nitrate	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (ld)
440-166423-1	M-192-20161117 M-192-20161117-FD8	Nitrate as N	J+ (all detects)	A	Field duplicates (RPD) (fd)
440-166111-1 440-166090-1 440-166112-1 440-166433-1 440-166988-1	PC-135A-20161115 PC-60-20161114 PC-59-20161114 PC-56-20161114 PC-62-20161114 PC-97-20161114 PC-94-20161114 PC-94-20161114-FD4 PC-157B-20161114 PC-58-20161114 PC-91-20161114 PC-157A-20161114 PC-157A-20161114-FB4 PC-151-20161116-EB7 PC-122-20161116 M-83-20161121	Nitrate as N	DNR	A	Overall assessment of data (o)
440-171145-1	M-10-20161227**	Nitrate as N (01/04/2017) Nitrite as N (01/04/2017)	DNR	A	Overall assessment of data (o)

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Wet Chemistry - Laboratory Blank Data Qualification Summary - SDGs 440-160590-1, 440-160680-1, 440-161336-1, 440-161484-1/N021214, 440-161552-1, 440-161556-1, 440-161752-1, 440-162515-1/N021299, 440-162514-1, 440-163451-1/N021393, 440-163453-1, 440-163816-1/N021226, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-166437-1, 440-166442-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167238-1/N021682, 440-167500-1/N021701, 440-167564-1/N021725, 440-167568-1/N021724, 440-167631-1, 440-167718-1/N021707, 440-168227-1/N021751, 440-168260-1, 440-168261-1, 440-168264-1/N021752, 440-168537-1, 440-169256-1/N021841, 440-169258-1/N021869, 440-169582-1, 440-170796-1, 440-170899-1/N022324, 440-170907-1/N022351, 440-170911-1/N022336, 440-171145-1, 440-170151-1, 440-170150-1/N022233, 440-170153-1/N022300, 440-170398-1, 440-170572-1

No Sample Data Qualified in these SDGs

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Wet Chemistry - Field Blank Data Qualification Summary - SDGs 440-160590-1, 440-160680-1, 440-161336-1, 440-161484-1/N021214, 440-161552-1, 440-161556-1, 440-161752-1, 440-162515-1/N021299, 440-162514-1, 440-163451-1/N021393, 440-163453-1, 440-163816-1/N021226, 440-166056-1, 440-166060-1, 440-166063-1, 440-166082-1, 440-166090-1, 440-166103-1, 440-166109-1, 440-166111-1, 440-166112-1, 440-166117-1, 440-166123-1, 440-166209-1, 440-166210-1, 440-166337-1, 440-166339-1, 440-166340-1, 440-166342-1, 440-166420-1, 440-166423-1, 440-166430-1, 440-166433-1, 440-166437-1, 440-166442-1, 440-166552-1, 440-166600-1, 440-166602-1, 440-166603-1, 440-166790-1, 440-166980-1, 440-166988-1, 440-167033-1, 440-167238-1/N021682, 440-167500-1/N021701, 440-167564-1/N021725, 440-167568-1/N021724, 440-167631-1, 440-167718-1/N021707, 440-168227-1/N021751, 440-168260-1, 440-168261-1, 440-168264-1/N021752, 440-168537-1, 440-169256-1/N021841, 440-169258-1/N021869, 440-169582-1, 440-170796-1, 440-170899-1/N022324, 440-170907-1/N022351, 440-170911-1/N022336, 440-171145-1, 440-170151-1, 440-170150-1/N022233, 440-170153-1/N022300, 440-170398-1, 440-170572-1

No Sample Data Qualified in these SDGs